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The Semitic-kw Contribution into Uto-Aztecan

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2 The Semitic-kw Contribution into Uto-Aztecan

In the Hebrew and Aramaic forms, the post-vocalic spirantization of Hebrew b > v, p > f, t > θ, and k > x will not be represented for three reasons: (1) it is not original, but a development in Masoretic Hebrew, a late AD-600 dialect's pronunciation, though Blau (1998, 30) reasons that it likely occurred before 300 BC; (2) it seems not to have applied in the dialects found in UA; and (3) such representations would be unnecessarily confusing to non-Semiticists.

2.1 **Uto-Aztecan** vowels sometimes accord with the archaic vowelings Hebrew/Phoenician or Ugaritic:

	Hebrew	UA
1 plural suffix	-iim	*-ima
2 passive/reflexive/recriprocal prefix	ni-	*na-
3 perfect of yšb 'sit, dwell'	yaašab	*yasipa

The UA morphemes above show some similarity with Masoretic Hebrew, though nothing exact: -iim and *-ima; ni- and *na-; yaašab and *yasipa. However, the facts that (1) Hebrew -iim came from an earlier ***-iima** (Moscati 1964, 88, 97; Blau 1976, 30 explains loss of final short vowels in pre-Hebrew; and Huehnergard 1987, 296; Gordon 1947; Segert 1984, 51; and Bennett 1998, 79 shows the actual form -iima in Ugaritic for gen and acc masc pl); and that (2) Hebrew ni- (niqtal or nifʕal prefix) came from an earlier ***na-** (Blau 1976, 51); and (3) Hebrew yaašab from an earlier ***yašiba** (Moscati 122), all show a near identity between Pre-Hebrew forms and Proto-Uto-Aztecan (PUA) forms:

	Pre-Hebrew	PUA
1 plural suffix	*-iima	*-ima
2 reflexive/reciprocal prefix	*na-	*na-
3 sit, dwell	*yašiba	*yasipa

1 Hebrew **-iim** came from an earlier ***-iima** (Moscati 1964, 88, 97; Blau 1976, 30 explains loss of final short vowels in pre-Hebrew; and Huehnergard 1987, 296; Gordon 1947; Segert 1984, 51; and Bennett 1998, 79 show the actual form -iima in Ugaritic for the Northwest Semitic genitive and accusative masculine plural, from which the Hebrew plural derives):

UACV-2673 ***-ima (> -im, -m, -mï)** 'plural suffix': Sapir; Langacker, 1977, 80 (*-mï); KH/M06-ns5: Hp -m/ -mï- 'nonsingular suffix'; Sr -m / -mï-; Ktn -m; Ca -m; Cp -m; Ls -m; Gb -m; CN -me' 'absolutive pl suffix'; -tin 'absolutive pl suffix' (with ns-01); CN -waan 'possessed pl suffix'. Langacker (1977, 80) reconstructs the UA pl suffix as *-mï, by taking an average of the more conservative forms, many of which indeed are -mï; however, several forms suggest *-ima. Consider Cp -im; Ca -em; Yq, My, and AYq -im (after C), -m (after V); Ls -(u)m; Hp -m; Sr -m; Tbr -m; Kw -mï; Cr -ma; Wc -ma; Wr -ma (pl verb suffix); Op -m(e) (Shaul 2003, 27). And Dakin (1979) reconstructs an earlier *-ma for CN -mï. Tep languages show pl -m only on pronouns. Though most UA languages begin the pl suffix with -m, five languages (Cp, Ca, Yq, My, AYq) show a high front vowel (i/e) before -m. Likewise, many show ï or no vowel after the m; yet at least three show -ma, and because ï behaves like the UA schwa, a change from final *a > ï is natural in an unaccented position. The loss of the first vowel *-i is also expectable, because most UA words end with a vowel, which creates an environment of two vowels, the second usually giving way to the first; i.e., if a noun ends in -a, then: *-a- + -ima > -amï. Yet in spite of those two processes, the first vowel is apparent in five languages and the last vowel is in at least three, making a reconstruction of *-ima quite viable, to which Miller agreed in a personal conversation prior to his untimely death that the case for *-ima is reasonable. In the Tep branch, this plural suffix is only found on pronouns: e.g., UP hïgam 'those' vs. hïga 'that'; and UP iidam 'these' vs. iida 'this'; Tep api 'you, sg' vs. apim 'you, pl'. At 904 is Hebrew feminine plural suffix -oot / -ootee[y]. [NUA: Num, Tak, Hp; SUA: Tep, TrC, CrC, Azt]

2 Northwest Semitic ***na-** (Blau 1976, 51) as a passive, reflexive, and reciprocal prefix in Semitic is identical to UA reflexive, reciprocal, passive UA *na-:

UACV-2675 ***na-** 'reciprocal/reflexive/passive prefix': KH/M06-vp1: Hp naa- 'reflexive prefix on verbs'; TSh na- 'passive prefix on verbs' (Dayley 1989, 50); Sh na- 'passive/reciprocal prefix on verbs' (Crapo 1976, 12, 19-20); Cm na- 'passive/reflexive/reciprocal/plural prefix on verbs' (Charney 1993, 103-4, 126); Ch na- 'reflexive/reciprocal prefix (Press 1979, 49); SP na- 'reflexive/reciprocal prefix'; CU na- 'reciprocal prefix on verbs' (Givon 1980, 159-60); Eu na- 'reciprocal prefix on verbs' (Lionnet 1986, 29); Tr na- 'reciprocal prefix on verbs'; WTr na- 'reciprocal verbal prefix' (Burgess 1984, 33); CN ne- 'passive prefix' (Sullivan 1988, 75); Cr nya- 'refl prefix' (Casad 1984, 160). [NUA: Num, Hp; SUA: TrC, CrC, Azt]

3 Hebrew **yšb** ‘sit, dwell’ or earlier Northwest Semitic ***yašiba** matches UA ***yasipa** ‘sit, reside’: Hp yésiva (Voegelin 1957, 35); Tr asiba; Yq yesa; TO dahiva; ST daivu. (TO and ST are Tep languages for which *y > d, *s > h or zero, and *p > v). However, some Uto-Aztecanists attribute the final -pa to an old choative suffix; however, ST daivu ‘stop (of bird) and sit’ shows u, not a, which does not align with -pa, but aligns perfectly with the Northwest Semitic plural *yašibu, while UA *yasipa aligns with the Northwest Semitic singular *yašiba. Furthermore, the verbal forms of both Northwest Semitic and UA contain 3 semantic dimensions of *yasipa: ‘sit’ and ‘dwell/reside’ and ‘jump’ in both language families.
UACV-2005a ***yasa / *yasi** ‘sit’: VVH76 *ya$_n$sa ‘to sit’; M67-380 *ya/*yas ‘sit’; L.Son351 *yasa/*yas-i ‘sentarse’; B.Tep17 *daha ‘be seated’; M88-ya1; AMR *yansi; KH/M06-ya1: Tb yandzït~’ayanc; Hp yeese ‘sit, reside, v.i.imp/pf. pl’; Hp yeesiwa ‘reside, be in place, vi imp. pl’; Hp yésiva ‘sitting, camping, pl’ (Voegelin 1957, 35); TO đaha ‘be sitting, be, be present, reside’; TO đahi ‘sit’; Wr yasa/yasi ‘estar sentado [be seated]’; Tr yasá / asá / así ‘sentarse, estar sentado’; My yeesa; Eu dasé ‘sentarse’; Op dasa ‘sit, sg.’; Tbr nesa/neca ‘sentarse’; Wc yáá ‘sentarse’; Cr na-’a-vé’e-yeihša ‘I’m going to get on (the horse)’; Wc yááše ‘empezar a estar sentado’; Tr ayása ‘dwell, inhabit temporarily’. Note *-ns- > -nc- in Tb.
UACV-2005b ***yasipa** ‘sit’: in connection with this word, note how many languages have a form pointing to a third syllable with *pa or *yasipa and *yasipu: Hp(V) yésiva ‘(they’re) sitting down, camping, pl’; TO(M) dahiva ‘sit, camp’; Tr asiba ‘sentarse’ (asi-ba ‘sit-incoative’); Wr yasipá ‘sentarse’ (vs. yasa- / yasi-); ST daivu has an entirely different vowel. Compare TO(M) đahivup ‘sit/alight repeatedly, vi repet; pl: đad(h)aivup’ and TO(M) đahivuim ‘wish to sit down; pl: đadhaivuim’. The *-pa morpheme is often ascribed to a fossilized inchoative suffix, but not all such languages have it (though it could be fossilized then lost), but more problematic is that two show *yasipu (Hebrew pl) vs. *yasipa (Hebrew sg). [*-ns- > -nc-]
[NUA: Hp, Tb; SUA: Tep, TrC, CrC]

The Hebrew Old Testament text as we have it, also known as the Masoretic text, was voweled by the Masoretes about AD 600-700. Yet that form of Hebrew, known as Biblical Hebrew, is only one of the dialects of ancient Hebrew, and the vowels were added very late, more than a thousand years after the consonants were written. Hebrew, as we know it, lost the short final vowels of proto-Northwest Semitic, but as seen in 1 and 3, those vowels appear in UA. Not all UA forms preserve the phonology so well. More often UA has reduced the Semitic forms; nevertheless, archaic features do turn up occasionally.

Also worth noting is that these three items tie with Hebrew specifically, because only Ugaritic and Hebrew have -iima / -iim for the plural; Arabic has -uuna / -iina; Aramaic -iin; East Semitic (Akkadian) has neither m nor n, only -uu/ -ii. Proto Hebrew has *na-, but not Aramaic or Arabic. Similarly, only Northwest Semitic has yšb, with initial y (< Proto-Sem *w); Arabic and South Semitic have w, and East Semitic has nothing, but lost that initial consonant. Other matters specify Northwest Semitic, but not necessarily Masoretic/Biblical Hebrew. In fact, the Semitic-p holds several affinities with Aramaic (see section 8).

Three primary sound changes or sound correspondences between kw-Northwest Semitic and UA are
Hebrew b > PUA *kw (for dageshed b: initial, doubled, clustered);
Hebrew ṣ > PUA *c (ts);
Hebrew -r- > PUA *-y-/-i- (when not at the beginning of a word)

2.2 Hebrew/Phoenician b > Uto-Aztecan kw

Uto-Aztecanists figure Proto-UA *kw > b in Tepiman, Opatan, and some Aztecan dialects, perhaps because Indo-European *kw > p. However, the opposite direction of change, from bilabials (p/b) to labio-velars (kw/gw), happens also. Consider six examples, the last three from UA. The Celtic branch of Indo-European divided into p-Celtic and q-Celtic. Welsh, a q-Celtic language, pronounced Latin loans beginning with v- as gw-: veneris > gwener ‘Friday’; verus > gwir ‘true’ (Gregor 17, 37). As well, my wife from Argentina reports that certain dialect areas in Western Argentina say gweno (< bueno) and gwevo (< huevo), etc. Bryce Cleghorn (p.c.) reports the same phenomenon in some areas of Central Mexico. Likewise, in UA itself some bilabials (p) become labio-velars (kw). At UACV-995 *yïpanaC ‘autumn’ are Mn yïbano ‘be autumn’; NP yïbano; TSh yïpani; Kw yïvana; SP yïvannaC / yïvwannaC; CU yuvwa-na-tti / yïgwa-na. Note that when -w- develops (SP), then -kw- comes next (CU) in the Southern Numic line of dialects. I have also heard native speakers of Yaqui say a slight -gw- for -w- medially. We also have Western Numic showing kw

< *w in UA. Semitic b > UA *kw may have happened due to influence from certain Oto-Manguean languages which have no bilabials, but do have various labio-velars, which identities need more research yet.

An intermediate step of -w-, as in b/p > v/w > kw, is often part of this process. For example, Proto-Mayan *w > Q'eqchi' kw, as in *warik > kwaark 'sleep' and *winq > kwiinq 'person' (Purse and Campbell 37-38). Blust (Baldi 252) notes many instances of *w > gw or *w > kw in Austronesian and elsewhere. In French loans from Germanic, *w > gw also: French guêpe < Middle French guespe < Old French wespe < Frankish *wespa, waspa < Germanic (cf. German Wespe); French guerre < Frankish *werra < Germanic (cf. Old High German werra 'strife, quarrel' (List of French Words of Germanic Origin). However, as likely, if not more likely, is that once rounding became associated with a bilabial, the next step was switching place of articulation (bw > gw, lips to velum). In pronouncing w, there is near closure at both the lips and the velum (e.g., PUA *w > g in Tepiman). So when b > bw, then bw > gw/kw, switching place of articulation from the lips to the velum, is a natural enough next step. That would appear to be the case for b^{w}eno > g^{w}eno in some Spanish dialects, and in SNum SP yïvannaC / yïvwannaC > CU yuvwa-na-tti / yïgwa-na 'autumn', and perhaps in Welsh veneris > gwener 'Friday'; verus > gwir 'true'. Thus, perhaps in UA also. This applies to Semitic/Hebrew dageshed b (initial, doubled, after consonant), while non-dageshed (after a vowel) > p.

4 Hebrew **baašel** 'boiled' < bšl / baašal 'grow ripe, boil, cook' (perfect baašal; imperfective: yV-bšVl**)**:
UACV-521 ***kwasïC** 'cook (=c), boil (=b), ripe(n) (=r)'

Mn	toqwasïkï 'c over coals'	Hp	kwasi 'c'ed'; tïkwsi 'r'	Eu	basa/base-n 'c, b, r'
NP	kwasïpï 'r'	Tb(H)	wïššït, pfv ïwwïš 'c, r'	Tbr	kwase/kwasi 'c, b, r'
TSh	kwasïC 'r'	Sr	kwahaan 'c'; akwahi 'r'	Yq	bwasa 'c'; bwase/i 'r'
Sh	kwasïC 'b, c, r'	Ls	kwaşi 'c, r'	AYq	bwasa'a 'c'; bwase/i 'r'
Cm	kwasï 'c, r'	Ca	kwas 'r'	My	bwasse/bwassi 'r'
Kw	kose 'c'	Cp	kwase 'r'	Wr	wasi 'c'; iwa 'r'
Ch	kwasï 'c, r'	TO	baha/bahi/bai 'c,r'	Tr	wasa/wase/wasi 'c,r'
SP	kwašï 'b, c, r'	PB	baida 'c'; bahidaga 'r fruit'	Cr	kwasi 'c, r'
CU	kusi/kwasi 'c'; kusï 'r'	PYp	bahi 'c'ed, r'	Wc	kwašee/kwašii 'r'
		NT	baahyi 'c, r'	CN	yoksi 'c, r'
		ST	baidy 'c, r'		

The above item—UA *kwasï 'cook, boil, ripe(n)'—appears in all 30 UA languages and demonstrates their respective sound correspondences of PUA *kw: kw in most languages; b in the Tepiman branch (TO, PYp, PB, NT, ST) and Eu; bw in the Cahitan branch (Yq, AYq, My); w in Tb, Tr, Wr. Not only does the unique semantic combination of 'boil, cook' and 'ripen' exist in both Hebrew and UA, but the sound correspondences match as well. While the third consonant (l) is missing in most, the Numic languages show a final underlying consonant (C) and the AYq glottal stop is a common reflex of previous, but missing liquids in Yq and AYq: *bašala > bwasa'a. Note also the yo- prefix in CN, similar to the yV- 3rd person imperfective prefix of Semitic. That CN often reduces kw-syllables to ok/uk in certain phonological environments is also relevant: *yV-kwasi > *yV-kwsi > CN yoksi. The forms at 5 (for UA *kwasi 'tail) also reflect the various languages' reflexes for PUA *kw:

UACV-521 ***kwasïC / *kwasaC** 'cook(ed), ripe(n)': VVH50 *kwa$_{u}$sï/*kwa$_{u}$si; M67-152c; BH.Cup *qwaš; I.Num80 *kwasï; L.Son117 *kwasï/kwas-i; M88-kwa1; Munro.Cup30 *kwááşi-š/kwaşí-š 'cooked, ripe' (Munro notes the Cupan forms are deverbalized forms); AMR 1993a *kwasiC; KH.NUA; KH/M06-kwa1 *kwasiC: Mn ku(')-qwassï 'get/be ripe'; NP kwasi-ppï 'cooked, ripe'; TSh kwasï 'ripen'; Sh kwasïC 'cook'; Cm kwasï-/h 'cook'; Kw kosi/kwasi- 'cook, roast, be cooked'; SP kwašï- 'be ripe, done, cooked'; SP kwašï-ppï 'passive participle'; WMU qw*ah*sű-y 'ripen, cook, simmer, vi'; CU kusí / kwasí 'burn, scorch, be ripe, cooked'; Tb wïsït/'ïwïs 'ripen, cook'; Cp kwáše 'get ripe'; Ca -kwás- 'ripen'; Ca -kwasni- 'ripen, make ripe, make fruitful'; Ls kwási-š 'cooked, ripe'; Ls kwasú-'a 'become cooked, ripen'; Sr kwahyi 'ripen, become cooked'; Sr kwahaan /kwahaanin 'cook, vt'; Sr akwahi' 'cooked, ripe'; Ktn kwahan 'cook, vt'; Hp kwasi- 'get cooked, baked'; Hp tïkwasi 'bec. mature'; TO bahi/baha 'bec ripe, cooked'; Eu basá-n 'cocer, madurarse'; Wr wasi-pá-ni 'cook, especially with water'; Wr iwasí 'fruit'; Tr wasí 'cocerse'; My bwássi 'maduro'; My bwásse 'madurar'; My bwassa 'cook, vt'; My bwasse 'cook, vi'; AYq bwasa 'cook, vt' (past: bwasa'a); AYq bwase 'cook, vi'; AYq bwasi 'cooked, ripe'; Tbr kwase/kwasi 'madurar'; Tbr kwasi-te- 'cocerse, hervir'; Wc kwásee/kwasi 'ripe'; Cr kwasí 'it is ripe, cooked'; CN (i)kwasi / ikwsi 'ripen, cook'; Pl uksi 'ripen, be cooked/done'. Ken Hill adds Ktn kwah / kwaha 'be cooked'; Ktn kwahan 'cook, v'; Ktn a-kwahi 'cooked, ripe'. Let's add Nv bahida 'sazonar'and Nv bahidaga 'ripe fruit'. Employing different prefixes, CN wiksi 'cook, ripen' and CN yuksi / yoksi 'cook, ripen' also belong. This is one of few sets having reflexes in nearly all UA languages. I like Manaster-Ramer's and Ken Hill's reconstruction with a final consonant as is apparent in the final gemination in some Num languages, -t (vs. -l) in Tb, and AYq's 3rd C glottal stop. Note that this stem is the base of many derivatives for fruit; I suspect that Tewa bai/be 'fruit' is tied to the Tepiman form (bahi) of this stem. [kw-reduction in Kw]
[NUA: Num, Hp, Tb, Tak; SUA: Tep, TrC, CrC, Azt]

5 Hebrew **báášaar** ‘flesh, penis’: UA ***kwasiC** (AMR) / *kwasiy ‘tail, penis, meat’; the semantic change from ‘penis’ to ‘tail’ is discussed below; unless otherwise specified, the following are the UA terms for ‘tail’:

Mn	kwazi	Hp	sïrï ‘tail’; kwasi ‘penis’	Eu	basít
NP	kwasi	Tb	wïšii-l	Tbr	bakusí/wakusí-r
TSh	kwasi(cci)	Sr	a-wad	Yq	bwásia
Sh	kwesi	Ca	kwas	My	bwasia
Cm	kwasi	Ls	píqwsiv	Wr	wahsí
Kw	kwasi-vi	Cp	qwaš	Tr	wasí
Ch	kwas(i)	TO	bahi; baik	Cr	kwasí
SP	kwasi	PB	vahi/bahi	Wc	kwaašíi;
CU	kwasí-çi	PYp	bahi	CN	kwitla-pil-li
		NT	báhi ST bai		'anus-appendage'

UACV-2271 ***kwasiC** (AMR) ‘tail, penis’: Sapir; VVH51 *kwa$_u$si 'tail'; M67-430*kwasi/*kwaci; I.Num81 *kwesi / *kwasi; BH.Cup *qwas’; B.Tep2a *bahi; L.Son116 *kwasi 'cola'; M88-kwa2; KH.NUA; KH/M06-kwa2: this reflex is represented in every UA language except the Aztecan branch; Hp kwasi 'penis' is cognate with UA *kwasi ‘tail’; in fact, I once heard Miller state that the original meaning of *kwasi was 'penis' and changed to 'tail' in the other UA languages. Ls píqwsiv (< *pi-kwasi) suggests so, as ‘back-penis’—i.e., ‘tail’. NT baabáídyi ‘carne [meat]’; NT baabáídyiuvai ‘oler a carne, vi’; and NT baabáítyai ‘hacer cecina [make jerky]’ are also cognate. Ktn kwacita-c ‘tail’ reminds us that c/s difficulties are common in UA. Ktn and NT and Cahitan suggest a final C as AMR’s reconstruction shows. [*kw > w in Sr] [NUA: Num, Hp, Tak, Tb; SUA: Tep, TrC, CrC]

While Hebrew **baaśaar** primarily means ‘flesh’, a less frequent secondary meaning is ‘penis’ (cf. Leviticus 15:2, Ezekial 23:20 and 44:7, 9), NT baabáídyi 'meat, flesh’ (reduplication of Tep *bahid) is significant for a couple of reasons: one, it does mean ‘meat, flesh’ and does phonologically match UA *kwasiy, since NT/Tep b < *kw (Tep b or NT b corresponds to PUA *kw) and PUA *s > Tep h, but the fragile h’s of the Tepiman languages usually disappear in NT and ST: PUA *s > Tep h > NT/ST ø (ø means zero or no sound); furthermore, it shows the third consonant: Tep d < PUA *y < Hebrew r.

Regarding a semantic tie between ‘tail’ and ‘penis’, two other Near Eastern words have the same pair of meanings. Egyptian sd ‘tail’ yields Coptic sat/set ‘tail’ and Coptic set/se’et ‘penis’ (Lambdin 1983, 266; Cerny 1976, 163); in addition to that, Egyptian sd ‘tail’ very nicely fits Hopi sïrï ‘tail’ (d > r/V_V), which item probably helped Hp retain the original meaning of *kwasi ‘penis’ as Hopi is the only UA language that does not have *kwasi meaning ‘tail.’ In addition, Hebrew zaanaab ‘tail’ also came to mean ‘phallus’ in Middle Hebrew (Koehler and Baumgartner, 274).

6 Hebrew **blʕ / baalaʕ** ‘swallow, v’; Arabic **baliʕa** ‘swallow’; Assyrian **belu** ‘swallow’:
UACV-785 ***kwïluC** 'swallow': Eu béru’u 'swallow' (Eu b< UA *kw); Hopi kwelo(k) 'sample by tasting, v’ (Hp o < UA *u); Tb(V) weleeh 'swallow' (Tb w < *kw); Tb(H) weleehat. [NUA: Hp, Tb; SUA: TrC]

7 Hebrew baamaa (< ***bahamat**) ‘back, hill, mountain ridge, high place’; Ugaritic bmt ‘back’; Arabic buhmat ‘great mass of stone’ (Lane 268) originally ‘a grave’; these Semitic nouns are from the root *bhm, and even the fragile medial -h- shows up in two of the three CNum languages below:
UACV-99 ***kwahama** ‘back’: M88-ko27; KH/M06-ko27: Central Numic *kwaham- 'back’;
TSh kwɛm-pï 'back (of body)'; TSh kwɛm-pi 'back (of something)'; Sh kwɛhɛm-pï 'back (of a body);
Cm kwahi ‘back (of person or animal), n’; Hp kwïmï(k-) ‘to bulge upward’. [NUA: CNum, Hp]

8 Arabic **ḍabba** ‘cleave to the ground, take hold, keep under lock, put in safe keeping, guard carefully’ (would correspond to Hebrew ***ṣbb**). Hebrew ṣ corresponds to Arabic ḍ, and Hebrew ṣ and Arabic ḍ correspond to UA c, in Semitic-kw; and interestingly here we have the consistency of both ṣ/ḍ > c and bb > kw, and with the same pair of meanings ‘grasp’ and ‘lizard’ (9) in both Semitic and UA:
UACV-400a ***cakwa / *cakwi** 'catch, grasp, close (one’s grasp or close s.th. else), lock': M88-ca3; KH.NUA; Stubbs1995-9; Stubbs 2003-35: KH/M06-ca3: Ls čáqwi ‘to seize, catch'; Cp čáqwe 'catch, grab, cling to'; CN cakwa 'to close, enclose, lock up'; CN cakwi 'close, get closed, vi’; Pl cakwa (pret cak) ‘close, shut, cover’;
Mn cakwiti’i 'close, lock, bolt’; WMU č*ah*qqwí / č*ah*qqwíi / č*uh*kkwí ‘lock s.th., vt’; WMU č*ïh*kkwí’na-y ‘turn, vt’; SP čuġwaa-ŋqï ‘fasten on’; CU cugwí ‘adhere to, stick to’; CU č*ïh*kwíi ‘turn, twist’; CU č*ïh*kkwí’napï ‘key, n’; Ch čikwí-čui ‘turn’; Kw caagu-bï ‘glue’. TO šaakum 'catch, grasp’; NT saakómi 'handful'; ST saakum ‘handful/fistful (of grain)’. [labials, TO; -a vs. i] [NUA: Tak, Num; SUA: Tep, Azt]

UACV-400b *ca'wi 'take': Mn ca'winoo 'carry (by a handle), vt'; NP caggwï'huk 'carry off'. [WNum]
UACV-400c *cappa/*ca'pi 'take': L.Son29 *capi 'coger': Eu zápa-/cápa- 'coger, agarrar'; Tr ča'pi-mea 'coger, agarrar, casarse'; Tr na'cabi 'coger pl objs'; Wr ca'pi-ná 'agarrar, sostener'; Op capi. Note the glottal stop hop or anticipation in Tr *ca'pi and *na'capi. TrC *ca'pa/i may be related to *cakwa/i as another item showing some evidence of clustered or geminated noninitial p relating to kw, and the glottal stop may suggest a cluster. A division like cold. [Tr glottal stop hop; *-kw-/*-p-] [SUA: TrC]

9 Hebrew **ṣaab** (< ***ṣabb**) 'lizard'; the Hebrew form is cognate with the Arabic verb above:
Arabic **ḍabba** 'cleave to the ground, take hold, keep under lock' and Arabic **ḍabb-u** 'lizard':
UACV-1385 ***cakwa** 'lizard': Ca čaxwa-l 'a brown lizard'; CN te-čičikoo-tl 'type of lizard'; maybe Tb šiko-l 'lizard'; thus, Semitic ḍabba 'grasp, lock, lizard' and UA cakwa 'grasp, lock, lizard'.

As in 8 and 9 above, items 10 and 11 also show medial **Hebrew -bb- > UA *-kw-**:

10 Hebrew šibber, impfv **-šabber** 'break, break in pieces' (qittel); Hebrew šɛbbɛr 'grain (as broken or threshed for use): **UA *sakway** 'break, ruin': Hp sakwi-ta 'break apart, break down, ruin'; Ca sakway 'mess up'; SP čukkwi 'crush'; and Tr si'o-ca-ma 'destroy, break to pieces' since Tr -'w- is Tr's medial reflex of *kw > -'w- > -'o-.

11 Hebrew dibber < *dibbar; impfv -**dabber < *-dabbir** 'to speak' (qittel):
UACV-1876a ***tïkwi** 'say': M67-434 *te 'to tell'; I.Num234 *tï(ï)(h)kwi(i) 'say, tell'; M88-tï17: Mn tïïkwi 'tell, vt'; NP tïïkwi(hi) 'tell'; SP tïkwïnna 'tell a story, v'; TSh teewi 'point, tell,talk about'; TSh teewinna 'talk about'. Tb alaawi' 'talking' (Voegelin 1935, 124); Tb(H) allaawat 'to talk, speak'; Tb(H) allaawappïï-l 'speaker', because Tb w < *kw and *-t- > -l- in Tb, the Tb forms fit a prefixed infinitive: *ha-dabber. Of pfv *dibbar: TSh tïtiiŋwaC 'teach'; Sh(C) tekwaC 'talk'; Cm tekwarï 'speak, talk to'; Cm tekwapï 'word, speech'.

12 The pronominal prefixes to the impfv stem include y-, t-, n-; thus, UA *yïkwi as a reduced form of Hebrew yədabber 'he speaks' with 1st and 3rd syllables after loss of 2nd, a common pattern in UA:
UACV-1876b *yïkwi 'say': I.Num82 *kwi(i) 'say'; M88-kwi12: Sh yekwiC 'say s.th., sg subj'; Cm yïkkwi 'say, vi'. UA *yïkwi < *yï-takwi is feasible since the 2nd syllable of 3 is often reduced and often eliminated in UA, especially Numic. Perhaps Hebrew nədabber > CNum *nikwi 'say' > Sh niikwi 'say, tell, vt'; Cm niikkwi 'say to s.o.' The preceding may contain the prefixes (tï-, yï, ni-). [NUA: Num]

13 Arabic **snw** 'gleam, shine'; Ethiopic **snw** 'be beautiful'; Hebrew šaani 'scarlet'; Assyrian siniitu 'dyed cloth': Hopi **soniwa** 'be beautiful, pleasing, look good, as of s.th. bright, brilliant, or handsome'; Hopi sonwa-y 'beautiful (of women), bright (of colors)'. Interestingly, Hebrew(BDB) above listed Arabic snw and Ethiopic snw as cognate, but inserts 'but' before the Assyrian cognate, perhaps puzzled by the semantic tie, yet Hopi has all three meanings: 1 beautiful, 2 bright, 3 having to do with colors. [1s1,2n,3w]

14 Hebrew **baazaaq** 'flash of lightning'; Aramaic(S) bzq 'to scatter, sow, shine'; following the prefix *aNkaC- 'red', notice UA *kwisak or *kwicak:
UACV-1328 *aNkaC-**kwissaka** / *aNkaC-**kwicci'i** 'lightning': Mn aqakwiči'i 'lightning, flash (of lightning), v'; also Mn aca-kwiciqa / aca-kwiciki 'be shiny, gleaming, be flashing (like lightning)' with a different prefix; Cm ekakwice'e 'lightning flash, n'; SP aŋqa-qqwišarï 'lightning, red-flashing, n'; SP qwišša 'to flash, spark, vi'; Kw 'aga-gwiša 'be sheet lightning' (said to be compound of aga 'red' and kwiži 'pile up' suggested, but the latter morpheme is 'to flash or lightning' in all the other languages); WMU paná-qq*wi*ssa-y 'lightning, vi'. WMU has a different first morpheme, but the same second morpheme and also means lightning. CU paná-qosɛ́y 'lightning, vi'. Because Tb w < *kw, then Tb(V) wašakwašāg 'it is lightning, v'; Tb(M) wasakwasa'gat~ wasakwasāk 'flash (of light, lightning, fire)' also belongs. So this exists in each branch of Num and Tb. Perhaps also Ktn kwačea' 'start or stoke fire' and/or Ktn kwačkwačïk 'have blisters or be red all over'. Tb, SP, WMU, and CU all show the 2nd V as *a*, Tb has both such, but with many first i vowels, let there be one of each in the reconstruction. It may be that a geminated *-ss- > -cc-, as *-tt- does not usually lenite so far as s, and as many languages show s as c. For *aNka of the compound, see 'red'. [NUA: Num, Tb, Tak]

15 Arabic **baaz** 'falcon', pl biizaan; Aramaic **baaz-aa** 'falcon-the'(CAL); Syriac baaziiq-aa 'hawk, falcon-the':
UACV-737a ***kwasa** 'eagle': L.Son115 *kwasa 'aguililla'; M88-kwa4; KH/M06-kwa4: NP pui kwasa 'blue heron'; Tbr kwasá 'clase de ave pescadora grande [type of large predatory/fishing bird]'; Ca kwasanemčíip 'baldheaded bird'; Wr kusá 'tipo de gavilán [type of hawk]; Tr kusá 'aguililla [little eagle]'.
UACV-737b ***kwisa** 'eagle': M67-146b *kwi 'eagle'; Fowler83; M88-kwi5; KH/M06-kwi5: Cr čuíhšï 'hawk'; Wc kwíiṣï yïï.yári 'aguililla'; CN kwiiš-in 'large bird of prey, hawk'; Pl kwiṣ-ti 'hawk'; perhaps Kw kïsa-vi 'chicken hawk'. These two (a and b) are likely related; whether *kwisa was original and the 1st vowel assimilated to the 2nd (*ɨ-a > a-a) or whether *kwasa was the proto-form and the first vowel raised and fronted toward the alveolar is hard to say; either is possible, and thus these two are likely variants of the same etymon *kwVsa.[*u > ï in Kw] [NUA: Num, Tak; SUA: TrC, CrC, Azt]

16 Aramaic **blm** ‘to silence, muzzle, wrap up, guard, restrain’; Hebrew **blm** ‘to curb, restrain’; Aramaic(S) **blm** ‘to wrap up’; Aramaic(S) **blm** ‘guard, protection, n’; Syrian blm ‘to muzzle, check, bridle’; Syriac **baalm-aa** ‘halter, bridle’:
UACV-383 ***kwalma** ‘put arm around, carry under the arm’: BH.Cup *kwal- 'armpit'; M88-kwa14; KH/M06-kwa14: Cp kwál’a ‘side, armpit’; Cp kwalma 'carry under the arm’; Ca kwálma 'hold under armpit, put arm around s.o.'s neck'; Ls qwálma 'armpit'; Gb kwár 'armpit’. While possible that *kwalma is a compound, none of the authors of the works on the three Cupan languages show it hyphenated, so Cp kwál’a 'side, armpit' (vs. Cp kwalma 'carry under the arm') may have shortened or lost the final syllable. [iddddua] [NUA: Tak]

17 Hebrew zəbuub ‘flies’ (collective); Arabic đubaab, pl: đibbaan ‘flies’; Akkadian zubbu / zumbu ‘flies’: Aramaic(J) diibbaa; Aramaic zbwr ‘hornet’; Aramaic(J) ziibuur ‘bee, wasp’; Arabic zunbuur ‘hornet’; relative to Semitic *đVbb (Hebrew zbb) ‘fly, flies’ and **UA *sikwoti** / ***sikwori** ‘fly’, the UA form looks like a feminine plural (< *zabboot) or from a general form of *đVbbV(t) ‘fly’ as found in various Semitic languages; in any case, the consonants (*đ/z > s, *bb > kw) agree with Semitic-kw:
UACV-913 ***sakwoti > *sïkwoti,** or ***sakwoti** > Cah ***sabori > *saipori** ‘fly, bee’: M67-181 ‘fly, n’; M67-33 *sek/*cek ‘bee’; L.Son227 *saiwori ‘mosca’; M88-sï5 ‘fly’; M88-sï18; Stubbs 1995-13; Stubbs2000b-42; KH/M06-sï5; KH/M06-sï18: the following forms divide themselves into those that show *kw as the medial consonant and those that show a bilabial (*p, b, bw) or were borrowed from UA languages showing bilabials:
UACV-913a ***sï’kwo-** (< *sakkwo-?) ‘fly, n’: CN šiiko’-tli ‘bumblebee’; Ca kuŋ-sexwet ‘bumblebee (husband-bee)’; Eu sébor ‘fly’; My sé’ebori ‘fly’; My kuku-sebo’ori ‘bumblebee’; Yq sé’ebo’i ‘fly’; Wr se’wá ‘fly’; Wr se’óri ‘honey, kind of honey bee’; Wr so’óri ‘kind of fly bigger than se’wá, possibly same as se’óri’; Tr se’ori ‘fly, bee’; Wc šéekïi ‘gnat’ (Wc ï < *u) also appears to belong. What of Ls kúpşax-la ‘type of bumblebee’ (with Ca kuŋ-sexwet)? Eu b corresponds to PUA *kw (Eu basít ‘tail’) and CN šiiko’- certainly shows medial *kw rather than *p. Eu and Cahitan -bo- could feasibly be either, but best fit *kwo > bo. Tr w and Wr w normally reflect PUA *kw in initial position, and -’w- often medially. Here Tr -’o- and Wr -’w- are medial variants of PUA *kw, and not from *p, because Tr and Wr show p/b for *p. So CN, Tr, Wr, Yq, My, and Eu all show *-kw-, being consistent with the kwo-phenomenon medially, while some other UA forms suggest *saipoli (< *sayapoli ?), perhaps borrowed from languages with medial bilabials:
UACV-913b ***saypori** ‘fly’: Nv saivori ‘abeja’; NT sáívuli ‘fly’; Op saiwori ‘mosca’; Tbr sayvól ‘abeja’; Tbr haya-vól ‘mosca’; Wc šáipï; Cr šáihru/sa’ihiru ‘fly’; CN saayool-in ‘fly’. Some of these forms may be borrowed from Tep b or Cahitan -bo- (<*kwo); either would be taken as *p in other UA languages. Nv and NT seem to have borrowed from TrC, perhaps Tbr, since *s > Tep h, not s. CN saayool-in, on the other hand, is identical to Tbr except for the missing bilabial v/p, and CN typically lost *p. In fact, the similarity of Tbr sayvól, Op, NT, and Nv *saivoli/saywoli to CN saayool-in is quite identical in all five remaining segments: s-a-y/i-(v)-o-l/r. Thus, this set b seems suspect for meshing or diffusions of Cah *sïbori into Azt, Tep, and other TrC languages.

Of considerable interest is that in Semitic, especially Assyrian, the root zbb carries two sets of meanings: ‘fly’ and ‘be in a frenzy, be an ecstatic’, that is, under the influence of spirits or bewitching power. Uto-Aztecan also has two sets of words meaning ‘fly’ and ‘curse/bewitch’ which not only have the same two sets of meanings, but also both correspond with *sVkwot, which correspond with Semitic *zVbbot.

18 Assyrian zubbu / zumbu ‘fly’; Assyrian zabaabu ‘be in a frenzy, act crazily’; zabbu ‘type of ecstatic’;
UACV-203 ***sakwo > *sikwo/sikwi** 'witch, bewitch: M88-sa27; KH.NUA; KH/M06-sa27: Cp sekwíte / sakwíte ‘curse, whip’; Cp sekwítxe-l 'whip, n.'; Sr şakwi’ 'whip, vt'; Sr şakwitkin(a) 'whip, swat, vt sg.obj.'; Gb sakwít 'castigar'; Ls şíqwi 'to punish, whip’ (1st vowel is wrong, Miller notes). The ‘curse’ semantic dimension of Cp, with *kwo > bwo / bo in Cah, likely ties these to My sisibo 'hechizar [to curse (of a witch); My sibori 'hechizado [bewitched]’; Tr siku- 'hechizar [to curse, witch]'; Tbr sigu-l 'hechicero [a male witch]’. Interesting is Ls -qw- rather than -kw-, suggesting a non-high 2nd vowel, i.e., a 2nd vowel of *o instead of *i originally (Langacker 1970), which agrees with SUA TrC. As for the first V, *_a_ likely went to the schwa options—i and ï—suggesting it may have been unaccented previously, with Sr and Gb maintaining the original _a_. Note Tak -kwo- and My -bo-. Perhaps Tr and Tbr ku < kw after loss of V. Ktn kwitea ‘bewitch, kill by witchcraft’ with loss of initial syllable. [labials, kwo, u/o; t > ’ in Sr] [NUA: Tak; SUA: TrC]

19 Arabic **barr-** ‘land (as opposed to sea)’; Hebrew baar ‘open field’; Aramaic(J) bar-aa ‘uncultivated ground, forest, prairie-the’; perhaps from an Aramaic form resembling ***barr-aa** ‘field-the’:
UACV-753 ***kwiya / *kwira** 'earth': VVH112 *kwiya 'dirt, earth'; B.Tep6 *bidai ‘clay’; M67-151 *kwi/*kwiya 'earth'; L.Son126 *kwiya 'tierra'; M88-kwi2 'land, earth, dirt' KH/M06-kwi2 *kwiy= *kwin: TO biđ ‘adobe, mud, clay, plaster’ (TO b = UA *kw, and TO đ < *y); My bwiya 'tierra, suelo, piso'; AYq bwia; Yq bwía, pl: bwiam/bwiram; Tbr kwirá-t 'tierra, mundo'; Wr we’é; Tr weé/we-/wi’yé; Cr čwéh; Cr čuáa-ta’a 'on the ground'; Wc kwí(y)e. Note the *r* instead of *y* in both Tbr and the Yq pl, which liquid also aligns with the NUA n in the Takic forms and NP that KH/M06-kwi2 adds to Miller’s list: Sr pääkwiñit ‘mud’ (water-dirt) and Gb kwenár 'mud’. Sr and

NP pakkwinapa ‘clay’ may be ‘water-earth’ as Ktn pakwinit ‘clay, mud’. What of SP kwaraŋavi ‘rolling country’? I agree with Hill’s moving Ls kwiláli ‘to soil, make dirty’ away from *kwiya to *kwiCtaC ‘defecate’. [-rr-/-r- > y, > -n- in Tak/NP] [NUA: Tak, Num; SUA: Tep, TrC, CrC]

20 Hebrew(BDB) **brr** ‘to select, choose’:
CN **kwia / kwiya** ‘to consider s.th. one’s own, to keep’; CN kwi-lia ‘to take s.th.’; Ls čikwáyi- ‘to choose, select’ may align with the impfv which has a *ti- prefix: *ti-bar > čikwáyi-, vs. prfv *barra > kwiya.

In 19 and 20, we see both the verb (20) and a noun (19) of very different meanings, but of the same root and the same correspondences. Similar to Semitic brr > UA *kwiya, are (64) Semitic krr > UA *kiya and (65) Semitic mrr > UA *miya further below.

21 Semitic/Arabic ganaba ‘set aside, keep away, steal’; Arabic ***ganb-** ‘side, n’; Arabic ***ganba** ‘beside, next to, near, at, preposition’; Arabic *baina ganbaihi ‘inside (it), within’; to be thoroughly demonstrated later, Semitic g > Semitic-kw ŋ, and *-nb- > *-bb- > -kw-, so *ganba > *gabba > ŋakwa, as expected:
UACV-1980 ***-ŋakwa** / ***-ŋako / *(mana)-ŋakwa** ‘side’: M67-376 *nakw ‘side’; I.Num110 *naŋkwVh ‘direction,side’; I.Num89 *ma(a)na(a)ŋkwa(h) ‘far’; M88-na16 ‘side’; KH/M06-na16: Hp -ŋaqw, -ŋaqö (pausal) 'from, away from, inside of’; Ca máŋax ‘on/by the side of, near’; Cp -ŋax ‘from, because of’; Ls -ŋax ‘from, because of’; in shortened forms Cp -ŋa ‘at, in’; Gb ŋa ‘locative suffix’; Ca ŋa ‘location’; but Ca -ŋa-x ‘from’ (Seiler 1977, 201-2). More fully treated later after 917. Both the ŋ (< g) and the -kw- < -bb- < -nb- suggest Semitic-kw. Whether Seiler’s morpheme break is correct or not, ŋa could be shortened from ŋakw. [initial *ŋ > SNum ŋ, > C/WNum n, as in sycamore] [NUA: Tak, Hp, Num]

22 Hebrew bll ‘to moisten, to mix up (flour, cakes, etc)’, pl: *ball-uu; Arabic balla ‘to moisten’:
UACV-2079 ***kwal** ‘soft’: M67-401 *kwa 'soft'; M88-kwa8 'soft'; KH/M06-kwa8: Yq bwal 'soft'; Yq sí’ibwal 'very soft'; and AYq bwalko ‘soft, smooth’; Eu barínari 'blando [soft], lo que fue ablandado por otro [what was softened]’; Eu baroré’e ‘está blando [is soft]’; Eu baroré ‘blandamente, suavemente [softly]’; My bwalko ‘blando’; first two syllables of Cr kwa’ačíra’a ‘está suave, blando, tierno, débil’ (*l > ’ in Cr). Cr fits well because intervocalic *-l- > Cr -’-. [’/l] [SUA: TrC, CrC]
UACV-1448c ***kwannu / *kwiNtu** ‘stir’: SP kwan’nu ‘to stir (mush)’ (< *ball-uu Semitic pl, as *l > NUA n); SP ci-kwan’nu-i ‘stir (mush) with a stick’; Sh(C) kwintuiC ‘mix, stir, vt’ (with CNum *tuhiC ‘melt’).
Wc kwamáá ‘mix, stir’ has kwaN, perhaps with a different 2nd morpheme and thus a different cluster.
UACV-1448a ***kwat** ‘stir’: Sh(M) kwatoi ‘stir’; AYq bwaata ‘stir, mix together’.
UACV-1448b ***(ci)-kwi-(tu)** ‘stick-stir’: Mn ci’wido ‘stir’; NP cikwiduiwïnï ‘stir’; Sh cikkwiC ‘mix, sift’. The ci- prefix in SP and Numic is a separate morpheme. [-ll- > -n-] [NUA: Num; SUA: TrC, CrC]

23 Syriac **bilṭii**-taa ‘boring worm-the, teredo xylophagus’; Syriac blṭ / bəlaṭ ‘to be worm-eaten’:
UACV-2592a ***kwici** ‘worm, feces-snake’: M67-475 *kwic ‘worm’; L.Son120 *kwici; M88-kwi11; Stubbs 1995; Stubbs2000a-8; KH/M03-kwi11: Yq bwicia; My bwítcia ‘gusano [worm]’; Tbr hi-kwicí-t 'oruga'; Wc kwísi/kwíici 'gusano'; Cr čú’ihnu 'caterpillar'; NT obí-bisi (Lionnet); Wr ihkucíwa 'gusano' (ih- is a moribund noun prefix, notes Miller); Tr kučíwa-ri ‘gusano’; CN kwitkooaa-tl 'tapeworm’. Miller also includes Pl kwil-in ‘worm’ and Eu hícira 'gusano'; the Eu initial consonant is unexpected and Lionnet wonders whether it is an error for *bici-ra*.
UACV-2592b ***koci** (<*kwici): Note the similarity between CN i’koč-in ‘type of earthworm’ and Wr ihkucíwa ‘worm’ and Nv kosiburi ‘worm sp’. Because Tep s < *c, Tep *kosi- reflects *koci of CN and Wr. [SUA: Tep, TrC, CrC, Azt; NUA: Num]

24 Hebrew **bky/ bakaaʸ** ‘cry, weep’ [Semitic-kw has Semitic bakaa > UA ***kwïkï** / ***o’kï** 'cry’]:
UA *kw > Tr w and Wr w, so Tr weke/oke ‘weep, shed tears’ < UA *kwïkï:
UACV-604 ***kwïkï / *o’kï** ‘(shed) tears’: M88-’o6 'tears': AMR1993; Stubbs1995-28; KH/M06-’o6:
Tr weke/oke ‘ [shed tears]’; Wr o’kéwa ‘lágrimas [tears]’; Tr oke-wá ‘lágrimas’; Wc úkai ‘lágrimas’ corresponds to Tr/Wr oke. [SUA: TrC, CrC; NUA: Tak]

25 Hebrew **bky / bakaa** ‘cry’; this likely involves a meaning change from ‘crying’ to ‘crying one, baby’ much like Syriac bk’ / bakaa ‘cry’ underlies Syriac bak-aa ‘cock/rooster-the’ as the ‘crier’:
UACV-147 ***kwakiC** ‘baby’: Sr kwakii-t ‘young one, youngest one’; Ktn kwaki-t ‘baby’. [iddddua] [NUA: Tak]

26 Hebrew **bɛn** ‘son’; plural noun when possessed by another noun is Hebrew **bənee**ʸ ‘children (of)’; so from Semitic-kw UA ***kwVnïï** ‘child(ren)’ > Azt ***konee** 'child, offspring’:
UACV-142a ***konï** 'child, offspring': CL.Azt26 * **konee** ‘child, baby’; M88-ko24; KH/M06-ko24: Pl kunee-t, kunee-w (poss’d) 'baby, child'; CN konee-tl 'child, offsrping of female’. Semantic changes from pl to sg and sg to pl are frequent. UA kwVnee > konee is expected, as kw plus short vowel often loses the vowel to the rounding of kwV > ko/ku, and also the possessed form Azt konee-w < Hebrew bənaa-w ‘children-his’ fits. I like Hill’s association of these with Numic *kono ‘cradle board’ (UACV-142b), as a tie seems probable, especially in light of Tb hono- ‘fetus’.

27 Syriac **brm**: et-barram ‘be consumed, worn out’; Arabic brm[1] / barima ‘be weary, tired of, fed up, bored with’ (verbal noun is Arabic baram):
UA *kwiyam / *kwiam ‘be lazy, do lackadaisically’: Sh **kwiam**-pïh ‘lazy’; Hp kweemo ‘fool around with, fiddle with, check out in an unserious manner’. [iddddua]

2.3 Hebrew ṣ > c (ts) in Uto-Aztecan

Above at 8 and 9 are Semitic ṣbb ‘grasp’ > UA *cakwa ‘grab’ and Semitic ṣabb ‘lizard’ > UA *cakwa ‘lizard’, the first examples of Semitic ṣ > c (ts). Hebrew ṣ becoming Uto-Aztecan c (ts) is what Hebrew ṣ changed to in some Jewish dialects, as also the Hebrew ṣ (ṣade) is pronounced c/ts in modern Hebrew in Israel today as well. Further below (at ɦ), are more examples of Semitic ṣ > c (ts):
83 Hebrew **ṣrɦ** ‘cry, roar’ > UA ***cayaw** ‘yell’
84 Hebrew **ṣmɦ**, impfv: **yiṣmaɦ** (< *ya-ṣmaɦ) ‘sprout’ > UA ***icmo** ‘sprout’
85 Hebrew **ṣlɦ** ‘rush, v’ > UA ***coloa** ‘flee, run’
Immediately below are additional examples of Semitic ṣ > c (ts) in Semitic ṣurṣur ‘cricket’ > UA *corcor ‘cricket’ and Hebrew ṣəvii ‘gazelle’ > Hopi cöövi- ‘antelope’.

28 Arabic **ṣurṣur / ṣurṣuur** ‘cricket’; Aramaic(J) ṣarṣuur ‘cricket’; Akkadian ṣarṣaar-u ‘cricket’; Syriac ṣiṣr-aa / ṣiiṣr-aa ‘cricket’:
UACV-588 ***corcor** ‘cricket’: Ktn corcor ‘cricket’; Cr su’usuí (-r- > -’- in Cr); Wc šuušúi. The Ktn form (from NUA) essentially equates to Arabic ṣurṣur, and both mean ‘cricket’. Cr and Wc do also, with the usual *-r- > -’- in CrC. Cp selyimselyim ‘cricket’ shows pl -m with each half, while Ca sé’lyem (pl) shows only one half. One syllable (instead of two) of Semitic ***ṣur** (> UA ***curu**) is compounded with s.th. else in Eu bawisoróc; Hp -coro of Hp laqan-coro / naqan-coro / yaqan-coro ‘cricket’ (Hp laqana ‘squirrel’); ST kaalyi soi; HN cicikame-tl; and the -son portion of Sh maison ‘cricket’. Specifically compounded with *tuku ‘black, dark’ are Tbr toko-sol / tuko-súl ‘cricket’; NT tuukúsuli; Wr tuhkucúrumi; Wr(MM) tukučúrumi; Tr ŕukúčari; and probably Yq kíičul and My kiíčul, pl: kučúlim with a vowel change and loss of the first syllable: *tuku-curi > *kucuri > *kiculi. This may be a Semitic-p term due to -r- > -r-, vs. Semitic-kw -y- (< -r-); the cluster -rṣ- > -c- is natural though -ṣ- > -s- when not clustered; then consonant harmony affected the first C: ṣurṣur > ṣurcur > curcur. The four Tepiman forms—TO cukugšuad; Nv tukag’sabarha; LP(EF) tuksáawer; PYp tuksarvar—also compound with *tuku, but show an enigmatic bilabial (b, w, v). Thses cognates are in 6 of 8 branches and in no less than 18 UA languages. [*-rC- > -u’uC in Cr as in *wr and *xli] [NUA: Tak, Hp; SUA: Tep, TrC, CrC, Azt]

29 Hebrew ṣəbii / ṣəvii ‘gazelle’; Arabic ẓaby-u ‘gazelle’; Aramaic(J) ṭaby-aa ‘deer, gazelle’:
Hp cöövi-wï ‘antelope’.

30 Hebrew **ṣippoor** ‘bird, small bird’:
UA ***cipuri** ‘bird’: Tr ciburi / číuri / čúri ‘pollo, pollito [chicken, baby chick(s)]’; TO sipug ‘bird, cardinal’ (TO s < UA *c, and the -g is likely of another morpheme); Wr cu’ru ‘kind of bird’.

31 Hebrew **ṣll** ‘to tingle, quiver’; Hebrew **ṣlṣl** ‘to whirr, buzz (of insects)’; Hebrew məṣillaa ‘bell, n’; Hebrew ṣɛlṣəliim ‘cymbals, percussion instrument’; Arabic **ṣll** ‘to ring, clink, clank, clatter, rattle’; Arabic ṣaliil ‘rattle, clatter, n’; UA terms mean ‘rattle’ and ‘chili’ as a plant that rattles in the breeze when ripe:
UACV-429 ***cil** 'chile': CL.Azt27 *čiil ‘chile’; M88-ci10; KH/M06-ci10: CN čiil-li ‘chile’; Hp ciili ‘chili pepper’. As Miller and Kenneth Hill suggest, the Hp term is likely borrowed from CN; but Mn ciini’ 'chili' does show the expected NUA sound change *l > n, though other NUA terms may also be borrowed from CN, especially Cp čiilyi. Cp and Hp fit a later loan pattern; however, Tb and other Num forms match *cira/cita, with a final *a*, instead of *i*, and Azt originally had *-ta as the absolutive suffix: TSh cita 'chili pepper'; Cm ciira’; CU čirïï; Tb čiira’/čiida’. It is curious, however, that so much of NUA has s.th. similar to the CN form, while all of SUA, CN's closest neighbors, have a different word *ko’koli. Due to the hollow rattling sound of ripe chile in the wind, CN čiil- could be from verbs like CN ciliin(i) ‘to sound, of a bell’. See below *cili ‘shake’ and M88-cï9. [liquids] [NUA: Num, Hp, Tb; SUA: Azt]
UACV-1929a ***cïl** ‘shake’: CL.Azt143 *cəlowa ‘shake’; M88-cï9; KH/M06- cï9: CN cecelwiaa ‘shake out, beat s.th. for s.o.’; CN ceceloaa; Pl cehcelua, etc. [SUA: Azt, TrC]
UACV-1929b ***cïlïïlï / *silala** ‘shake, rattle’: Mn sïnïnïgi ‘quiver’; NP sïnïnïggiwïnï ‘scared and shaking’; TSh sïnnïnnïki ‘shake, shiver’; Cm sïï-cïnitï ‘have chills, tremble with cold, vi’; Kw sïnïn’a ‘shake, shiver’; Hp silala- ‘clack, jingle, rattle’; Tb cïnïnïï’ ~ ’ïcïnïnïï’ ‘shake in fright’; Ca čéleley ‘shake (of body)’; CU sïnïgay ‘shake, shiver, tremble, be nervous’. Though most of these have the 2nd syllable reduplicated, CN cecelwiaa ‘shake out, beat for s.o.’ and CN ceceloaa ‘shake, save s.th., vt’ reduplicated the first.
UACV-1929c ***cili** ‘jingle, rattle (when moved, shaken)’: CL.Azt156 *čiliinV ‘to sound, ring’; M88-ci12; KH/M06-ci12: CN čilini; Pl ciliini; Hp silala-ta ‘be jingling or clinking’; Ca čilčil ‘to sound (of a rattle)’. [c/s] [NUA: Num, Hp, Tb, Tak; SUA: Azt]

32 Syriac **bṣr** ‘to lessen, fail, diminish, dwindle’, participial adj ‘wanting, poor, thin, inferior’;
Syriac **biṣr-aa** ‘a little, a small portion’; in a cluster of *-ṣr- > -’r-/-’l-, the ṣ > ’ in a cluster; PUA *kw > Wr w and Tr w:
UACV-2505 ***kwï’lawi / *kwïCtawi** ‘weak’: Wr(MM) wi’ló / wi’ró ‘estar doblado [folded/wrinkled], lacio [withered], flojo [loose, slack], no tener fuerza [not have strength]’ and wi’ró ‘estar doblado [folded / wrinkled], lacio [withered], estar débil [be weak]’; Tr we’ro / wi’ro- ‘estar débil [be weak], desforzado [weakened], desmazalado’; CN kwetlawi 'weaken, wither, crumple'. [SUA: TrC, Azt]

Semitic ṣ became UA c in initial position, as shown in examples 28-31. In contrast, Semitic ṣ in medial position also become c in SUA, but behaved differently in clusters and inNUA. In Numic, Semitic ṣ > ’ as in 33 below and eye (532) and (44) in other examples.

33 Hebrew bṣr ‘cut off, make inaccessible, enclose’:
SP qwi’a-ppï (< *kwi’aC-pï) ‘fence’; Hebrew pharyngealized ṣ regularly goes to Numic (or SP) ’ (glottal stop) as in Hebrew biṣṣar ‘make inaccessible’:
UACV-452 ***kwi’ay / *kwi’aC** 'surround, fence': SP kwi’a-ppï 'fence'; CU kwi’áy 'surround as fence, fence, encircle, v'; CU kwi’a-pï ‘fence’; WMU qwi’(y)é ‘build fence’; WMU qwi’(y)á-qqa-ttü ‘fence, n’; Sh kwïa-ppï / koa-ppï ‘corral, fence, antelope surround’; Ch takwi-ntui ‘encircle’. The preceding are all SNum forms and likely relates to other forms *kwiC-taa compounded with s.th. else: Mn kwitaa ‘surround, go around, v’ (this contrasts in final vowel length with Mn kwita ‘defecate’); NP kwïdï’a ‘fence corral’ and NP *kwïti’a in NP bbuggu ggwïdia ‘horse corral’ (bbuggu ‘horse’) and NP na’unaggwai kwïdiadu 'enclose with fence’. Jane Hill (p.c.) adds Ktn kwitu’mïk ‘turn, v’. The NP forms are noteworthy in that final *-ti’a > -tia when later in a phrase. Perhaps the glottal stop hopped forward (transposed) to create a cluster (> *kwi’ta), which then became variously *kwi’a and *kwita in other Num languages. [cluster *tt/’] [NUA: Num]

34 Hebrew **bdl** ‘divide, separate’; *hibbadel ‘be separated’; Arabic batala ‘separate’:
UACV-1580 ***kwatta** ‘open’: Ls hiqwáta ‘be an opening’; Ca kwétel ‘stick out, perk up, vi, pry open, vt’. [iddddua] [Tak]

35 Aramaic(J) **birkaa** ‘blessing’; Hebrew brk ‘to bless, praise’; praises are often sung; and Syriac zmr also means both ‘sing’ and ‘praise’, the denominalized verb’s change from ‘bless’ to ‘sing/song’ is reasonable:
UACV-1982 ***kwika** ‘sing, song’: M67-379 *kwika; L.Son123 *kwika ‘cantar’; CL.Azt147/315 *kwiika; M88-kwi3 ‘sing’; KH/M06-kwi3: Eu bíke ‘sing’; Eu bikát ‘song’; Tbr kwik ‘sing’; Wr wigatá ‘sing’; Wr wiká ‘song’; Tr wikará ‘sing’; My bwiika; Yq bwíka; AYq bwiika; Wc kwika; Cr čuíika-ri ‘song, n’; CN kwiika ‘sing’; Pl takwiika ‘sing’. This is a denominalized verb from the noun birkaa and is in most SUA languages, but hardly found in NUA, except -’wexe of Cp pína’wexe ‘sing enemy songs, v’. [iddddua] [SUA: Cah, Opn, TrWr, Tbr, CrC, Azt; NUA: Tak]

36 Hebrew bʕy / baʕaa[1] ‘enquire, search’; Ug bġy ‘wish’; Arabic bġy ‘search’:
UACV-1493 ***kwawa/i** ‘invite, call’: Stubbs 1995-11: Cp kwawe ‘call, invite’; Tr o’wí ‘invite’; Wr oí ‘invite to work’ (borrowed from Tr; otherwise, woi); Eu bowá (= UA *kwowa) ‘convidar [invite]’; perhaps the baa- of TO baamuđ ‘plead, invite’ (lack of TO g < *w is frequent enough). [iddddua] [kwV > ku] [NUA: Tak; SUA: Tep, TrC]

37 Hebrew bʕy / baʕaa[2] ‘bring to a boil, bulge out’; Arabic bġw ‘swell up’:
UA *kwawa ‘boil’: Hopi kwala-(k-) ‘boil, come to a boil’. Semitic ʕ > UA *w > Hopi l between low vowels.

38 Arabic **bahiya** ‘to become empty, pierced with holes’ (Lane, KB), III to vie, compete with s.o.’;
Hebrew bohuu ‘emptiness, wasteness’:
Hp kwahi / kwàyya ‘suffer the loss of s.th. of value’; Hp kwaha-na ‘deprive of, take at the expense of s.o. or to the loss of (s.o.)’. [iddddua]

39 Syriac bhl / bəhel ‘cease, become quiet, tranquil, calm, serene, gentle’:
*kwaha reduplicated > Hp kwakwha ‘1. tamed, 2. peaceful, tranquil, gentle, easygoing’. No final -l in (4) bašal > kwasï either.

40 Hebrew sbl ‘carry’; Hebrew sabbaal ‘burden carriers’; unattested Hebrew ***hisbiil**:
Hp **iikwil**-ta ‘put on the back to carry’.

41 Hebrew **bə’or** ‘pit, cistern, well’: SP qwi’oqqi (< ***kwi’oC**-ki) ‘be hollow and round’; SP qwi’oqqi-čï ‘round and hollow, solid high ring, hollow ball, circular valley’.

42 Syriac **bdr** ‘scatter, put in disorder, sprinkle, shed’:
Hp **kwïrï**(k-) ‘get in a heap, collapse to a disordered pile, fall to disarray’. [iddddua]

43 Hebrew **baħuuraa** (< baxuuraa / bxr) ‘young woman’:
Sh **kwïhï** ‘wife’. *u > ï often in Num, and no final -r consistent with no final -r in Hebrew báśar > *kwasi.

44 Arabic qbḍ (i) ‘seize, take, grab’, impfv ya-**qbiḍ**(V); Hebrew qbṣ ‘collect’: UA *kwisV ‘take, carry, grasp’; Sem ṣ > ’ in Num, not in Tb, Hp:
UACV-396a ***kwïsïC (AMR) / *kwïsa/i** (< *kwisa?) ‘take, carry’: Sapir; VVH52 *kwï(sï) 'to take, get'; M67-76 *kwe ‘carry’; I.Num88 *kwïha 'catch, take'; M88-kwï2; AMR (1990) *kwïsïC; KH/M06-kwï2 *kwïsïC ‘carry’; Jane Hill 2008: NP kwïhï 'carry'; TSh kwïïC / kwïïn ‘catch’; Cm kwïhï 'catch, capture'; SP kwïï ‘take sg obj’; Tb wiiš(at) ~’iwiš 'catch, rope, vt’; Hp kwïsï ‘receive, take, pick up’; TO bïhi 'acquire, get'; Yq bwíse; My bwisse; Ktn kwick ‘wring (clothes), milk (cow), vt’; Cr -čue- in Cr rá’-a-čue-nyi 'he is going to take it away'; Wc kwe ‘llevar algo largo y sólido’; Pl kwi grab, take'; CN kwi 'take, vt’. Num appears to have lost intervocalic -ṣ- (as usual) or *-s- > -’-/-h-. Miller's inclusion of the 2nd Tb form, Tb wïkït ‘get, catch, grab’, with a very different medial consonant is possible if from a compound something like *kwïs-kV, but see *wik ‘take by hand’ below. Be that is it may, we must add PYp behe ‘carry, get, grasp, seize’; ST bïïya’ (pret. bïi) ‘adquirir, obtener, conseguir’. The Cahitan vowel (i) may be original. Sapir, VVH, and Miller have all included the Azt forms, with loss of final syllable. The forms in b also belong after reduction of kwV > ku:
UACV-396b ***kus** ‘take’: BH.Cup *kuṣ ‘take’; M88-ku18; Stubbs 1995-6; KH/M06-ku18: Ca -kús- ‘take’; Cp kuṣa- / kuṣáánə- / kúṣanə- / kuṣí- ‘get, fetch, take’; Ls kuṣááni ‘take, grasp sg. inan.obj’. These are related to the above by *kwïs > kus. [labials *kwV > ku, Tb w < *kw; V problem; *s > h in Num] [NUA: Num, Hp, Tb, Tak; SUA: Tep, TrC, CrC, Azt]
UACV-396c ***kwisa > *kwiha** ‘carrying net’: at KH/M06-ku11 ‘bag’ Hill lists Sr kwiih-t ‘carrying net’ and Ktn kwiha-t ‘net, carrying net’ as maybe with the *kusa ‘bag’ forms, with which I agree. Be that as it may, an interesting side note is Ktn kwihaka / kwihak ‘woman’ may derive from *kwisa-ka ‘carrying-net-haver’, the one who does the carrying. [NUA: Tak]
UACV-396d ***kusa** ‘bag, sack’: M88-ku11; KH/M06-ku11: Mn kussa/kúsa; Sh kussa; WSh kusa (acc. -i) ‘pants’; TSh kusa ‘pants’. Add Wc kïsíuri ‘talega, bolsa’ whose vowel agrees (Wc ï < *u). Miller includes *kusa with the *kuna ‘bag’ forms, but unless the 2nd syllables are separate morphemes, the differing 2nd consonant suggests a different etymon, and Wc agrees. [NUA: Num; SUA: CrC]

45 Hebrew qbl, -**qbiil** ‘confront agressively’; Arabic qabbala ‘go southward (i.e., forward)’; Arabic aqbala ‘turn forward’; the basic meaning of the Semitic verbs is ‘to be in front, go front-ward’ from which other meanings derive such as ‘meet, be face to face, receive’, but this aligns with a hi-qtiil form *hi-qbiil with the original Semitic meaning of ‘go forward’: Hopi **kwila**-(k-) ‘take a step, to step forward’.

46 Hebrew bry, impfv: -bre ‘consume food’; this root bry is related to or a variant of br’; Hebrew (qittel) bire’/birey ‘eat’; Hebrew (hiqtil) -bree’ / -brii’ ‘provide food’; Hebrew biryaa ‘patient’s diet, food’; Arabic bari’a, impfv: ya-bra’-u ‘recover, be free of illness’:
UACV-775 ***kwa’a** 'swallow, eat': Sapir; VVH48 *kwa(‘a) 'eat, swallow'; M67-152a *kwa 'eat'; BH.Cup *qwa- 'eat'; L.Son113 *kwa/*ko’a 'comer'; M88-kwa5 'eat'; AMR 1993a *kwa’aC ‘eat’; KH.NUA; KH/M06-kwa5: Cp kwá 'eat'; Cp qwe’í-š 'food'; Ls kwá/qwá 'eat'; Gb kwa’á; Sr kwa’-i; Eu hibá’a- ‘comer [eat]’; Eu bawá ‘dar de comer [give to eat]’; Yq bwá’a; My bwá’a; Tbr ko-; Cr kwa’á; Pl kwa; CN kwaa. Miller includes Tr go’á/ko- and Wr ko’á, though Tr wa’a / a’wa 'swallow' exhibits the expected sound correspondences of *kwa’a. Tr go’á/ko- and Wr ko’á better fit the forms of *ko’a below, where is also Tep *ko’a. However, let’s do add Tep *ba’a/ba’i (<*kwa’a/kwa’i) ‘swallow’: TO ba’a/ba’i 'swallow'; Nv ba’a; PYp ba’i’ia; NT bááyi; ST baya. What of TO bibid ‘serve s.o. food’? [NUA: Tak; SUA: Tep, TrC, CrC, Azt]
UACV-776 ***ko’a** 'eat': VVH131 *ko’a 'eat'; M67-84 *ko 'chew'; B.Tep115 *ko’ai 'eat'; M88-ko4; KH/M06-ko4: Ls qé’ni 'feed animal'; TO ko’a; Wr ko’á-; Tr go’-mea / ko’mea / go’á / go’yá / ko-; Tbr koa. In M88-ko4 Miller combines the *ko’a and *kwa’a forms, which in the kw-languages can easily alternate (thus some forms are in both lists here as well), but they are clearly distinguished in the Tepiman and Cahitan branches where ko’a and ba’a/bwa’a forms sometimes exist in the same language: e.g., TO ko’a 'eat' and TO ba’a ‘swallow’, though an early *kwo > ko in Tep/Cah would make the set even more complex than the mere complexity that we presently think we are dealing with. Ktn kwa’ ‘eat’ and Ktn ko’ ‘eat’ hardly help. [NUA: Num, Tak; SUA: Tep, TrC]

47 Hebrew (hi-/ya-/ta-)-brii(’/y) ‘provide food, i.e., feed’; Hebrew biryaa ‘patient’s diet, food’:
UACV-780 ***kwi** 'food, feed, give food': VVH53 *kwi 'food'; M67-152b *kwi 'food'; M88-kwi6; KH/M06-kwi6: TO bia/bi 'dish out (food)'; Miller (M67-152b) shows Sr kwi’a-t, -kwi’a’ 'food' but Hill (1994) has only Sr kwa’i’aaţ 'food’, whose first vowel better agrees with *kwa’a above; NT biááhai 'serve (food)'; NT bíídyi 'give to eat'; ST biidya 'serve (food)’; first syllable of Hp kwiivi 'boiled or stewed food'; Hp kwiiva 'cook by boiling’. Semitic-kw often shows the 1st C of a cluster rather than the 2nd as in Semitic-p, thus -br- > -kw-. [NUA: Tak, Hp; SUA: Tep]

48 Hebrew bwṣ / buuṣ, pfv: baaṣ ‘be white’; Arabic byḍ, perfv **baaḍa** ‘be white’; Hebrew beeṣaa ‘egg’; Arabic bayḍa(t) ‘egg’; Hebrew buuṣ ‘byssus, a costly white fabric’; Syriac buuṣ-aa ‘fine white linen-the’. Semiti ṣ > UA *c, and UA *c > NUA y, and y is what we see in the NUA languages of Ls, Cp, and Hopi:
UACV-2545 ***kwaya** 'white' (< *kwaca?): Ls xwáya ‘be white’; Cp xwáye ‘be white’; Hp qöya ‘a bound form meaning white, pure, used especially in ceremonial contexts’; perhaps Cr kwaina. *kwV reduction in Hp, of *kwaya > *koya. Is Hp qööca ‘white’ a loan from SUA? [NUA: Tak, Hp; SUA: CrC]

Like 44-47, the next two (49-50) show the Semitic verb stem that clusters the first two consonants, such that *-CbaC > *-bbaC > UA *kwaC. Interestingly, most Semitic verbs show a stem vowel -u- in -CCuC, but a small percentage have the stem vowel -a-, and the following are two of them and both show -a- in UA also:

49 Hebrew yi-**gbar** ‘be superior, achieve’; Hebrew(BDB) yi-gbar ‘be strong,prevail’;Aramaic(S) gbr ‘prevail’:
UACV-2556 ***kwaC(-ku)** ‘win’: TSh kwaaC ‘win, beat’; Sh kwakkuC ‘to win a game’; Cm kwakurï ‘defeat, win over someone’; Kw kwaha ‘win’; SP kwaa ‘win, beat’; CU kwa’á-y ‘win, beat, earn’; CU kwá-’ni ‘win, beat, earn’. Only *-kwaC- aligns with -gbar-; final -ku perhaps < Hebrew bo ‘in, often verb’s object’. [NUA: Num]

50 Hebrew -lbaš- ‘put on (garment), clothe (oneself)’: impfv stem vowel is -a-, as in UA: -lbaš > kwasV; in fact the plural would be -**lbašu**, reflected in most Numic languages also; and again -lb- > -bb- > -kw-:
UACV-484 ***kwasu** ‘dress, shirt’: M88-kwa12 'dress, shirt': I.Num79 *kwasu/*kwasï 'dress, shirt'; KH/M06-kwa12: NP kwasï ‘clothing, shirt’; TSh kwasu 'dress'; Sh kwasun ‘dress’; Cm kwasu’u 'dress, coat, shirt'; Kw kwasupïci 'dress, skirt'; Hp kwasa 'dress'; My bwáhhi 'sapeta’. Ken Hill adds Ch kwasu ‘woman’s dress’; Ch kwasú-ntu ‘dress, put on dress, v’; TSh kwasu’un ‘dress, n’. Add Yq bwahim ‘calzones’; AYq bwahim ‘diaper, loincloth, breechclout’; and NP kwasïiya 'put on clothes, v’. Note Cah (Yq, AYq) loses -s- both here and in *(a)tïsa. [Num ï < *u] [kw1l,kw2b,kw3s1] [NUA: Num, Hp; SUA: TrC]

After 42 examples of b > kw or medial -Cb-/-bb- > -kw- (4-12,14-27, 32-50), consider other sound changes:

2.4 Many Sounds—such as h, k, t, p, m, n—Remain Such in Uto-Aztecan

51 Hebrew ***kaatep** ‘shoulder, shoulder blade, upper arm’; Arabic **katip/kitp**- ‘shoulder, shoulder blade’; Syriac kətep / katp-aa ‘shoulder-the, shoulder blade-the’:
UACV-1966 ***kotapa / *kotapo** ‘shoulder’: B.Tep112 *kotava/o ‘shoulder’; M88-ko29 ‘shoulder’; KH/M06-ko29: TO kotwa / kotïwa (TO w < PUA *p); LP kotov; PYp kotev ‘shoulder blade’; NT kotáva/kotááva ‘hombro’; NT kotbo ‘hombro’; ST kotvo. Other words are interesting, but not without their difficulties. If the initial ’a- could be isolated, note the -kol- of CN a’kol-li ‘shoulder’. Note that the latter portion of Tr na-’tapu ‘push with the shoulder’ is quite identical to Tep *kotapo (> ’tapu); perhaps a reduction of the first syllable caused k > ’ in a cluster (*na-ktapu > *na-ktapu > na’tapu), for na- as the reflexive prefix (exert self, shoulder oneself to s.th.) is a likely morpheme break. Likewise, Mn téébï ‘shoulder’ may tie in with first syllable lost. SP antïŋwiaavu ‘shoulder’ might align with Mn if nasalization before both of SP’s consonants (-nt- and -Nb- > -ŋw-) were explainable. Hebrew qameṣ (long aa) is sometimes pronounced o, if something triggered such. [NUA: Num; SUA: Tep, TrC, Azt]

52 Hebrew **mukkɛ** ‘smitten’ (passive hoqṭal participle *mu-nkay > mukkɛ, from the root nky):
UACV-655a ***mukki** ‘die, be sick, smitten’: Sapir; VVH86 *muuki/*muuku die; M67-126a *muk / *muki; BH.Cup *mukii? 'a sore'; B.Tep155 *muuki; L.Son155 *muku/*muk-i; M88-mu2; KH.NUA; KH/M06-mu2: Tb muugït~’umuuk 'die'; Tb mugiinat~’umugiin 'hurt'; Tb muugut 'spirit of a dead person'; Ls múúki-l ‘sore, boil, knot in wood’; Ls múúki- ‘fester, v’; Ls múú- 'be in eclipse, of sun, moon'; Ca -múk- ‘get sick, weak, die’; Ca múk’il^{y} ‘sore, n’; Ca múki-š ‘sick person, dead person’; Hp mooki 'die, faint, be numb, suffer from or be afflicted by'; Ktn muk ‘be sick, die’; Ktn mukic ‘disease’; Ktn mukim ‘dead people’; Hp mokpï 'corpse'; TO muuki 'die, corpse'; Eu mukún 'morirse [die]’; Wr mugu-ná/mugi-má 'morir, sg'; Wr muguré 'corpse'; Tr mukú-mea; My múúke; Yq múúke; Cr mï’ïči 'dead person, he is dead; etc.'; Cr wamï’ï 'se murió'; Wc mïïki 'dead, adj/n'; CN miki ‘die, suffer from’. PUA *u > CN i, CrC ï. Sapir includes SNum terms SP čaŋwïqqa, čaŋwïkki, čaŋwukki (< *ca-mukki) 'die off, disappear’. It and Tak -k- (vs. -x-) suggest *-kk-, but SP moġoa does not; thus, Ken Hill rightly separates those.
UACV-655b ***mukki** 'sore': Munro.Cup121 *múúki-l 'sore'; M67-128a; KH.NUA: Ls múúki ‘ to fester, v’; Ls múúki-l 'a boil, knot in wood'; Cp múki-ly 'sore'; Cp múkilya’a-š 'sore, pl’; Ca múk’i-ly; Sr mukṭ 'a sore, n'; Sr moki’ 'be getting sore, vi’. Cp muhí’i-š ‘suppurating, sore, adj’ a variant with softened medial consonant? Though the semantics vary—e.g., 'spirit' in Numic—this is one of the few etymons found in all eight branches of UA. Note Tb g < *kk rather than Tb h (< *k) due to the underlying geminated *-kk-. [medial *-kk- > Tb g, Wr g, Tak k, not x] [Num, Hp, Tb, Tak, Tep, TrC, CrC, Azt]

53 Hebrew hukkɛ ‘was smitten’ is 3rd sg huqtal perfective (vs. mukkɛ, huqtal participle above) and is in Tb: Tb(H) hookii ‘deceased grand-relative (grandfather, grandson) after death’.

54 Hebrew taapel ‘whitewash’; Aramaic(J) ṭəpel-aa ‘paste, plaster, coating-the’:
UACV-758 ***tïpi-c** ‘white clay’: M88-tï52; KH/M06-tï52: Ls tóovi-š 'white clay' (synonymous with tóóva-l); Sr tïïvi-c 'white clay, cement’; Gb tóviy 'white clay’. While these ‘clay’ forms are close to *tïpaC ‘land’ (see 75), these 3 languages have separate terms with a different final vowel and different absolutive suffixes. The Semitic semantic retention of ‘whitewash, plaster’ to ‘white clay’ is impressive. Ktn towi-c ‘white paint’ may be a loan from Gb. [NUA: Tak]

55 Hebrew **mayim / meem**- ‘water’:
UACV-2499 ***mïma** / ***mïmï**- ‘ocean’; M88-mï10 'ocean'; Munro.Cup84 *məəma-t 'ocean': KH.NUA; KH/M06-mï10: Cp méme-t 'ocean'; Cp mémŋaxwi-š 'white man'; Ls móóma-t 'sea, ocean'; Gb mómot 'mar, lake'; Ca móoma-t / múuma-t 'ocean' (Ls loan?); Sr mïïm-t 'ocean, lake’; Ktn mïmï-t ‘lake, sea’; perhaps Cr mwaíhete ‘mar [sea]’. Jane Hill (2014, 197) points to Wintuan *meem ‘water’ and similar in other California languages as a possible loan source for this UA term. [Gb V] [NUA: Tak; SUA: CrC]

2.5 Hebrew s and š Merged to s

Instances of Uto-Aztecan š are usually more recent palatalizations of Proto-Uto-Aztecan *s > š adjacent to high vowels. Both Hebrew s and š merged and correspond to Uto-Aztecan *s.

56 Hebrew **šɛkɛm** ‘shoulder, nape of neck, back, ridge of mountain’**;** Samaritan **šekam** ‘shoulder’; Hebrew **šikm-** (possessed); the third consonant m or general nasal N is apparent in the 2nd group of words (CV-1967b) while the first group (CV-1967a) lost it:
UACV-1967a ***sïka** ‘shoulder, arm, armpit’: M67-7 *seka ‘arm’; M67-375 *seka ‘shoulder’; L.Son249 *sïka ‘brazo, mano’; M88-sï1 ‘armpit’; KH.NUA; KH/M06- sï1 ‘armpit’: Hopi sïkyakci ‘shoulder, shoulder blade’; Hopi(Seaman) sïkyakci / sikyakci / sökya ‘shoulder’; Cp -ṣék’a ‘shoulder (poss’d n.)’; Ca -sék’a / -sék- ‘shoulder (poss’d)’; Ls sóóka ‘shoulder’; Gb sok(in) ‘shoulder’; Sr ṣïïka’ ‘shoulder, upper arm’; Ktn šïka-c ‘shoulder blade’; Tb šiki-t ‘upper arm, arm’ shows a final C; Tbr saká-r / haká-r ‘sobaco [armpit], agalla de pez [fish gill]’; Yq séeka ‘armpit’; My séeka-m ‘armpit’; Wr seká ‘hand, arm’; Tr seká ‘mano, brazo’; Cr ’ískwa’a-ri / ’ïskwe’i-ri ‘armpit’; CN siyaka-tl / siaka-tl ‘armpit’; TO hïk ‘armpit’; PYp he’ekado ‘armpit’; NT ïkáádï ‘arm, hand’ (remember *s > Tep h/ø; Tep final syllables are other morphemes).
UACV-1967b ***sïkuN / *sïkkuN** (Num) ‘shoulder’: Mn sikkuppï ‘shoulder blade’; Sh sikkumpï ‘shoulder blade’. TSh sikkum-pï ‘shoulder blade’; Kw sïgu-pi ‘shoulder meat (of an animal)’; WMU skumpï ‘shoulder’; CU sïku-pï ‘scapula bone’. So we have Num *sikkuN-pï ‘shoulder’; Tak *sïk(’)a ‘shoulder’; Hp; Tb; Tep *hïka ‘arm, armpit’; TrC *sïka ‘armpit’ in Cah, ‘arm, hand’ in Tr/Wr; Cr ‘armpit’; CN si(y)aka-tl ‘armpit’; and -cikora in Eu macíkora ‘shoulder blade’—a reflex in every branch and in most languages. Note also the clear nasal in WMU, TSh, and Sh. [CN iya; Gb o]
[NUA: Num, Hp, Tb, Tak; SUA: Tep, TrC, CrC, Azt]

57 A Hebrew word for ‘squirrel’ does not occur in the Hebrew Old Testament text; nonetheless, Arabic **singaab** ‘squirrel’ would correspond to Hebrew ***siggoob** ‘squirrel’ to which UA ***sikkuC** ‘squirrel’ corresponds perfectly (C means the doubling effect of an underlying consonant). All is as expected: the doubled consonant devoiced (-gg- > -kk-), the vowel rose from o > u, with final gemination: SP sikkuC- ‘squirrel’; Ch siku-ci ‘squirrel’; Sr hikaau-t ‘chipmunk’ (Sr h < *s); other forms in SUA show a semantic change to ‘mouse’ as squirrels, chipmunks, and mice are all fast, darting little animals:
UACV-2144b ***sikkuC** 'squirrel': Ch sikú-ci 'squirrel’; SP sikkuC-(cci), sikkuN- 'squirrel’; WMU aqqá-skuči ‘squirrel’ is a fairly nice preservation of PNum *aNka-sikkuC-ci (< red-squirrel). [NUA: Num]
UACV-2143b ***ciku** 'mouse': Eu zikúr/cikúr; Yq číkul; My číkkul; Tr čikuri; Wr ci’kurí. Are these affrications of the above? [SUA: TrC]
UACV-2144a ***sikka(-wV)** 'chipmunk': BH.Cup *sVká 'chipmunk'; HH.Cup sVkáawət 'chipmunk'; M88-sï20; KH.NUA; KH/M06-sï20; Jane Hill 2007-46: Cp sekáwet; Ca síkawet 'tree squirrel'; Ls ṣukáa-wu-t 'tree squirrel'; Sr hikaawt 'chipmunk’; Ktn hikaï-t ‘flying squirrel’. Miller includes Hp sakïna 'brown squirrel' with a question mark. Matching fairly well, however, is Tb ’ïšï’ïga-l 'blue squirrel’. The non-descript V in HH.Cup’s reconstruction is a good choice for an unaccented V becoming the schwa-like possibilities, but in Ca í is accented and is found in two of four, so let it be our best guess. Jane Hill (2007) notes Rio Grande Tewa sá’wɛ́ ‘squirrel’. [Tak V’s; i-a > Ls u-a] [NUA: Tak, Tb, Hp]

58 Hebrew **škr** ‘be/become drunk’; Hebrew **šikkoor** ‘drunken’; Ethiopic sakkaar ‘addicted to alcohol’; Hebrew šekaar ‘intoxicating drink’; Arabic sakira ‘be drunk’; Arabic sikkiir ‘drunkard’, and other Semitic forms, but note that UA *sikuri < Hebrew **šikkoor,** pl: **šikkoor-iim** ‘drunken’:
UACV-11 ***sikuri (>** Tep *hikuri) ‘peyote, intoxicat-ed/ing’: Fowler83: PUA ***sikuri*** ‘peyote’ (an intoxicant): NT ikuli ‘peyote’; PYp hikeri ‘peyote.’ The Tep forms point to PUA *sikuli, because PUA *s > Tep h/ø. Therefore, Tr hikuri, Cr ikuri, and Wr ihiguri, all meaning ‘peyote’, may be borrowed from Tepiman. Eu ba-hiskor ‘drinker’ contains hi-skor, and Tr sugí ‘tesgüino, bebida fermentada hecha de maíz [fermented drink made of corn]’ also belongs with a vowel shift, which is common in Tr. Keeping in mind *s > TO h, note Fowler’s inclusion TO hikugđam ‘saguaro cactus button’; TO hikug ‘for a tree to drop its blossoms’; TO hikug-t ‘to form fruit’.

Some NUA reflexes may belong as well: Tb(V) šo’ogonhn-(ït)~’ošogonh ‘be drunk’; Tb(M) so’goonït~’oso’goon ‘be high on Indian tobacco, drunk’. Also note the same three consonants (s-k-l) in CN meškal-li ‘mezcal, distilled alcoholic drink’, though other etymologies for the CN term have been proposed. Note also AYq sankora ‘drunk, n’ with nasalisation of the velar and a vowel change; and PYp suusekar ‘drunkard’—borrowed from a non-Tep langauge, since *s > h in Tep.
[loans; NUA o vs SUA u; *L > NUA n; Tr V shift] [NUA: Tb; Tak; SUA: Tep, TrC, CrC]

59 Hebrew **šakuur** ‘drunk’ or Hebrew **šikkoor** ‘drunk’ from Semitic škr ‘drunk, intoxicating drink’; the UA forms either lost the first syllable (*šikur > *kuru) or are from the infinitive škor; Nahuatl mescal is an alcoholic drink made from agave and such cacti juices, and so some UA terms mean the plant vs the drink:
UACV-5 ***kuru** ‘mescal, agave’: Fowler83-3:8; L.Son109 *kuru 'clase de mezcal'; M88-ku25; KH/M06-ku25:
Wr kuru; Tr guurú-(bari) 'palmilla'; Tbr kurú-t 'sotol'. Cahitan(Cah) ku’u fits *kuru well, since intervocalic liquids > -’- in Cah: My kuú'u 'mezcal, maguey’; Yq kúu'u 'mescal plant for making alcohol’; Eu kuút/ku’út 'cierto mezcal grande’. Fowler includes Wc kïveri 'lechuguilla, agave sp.’, of which the first syllable may belong, and lists NT, which form I cannot find in Bascom’s NT dictionary. Add Tb(M) kuuk-t 'mescal'; perhaps Tb(V) kuya-t 'yucca whipplei’.
[r > y in Tb, r > ’ in Cah, > ø in Eu] [NUA: Tb; SUA: TrC, CrC]

60 Arabic **muskir** ‘alcoholic beverage’; Hebrew nouns are frequently formed by prefixing ma- or mi- to roots; in this case for an unattested *ma-škar or *mi-škar:
PUA ***maskal** ‘mezcal, an alcoholic drink’; CN meškal-li ‘mezcal, distilled alcoholic drink made by cooking the heart of the maguey plant’.

61 The following SUA forms could easily derive from reductions of *maskal in -sk- reducing to -h- or to -k- > -h-, and then the 2nd vowel rising in anticipation of the alveolar (high front) consonant -l:
UACV-4 ***maC(C)i / *mahi** 'agave, mescal': M67-3 *ma 'agave'; Fowler83; L.Son133 *mahi 'mezcal'; M88-ma25 'agave, mescal'; KH/M06-ma25: Eu meit 'mezcal ya tatemado' (see ‘bury, cook underground’); Wr mahí 'agave, mezcal'; Tr mé/ma-/mi-, méke 'maguey, mezcal'; Tbr mañí-t ‘maguey’; TO ma’i ‘a pit roast’; Wc mái 'mezcal'; Cr mwáih / mwéih 'agave'; CN me-tl 'century plant, maguey, member of agave family’; NT maí 'maguey, mescal'; PYp mai ‘corn, maguey, mescal’. From CN meškal-li 'mezcal, distilled alcoholic drink made by cooking the heart of the maguey plant’, then *maskal > *maki/meke/mahi is a typical kind of reduction in UA, with rising vowels before a liquid; and where does the *-ke come from in Tr meke ‘agave, various species’? In any case, the variety of 2nd consonants—h/’/ø/x/k/ Tbr ñ (< *y)—suggests a medial cluster. [clusters; medial h/ø/x/k; Tr k vs. k > h/ø elsewhere] [SUA: TrC, CrC, Azt, Tep]

2.6 Semitic-kw intervocalic -r- became -y-/-i- in non-initial positions

Similarly, Proto-Mayan *r > y in most of Q’anjobalan, Tzeltalan, Cholan, and Yucatecan (Campbell 1977, 97-100). Besides examples above (5 baaśaar, 19 brr, 27 brm), additional examples of -r- > y/i follow:

62 Hebrew śrq / srq / śaaraq ‘to comb, v’; Syriac srq / səraq ‘to comb’:
UACV-518a ***siyuk** / ***ciyuk** ‘to comb, v’: Tb siuk ‘comb, v’; WMU čiyu’wa-y / čii’wa-y ‘comb (hair), vt/vrefl’; CU čiyu’wey ‘comb, vt’; Hp sööqa ‘card (wool), v’; Ca suyavis ‘comb, n’; Tb(V) ’iišiug- ~ šiuk ‘comb one’s hair’; Tb(M) ’išyuugat ~ ’išyuuk ‘comb one’s hair, v’; Tb(M) šiuugišt ‘comb’; Tb(H) šiwk ‘comb, v’; Ktn šeahk ‘to part hair, vt’. As for CU č, sometimes ś / š / s > c, especially in SNum; see SP at 10 above (Hebrew šabber) and SNum at 93 ‘head’ (Hebrew roš). Note also the nasal V in WMU relating to Sem-kw q > ŋ. [NUA: Tb, Hp, Num]

63 Syriac **sirq-aa** ‘comb-the, n’; UA shows a denominalized verb from the noun, as it often does:
UACV-518b ***cika** ‘to comb, sweep': CL.Azt30 *cikaawaas 'comb’; L.Son31 *cika ‘peinarse’; M88-ci9; KH/M06-ci9: Yq čike ‘peinarse’; Yq híčike ‘sweep’; Yq híčikia ‘broom’; My čikke 'peinarse'; Eu atecíka 'peinarse'; Wr cí’ihká 'comb, n (Lionett), note -’- where -r- is; Wr ci’iká 'type of cactus (Miller)'; Tr(S) tičí ‘peinar’; Tr(S) tičíkari ‘comb’; Tr tičí, čiká, ti-čík; Tbr cikát; CN cikawaas-tli 'comb, n’; CN cika-waas-wiaa ‘comb hair, v’; Pl ciikuwas 'comb'; Pl ciikwastia 'to comb'; HN cihwaas-tli’ ‘comb’. To Miller’s collection, add the latter part of Cr muacikï 'comb, n’ and possibly the -cih- segment of Cm nacihtu’ye’ 'comb, hairbrush'; but most interesting is NT šikiúúmai 'peinar con el chino'—a reflex among the Tep languages to match the rest, since NT š < *c; NT ikiúúmai 'peinar, vt' appears to be an alternate form.
UACV-518c ***hi-cikï** 'sweep’; ***hi-ciki-ta** ‘broom': Yq híčike’ sweep’; AYq hičike ‘sweep’; AYq hičikia ‘broom’; My híčike ‘sweep, v’; My híčikia ‘broom’; and Wr icikíla ‘broom’. These have a hi- prefix. [reduction] [NUA: Num, Tb; SUA: Tep, TrC, CrC, Azt]

64 Semitic **krr / krkr** ‘go in circles, dance’ (see variety of Semitic forms in Hebrew(KG) 2001, 300; and in Brown et al 1975, 502-3): SP kiya ‘have a round dance’. [NUA: Num]

65 Arabic **mrr** ‘pass, go, walk’:
UACV-1009 ***miya** ‘go’: M67-197 *miya/*mi; I.Num101 *mi’a ‘go, walk’; KH.NUA; M88-mi6 ‘go’; KH/M06-mi6 *miyaC (AMR): Mn miya ‘go’; NP mia ‘go’; Sh mia ‘go’; Kw miya ‘come, go, walk, pl’; SP mia ‘travel, journey, vi pl’; CU miyá-y ‘move away from, be far from’; Cm mia/mi’a; TSh mia/mi’a; Gb mya; Sr mi/miaa; Ktn mi; Tb miyat~iimiy ‘go’; Tb(H) miyyat ‘go, take leave’. Add WMU -mi ‘while going/moving, do s.th. while going, v’; Kw mi ‘move while V-ing’; Kw miya ‘go, walk’. [NUA: Num, Tb, Tak]

Besides krr > *kiya (64) and mrr > *miya (65) and brr > *kwiya (19, 20), other examples of -r- > y/i follow.

66 Hebrew ’mr / **’aamar**, impfv: **yoo-mar / yoo-mer** ‘say’
UACV-1880 ***umay / *may** ‘say’: Kw mee ‘say’; Ch mai ‘say’; SP mai / mwai / umai / ïmai ‘say’; WMU may / umway ‘tell, say’ (past: may-kye); CU may-ka ‘say, tell, order’; Sh me ‘quotative particle’. WMU past tense suffix -kye (vs. -qa) shows that there is a final -y in the stem. [NUA: SNum]

67 Hebrew ṣaará‍ʕat ‘skin disease’; Hebrew(BDB) ṣaará‍ʕat ‘leprosy’:
CN siyo-tl ‘rash, scab, leprosy’ shows both -r- > -y-, and ʕ > o.

Other examples of **Hebrew *-r- > UA -y- / -i-** abound throughout.

2.7 Hebrew/Semitic non-dageshed b, d, and g generally devoiced to p, t, k:

Three Hebrew forms for ‘locust’ derive from the Semitic root gb’/gby: Hebrew **goob** ‘locust’;
Hebrew **gebiim** ‘locust’ (BDB) occurs only in the plural, ‘swarm (of locusts)’ (KB);
Hebrew **gobay** ‘locusts (a collective, swarm, multitude) (BDB)’, ‘swarm of locusts (KB):

68 Hebrew **gebiim** ‘locust’: SP qïïvi ‘grasshopper’;

69 Hebrew **goob** ‘locust’ and Hebrew **gobay** ‘locust’: Eu okoboi ‘grasshopper’; Kw haakapayni-ži ‘grasshopper’; and ST kavak soi ‘grasshopper’. Eu and Kw both have an initial prefix much like the definite article ha- ‘the’ and assimilated in the Eu form. Semitic b and g devoiced to p and k. [NUA: Num; SUA: TrC]

70 Hebrew **dɛgɛl** ‘standard, banner’; Aramaic(J) digl-aa ‘carrying pole in the shape of a banner’:
Wr **tekela** ‘stripe, hat band, pole at the bottom edge of the roof’. Hebrew d and g are devoiced to t and k. [iddddua]

71 Hebrew **daayeq** ‘bulwark, siege-wall’; Assyrian dayyiqu ‘bulwark’; Syriac dawq-aa ‘watch-tower, look-out, wooden tower (for besieging a city)’; Syriac dwq ‘gaze (from far)’:
Hopi **tïyïqa-** ‘wall’ in Hp tïyïqa-va’ ‘along the front of the wall’ (Seaman); Hp tïyïqa-nawit ‘along the front of the wall’ (Voegelin); Hopi tïyqa ‘projecting point of a mesa, external corner of a structure’ (Hill). The latter Hopi dialect lost a vowel, but the idea of a wall or high barrier / overlook is in both Semitic and UA.

72 Hebrew **dqr / daaqar** ‘pierce, v’; Hebrew **dɛqɛr** ‘sharp tool or weapon, pick, mattock’;
Syriac dqr / dəqar ‘dig, break, pierce through’:
UACV-615 ***tïka / *tïkï / *tïkiy** ‘cut, stick in’: Sapir; VVH113 *tï$_s$kï/*tï$_s$ka 'to cut'; M67-117 *tek 'cut'; I.Num240 *tek 'cut'; L.Son289 *tïk-so 'picar'; CL.Azt218 **tïk- 'cut'; M88-tï23; KH/M06-tï23 *tïkat: TO -čk/-čïk ‘pointed object’; TO cïkiđ ‘vaccinate, put down a stake’ (< *tïkiy); Hp tïkï 'cut'; CN teki 'to cut s.th.'; Tb tïdïha, perfective: ’ïtïdïha ‘be cut up’; SP tïxánni 'to cut up meat'; Mn tïhee’na 'scissors'; Sh tïkoa 'scissors'; latter part of NT ikíítïïkïi ‘cortar [cut]’; Eu mé-teka 'cut with an axe' (Eu mé-teki pret); Eu síteka 'cortar' (Eu sí-teki pret); Wr & Tr me’te-. Sr tïhtïi 'to work’ and Ktn tïk ‘break ground with a stick’ and CN teki-panoaa 'work' show this stem (tïkiy ‘cut’) also as work, tilling, or agriculturally digging/cutting the ground. TO cikpan ‘work, v/n’ may be a Nahuatl loan. SP forms differ in SP tïkka 'eat' vs. SP tïganni ‘cut up meat’; Kw tïhani ‘dry meat, jerky,butcher’; WMU tïánni ‘butcher animal, cut up meat, skin (an animal), vt’; CU tïáni ‘skin, vt’. [*-k- > Tb -h-] [NUA: Num, Hp, Tb; SUA: Tep, TrC, CrC, Azt]

73 Akkadian(KB) dašuu > diišu ‘grass, spring’; Hebrew **dɛšɛ’** ‘grass, vegetation’:
UA ***tïsï** ‘grass, weeds, meadow’: Hp **tïïsï** ‘weeds in a cultivated field’; Hp tïïsï-ti ‘become weedy’; Ch **tïsï**-vi ‘grass’; Kw pa-rasii-vï ‘meadow, grass’.

In the next two items, the 2nd consonant Hebrew -b- devoices to PUA *-p-, then to -v- or -b- between vowels.

74 Hebrew **təbuu’at** ‘produce, yield from the land, literally: what comes in (of harvest, to be stored)’:
UACV-1630 ***tïpï’at / *tïpaC / *tïpat** (AMR) ‘pinion nut, conifer sp.’: BH.Cup *tevat ‘conifer sp.’; M67-319 *tepa ‘pine nut’; HH.Cup təvat ‘conifer sp.’; I.Num245 *tïpah ‘pine nut’; Fowler 83; KH.NUA; M88-tï29 ‘pine nut’; M88-tï30 ‘conifer sp.’; AMR1993a *tïpat; KH/M06-tï29 *tïpat (AMR): Munro.Cup29 *təvá-t / təvé-t / təəvá-t ‘conifer sp.’: Ls tóóva-t / tuvá-t ‘pinyon’; Cp təvə-t; Ca téva-t ‘pinyon’. Gb tová’at piñon; Mn tïbá’; NP tïba ddabbui; NP tïpape ‘pinenut tree’; TSh tïpaC ‘pine nut’; Sh tïpa/tïpaC; Kw tïva-ci; Kw tïva-pï ‘single-leaf pinyon’; SP tïv^{w}aC-ppï ‘pinion’; SP tïva-ci ‘pine nut’; CU tïvïá-ci ‘nut, kernel’; Hp tïva ‘pinion nut’; Hp tïve’e ‘pinion pine’; Tb tïba-t; Tb(H) tïpat-t ‘pine nuts’; Sr tïvat ‘pinion’; Ktn tïva-t; Kw tïpa-ppï ‘single-leaf pinyon’. Miller lists HN tepeewa’ ‘to broadcast seeds’; HN tepeewi’ ‘to fall (seeds, leaves, etc.)’. Note the glottal stop in the same position for Mn tïbá’; Gb tová’at; and Hp tïve’e. Also the final gemination in Num and final -t in Tak and Tb, both align with that glottal stop. The CU voweling tïvïá (< *tïvu’a) since often Num ï < *u. All those facts lead to the first reconstruction *tïpï’at / *tïpu’at, though the latter two fit many also. [*ï > Ls o/u; Gb V] [NUA: Num, Hp, Tb, Tak; SUA: Azt]

75 Hebrew **teebeel** ‘firm (dry) land’; Assyrian taabal ‘land’:
UACV-757a ***tïpaC / *tïpal** 'earth': Sapir; I.Num247 *tïpi(h) 'earth, land, ground'; M88-tï36; KH.NUA; KH/M06-tï36:
Mn tïpi; NP tiipï 'earth, land’ (vs. NP tïbbi 'rock, stone’); Sh tïpia 'home country, land, property'; Kw tii-pï (< *tiip-pï) ‘dirt, earth, world, year' (vs. Kw tï-bi/tï(m)bi/ tï-bi-ci 'stone, rock, earth'); SP tïviC-/tïvi-ppï ‘earth, ground, country’ (vs. SP tïmpiC 'stone, rock'); CU tïvï-pï 'earth, world, soil, dirt, ground, country, land’ (vs. CU tïpïy-ci / tïpï (< *tïppï) ‘stone’); Gb tová-r 'tierra'; Ls tóóva-l 'white clay'; Ls tóvki-š ‘storage cave’ (earth-house?); Sr tiïva-ţ 'earth, ground, land, world, country, floor, dirt, dust'; Ktn tïva-č ‘dirt’. Add Op teve ‘earth’ (Shaul 2007) and Ch(L) tïvi-pï ‘earth, land, territory’. Though Miller often brought some of both together, Numic words for 'earth' vs. 'rock' (603) differ in both the middle consonant and the final consont, so some are included for contrast.

For example, *tïmï-pï ‘rock’ > tï(N)pï has SNum showing nasalization (at times medial -m-) or gemination (a definite medial cluster), while *tïviC- (< *tïpaC) ‘earth’ shows no nasalization and no medial cluster and thus the usual spirantization. In SUA, the distinction is less discernible. Miller includes CN tepee-tl ‘hill, mountain, precipice’ which is listed at *tïpï ‘long, tall’ in this work. Cf. rock and tall. Sapir also ties the above *tïpaC 'earth' with *tïpï ‘mountain’, but Ls tavu- ‘long’ (97) vs. the above Ls term and differing semantics (earth vs. long) and a final consonant in *tïpaC all suggest differing stems. That the 2nd V is *a* in Ls, Gb, Ktn is strength enough to reconstruct it, as any V > ï/i is common in UA unstressed syllables. This may be Sem-p as -l raises not the V.
UACV-757b ***tal (< *tïpal)** ‘land, earth’: CL.Azt 96 *tlaal ‘land, earth’; 130 tlaalia ‘put, place’; M88-ta39; KH/M06-ta39: CN tlaal-li; Pl taal; Po tal; T tlolli; Z taal. The frequent loss of *-p- in Azt and Azt’s anticipation of following vowels ties *tïpaC ‘earth’ with Azt *taal ‘earth’: *tVpal > tapal > taal (Azt). [NUA: Num, Tak; SUA: TrC, Azt]
UACV-773 ***tïpoN** ‘flat land’: Mn tïbóópï ‘countryside’; TSh tupoompi/tupoon ‘desert, flatland’. [NUA: Num]

76 Hebrew **’aadaam** ‘man’:
UACV-1419 ***otami (< *wVtam?)** ‘man, person’: B.Tep325 *’o’odahami ‘person, Indian’; KH/M06-’o29: TO o’oḍham ‘person, tribesman’; NT óódami ‘person, people’; ST odam/o’dam ‘Tepehuano, indigenous person’. Add TSh otammani / otammana ‘old man’. Whether borrowed from Otomi is hard to say, but if we start with s.th. like *otami, then intervocalic voicing (*t > d) would yield the Tep forms and agree with TSh. In Bascom’s reconstruction of Tep *’o’odahami ‘person, Indian’, the extra syllable seems solely based on TO dh, while all others show only d, and even TO shows no vowel between and may simply be a devoicing mechanism. Note also -wetam in Cp mulu’-wetam ‘first people’ and the first half of Ch(L) ’ontokwavï ‘male cousin’. These may belong to Semitic-p rather than Semitic-kw. Gb woróyt, pl: worórom ‘man’. However, note both here and at ‘believe’ the loss of intervocalic m in Gb and clear rounding for initial glottal stop. What of Tb(H) waattam ‘soldiers’ and Hopi wátamri ‘good-for-nothing, stupid one’? Likely of a separate set are Sr wïţïʳ|ṣṭ ‘man’ pl: wïţïʳham; Sr wïţi’vïʳṭ ‘old man’ pl: wïhwţi’vïʳm and Ktn wïčïha-č ‘old man’, listed at *wïti of UACV-1420, as M88 and KH/M06-wï10 have the Sr and Gb forms. [NUA: Tak, Num; SUA: Tep]

77 Hebrew ’dm ‘be red’; Hebrew ’aadom ‘reddish-(brown)’; Arabic ’aduma / ’adima ‘be tawny’; Samaritan ’adem ‘red’; Hebrew ’odem ‘precious stone, redness’:
UACV-312 ***oNtam / *o(N)ta(N/C)** 'brown': NP otï-ggwiddadï ‘sorrel colored, brown’; TSh ontïmpi(tïn) ‘brown’; Sh(M) ontïn ‘brown’; Sh(C) onton ‘brown, orange’; Kw odo- / ondo- ‘brown’; Ch ontó-ka ‘brown’; Ch(L) ontokwarïmï ‘woman’s name referring to brownish color of hair’; SP ontoC ‘reddish brown’; WMU *attoC-* in *attó-qqwa-rü / attőőqqwarü* ‘brown’; CU ’ötó-qwa-rï ‘brown’; TO o’am ‘brown, orange, yellow’. The -t- (vs. r/d) of CU and WMU, Kw, NP, and SP suggest a cluster, besides all the other forms showing a cluster *-Nt-. Nasalizations or nasal anticipation, such as ’adam > ’andam, occurs in some Semitic dialects as well. [-(N)t- > ’ in TO] [NUA: Num; SUA: Tep]

2.8 Semitic Voiceless Pharyngeal ḫ > *hu/ho in Uto-Aztecan in initial position

Hebrew’s voiceless pharyngeal fricativce **ḫ** is reflected by PUA ***hu/ho*** in initial position. Sometimes it lacks the h, and only an initial round vowel (o/u/w) is apparent. Similarly, in non-initial positions, ḫ is regularly reflected by the round vowels **o/u** or the semi-vowel **w**.

78 Hebrew **ḫeṣ** / **ḫeṣi** ‘arrow’; Arabic **ḫaẓwat / ḫuẓwat** ‘arrow’; Aramaic ḫeṭy-aa / ḫeṭ-aa ‘arrow-the’:
UACV-63 *huc(a) > *huC ‘arrow’: Sapir; VVH78 *hu ‘arrow’; BH.Cup *hu ‘arrow’; B.Tep334 *’u’ui 'arrow'; M67-9 *hu ‘arrow’ and 474 *hu ‘wood’; I.Num35 *huuh ‘arrow’; L.Son64; M88-hu3 *hu; Munro.Cup6 *huu-la ‘arrow’; M88-hu3; KH.NUA; KH/M06-hu3 (*hu AMR) and hu22: Ls húú-la; Sr hooṭ; Hopi hoo-hï; Hopi hooŋavi ‘arrow material’; Tb paa-huu-l ‘war arrow’; Kw huuwa-zi; Ch húu; SP uu / u; WMU uu / úu / huu; CU 'úu; Yq hú’iwa; My hú’iwa; Wr úa; Tr wa. Ken Hill (KH/M06) includes several other viable forms at hu3: NP huwa /howama; WSh hua ‘bow’; WSh huukkuna ‘quiver, lit. arrow bag’; WSh hua’aiti / hoa’aiti/huu’aiti ‘bow and arrow’; Gb hur; Tb uut ‘stick, pole’; Eu humát ‘quiver’; and others yet at hu22: NT úúši ‘tree’; ST uuš ‘tree’; NP huuppi ‘stick’; Sh huuC ‘wood’; Sh huuppin ‘stick, wood, log’. Add Ktn hu-č ‘arrow’; and Tepiman: Nv ’u’u; PYp u’u; NT úyi / ui / úúyi; ST ’u’uu. A few forms (like TO uuš; NT úúši ‘tree’; ST uuš ‘tree’) show *c as a second consonant, not likely a residual absolutive suffix in Tepiman. Munro and Hill both note Ca húya-l 'arrow' and Cp húya-l 'arrow' in contrast to Cp hú-l 'arrowhead' and Ca hú-l 'bow and arrow’. The *huya- forms fit *huca (like TO uuš), since *-c- > -y- in NUA and *-c- > -s- in TO. However, several UA languages have an initial *hu… form for ‘arrow’ and another initial *hu… form for ‘wood, stick’. But the two lists show *hu and *huc forms on both sides, again suggesting a need for more work. Where do Yq húya ‘árbol, monte’ and My huyya ‘árbol, monte’ fit? CNum *huuppi ‘tree’ (< *huuC-pi) may also derive from this stem. The strength of the initial pharyngeal overpowers the adjacent vowel—ḫee > hu—which is usual in UA; and though some UA languages do not show the final c well, some do, i.e., the expected reflexes for c do appear in TO, Ca, Cp. Cr and Wc ï < *u, so they also show *u. Reflexes of UA *huc appear in every branch except Azt. [*c > s in Tep] [NUA: Num, Hp, Tb, Tak; SUA: Tep, TrC, CrC]

79 Hebrew **ḫmr** ‘to pitch’ [i.e., cover with pitch]’; Hebrew(BDB) **ḫmr** ‘to cover or smear’ (with s.th.); Arabic ḫammar ‘to color or dye red’:
UACV-2381a ***humay / *humar** ‘smear, spread, rub, paint’: Ca húmay 'smear, paint, vt’; Cp hume- / hum-ine ‘spread a liquid or s.th. fine like sugar’; Cp hume-yaxe 'be spread out'; Tr na’oma 'erase, cloud up' (with na- prefix); PYp huhul ‘rub, paint’ (if *humal > huml > hul); and perhaps Wc -maa in šúurí.maa 'smear blood' (Wc šuure 'red'). The Cah languages compound *pa- ‘water’ with this for ‘swim’ perhaps in ‘water-spread/be prone’: My bahume ‘nadar’; AYq vahume 'swim'. [r > y] [NUA: Tak; SUA: TrC, CrC, Tep]

80 Hebrew ḫpp ‘to rub off, wash’; Arabic ḫaffa (< *ḫappa) ‘to remove hair’:
UACV-2494 ***up(p)a** 'bathe, wash, rub’: M67-27 *u-pa; L.Son25 *’upa; M88-’u2; KH/M06-’u2: Op uva; Eu úva/huba; Yq úba; My úbba; Wr u’upá; Tr úba; Cr -ï’ïwá; Wc -’ïïva/’ïïya. As ‘rub’ and ‘wash’ often relate, Ktn hïpïpk ‘rub buckskin between hands to soften it’ may belong, and Tb hip ‘rub, massage’. The -wpa of Hp màwpa ‘rub along the length of, stroke with the palm of the hands’ < ma ‘hand’ + *huppa ‘rub’. [*-p- > -w/v- in CrC] [1h2,2pp] [SUA: TrC, CrC; NUA: Hp, Tak, Tb]

81 Hebrew **ḫaaber** ‘companion’; Hebrew ḫabéret ‘marriage companion (feminine), wife’:
UACV-2572a ***hupi** 'woman, wife': VVH79 *hu$_{s}$pi; B.Tep332 *’uvi 'girl, female'; M67-471 *hupi; I.Num45 *hïpi 'woman'; M88-hu4 'woman'; L.Son68 *hupï 'to marry'; KH/M03-hu4: TO uwi 'female, woman'; Nv ubbi; NT úvi 'female, girl'; ST ’uvii 'female, girl'; Eu hoít ‘mujer de edad, aunque no muy vieja [mature woman]’; Eu huhwa ‘mujer [wife], esposa [woman]’; My húúbi 'esposa'; Yq húubi ‘woman, wife’; Wr upí 'wife'; Tr upí 'wife'; Cr ïita’a 'woman'; Cr nya-’ïh 'my wife’; Wc ’ïya 'woman, wife’; Tb hu’ubanah 'widow, widower’. Usual in Cr ïita’a 'woman' are PUA *u > Cr ï and loss of *-p-: *hupi > (h)ïi-, and similarly for Wc. Numic often changes *u > ï, so Numic *hïpi ‘woman’ is cognate also:
UACV-2572b Numic ***hïpi** 'woman': I.Num45 *hïpi 'woman'; M88-hï8; KH/M03- hï8: Mn hïïpí’; TSh hïppicci(cci); Sh hïpi; Cm hïbi. [Cr, Num *u > ï; p > ø in CrC] [NUA: Num, Tb; SUA: Tep, TrC, CrC]

82 Syriac **ḫz’ / ḫzy** ‘see, perceive, notice’; Hebrew ḫzy / ḫazaa ‘see, behold (originally ‘look’ says Baudissin in KB); all Aramaic dialects have this most common word for ‘see’:
UACV-1915 ***husi / *h^{w}asi** ‘look, peek at’: Kw huzi’a ‘look, peek’ and NP wazipunni ‘peek at’; Kw variants –Kw wazi’a / huzi’a / huziya (< *huci’a/*huciya) ‘look, peek’—are interesting on a number of levels. First, why Kw z? (< PUA *s or *c?), yet interestingly Kw z matches exactly Semitic z, but neither UA *s or *c exactly. Second, Aramaic dialects have both forms ḫz’ / ḫzy, varying in the 3rd consonant, and Kw shows both variants in the 3rd consonant. Third, while this verb generally came to mean ‘see’, some authorities suggest it originally meant ‘look’, which is its meaning in Kw. [1h2,2z,3’,3y]

83 Hebrew **ṣrḫ** ‘cry, roar’ > UA ***cayaw** ‘yell’: Tb cayau ‘yell’; Tb(H) caayaaw ‘yell’. [Tb]

84 Hebrew **ṣmḫ**, impfv: **yi-ṣmaḫ** (< *ya-ḍmaḫ) ‘sprout’ > UA ***icmo** ‘sprout’: CN icmo-liini ‘sprout, grow’.

85 Hebrew **ṣlḫ** ‘rush, v’ > UA ***coloa** ‘flee, run’: CN coloaa ‘flee, run swiftly’. [Azt]

Many other examples of pharyngeal ḫ are in part 5, the sorting of Semitic-p from Semitic-kw.

2.9 The Semitic Voiced Pharyngeal Fricative ʕ (ʕayn) Reflects Rounding w/o/u

The voiced pharyngeal fricative, the Semitic **ʕ (ʕayn**), emerges as a round vowel or semi-vowel—**w/o/u**—or as a dipthong—oa. I have heard native speakers of Arabic pronounce the pharyngeal **ʕ** with enough rounding to sound like w, while the back or root of the tongue is doing its pharyngeal at the pharynx. Also relevant to this sound change is that when the Greek alphabet was being developed from the Phoenician / Hebrew alphabet, the Semitic consonants seemingly nearest the vowel were used for the Greek vowels: glottal stop or ’aleph > a, h or he > e, y > i, and ʕ > o (Goldenberg, 35). So the symbol for the Semitic consonant pharyngeal ʕ (ʕayn) became the Greek vowel o, which suggests there was rounding associated with the ancient Semitic ʕ. Round vowels also share low tonality with the pharyngeal ʕ.

86 Hebrew ṣʕq / ṣaaʕeq ‘shout, call out, cry (out)’; Hebrew *ṣaʕaq ‘scream, n’; Hebrew **ṣəʕaaqaa** ‘yelling, screaming, call for help, n’; Arabic ṣʕq ‘thunder, bellow (of bull)’; UA again shows a denominalized verb:
UACV-605 ***coaka (< *cuwaka)** ‘cry’: M67-114 *coak; B.Tep204a *suakai 'to cry, sg’; B.Tep205a *suaha’ni 'to cry, pl'; CL.Azt40 *čooka; CL.Azt304 *coaka; M88-co10 'to cry’; KH/M06-co10: TO šoak; LP šoakï; PYp soakim; NT súákai; ST suak; Wc cua-/cuaka; CN čooka; Pl čuuka; HN čooka’ ‘weep’; HN čook-ilia ‘weep for s.o.’ Ls čááqa 'weep, cry' assimilated the first *o* to the following *a*'s (*coak(a) > *caaka), while the Aztecan languages (CN, Pl, HN) assimilated the 2nd V to the 1st: *coaka > cooka. [*oa > oo/aa; no w in Tep] [NUA: Tak; SUA: Tep, Azt]

87 Arabic ʕgz / **ʕagaza** ‘to age, grow old (of women)’:
Tr **wegaca-** 'grow old (of women)’. Identical! Not only grow old, but specifically grow old of women in both Arabic and Tarahumara: ʕ > w, g > g, and z > c; initial wV > o occurred the following noun:
UACV-2571 ***okaci** ‘(old) woman’: Sapir; B.Tep319 *’okisi 'woman, little girl'; CL.Azt104 *okïc ‘male’; M67-473 *’ok ‘woman’; M88-’o8 'woman' and o14; KH/M06-’o8 and ’o14: TO oks 'adult female, lady, woman'; LP(B) ’okš; Nv oksi; PYp okasi; NT okíši; ST(B) ’o’okiš ST(W) o’kiš ‘aunt, mos’; Eu hokíci 'muchachita'; Op (’)oki ‘woman’; Cr úúka 'women'; Wc ’úúkáá 'woman’. Note NT oóki 'woman’; NT ookímuturui ‘hacerse anciana [become old (of a woman)]’; NT ookíši 'niña'. CN okič-tli and other Azt forms also belong. Tepiman *okisi 'woman’ and CN okič- 'man' both < PUA *okic; and if we consider the Tr form whose 2nd vowel (*a*) matches the PYp, Cr, and Wc forms *oka 'woman’, then Tr wegaca- 'grow old (of women)’ provides the semantic key to these similar forms for men and women, such that *okac originally meant ‘old woman’ then ‘old one, old man’ in some languages. English 'guy' is now changing from masculine to genderless and 'girl' went from genderless to feminine (Stewart and Vaillette 2001, 410), so semantic gender changes happen too and cost nothing. I’ve heard men called ‘woman!’ at politically incorrect construction sites where attempts to highlight ineptitude at the male-dominated occupation revealed a lack of sensitivity that surely permeates all construction crews by now, though perhaps not all of UA prehistory aligned with such sensitivities. Note 2nd V (a vs. i) in PYp okasi ‘father’s older sister’, Cr, Wc, and NT ookáli ‘father’s older sister’ (-li is non-stem) and Tr wegaca, in three branches, no less, all of which suggest *a* as the 2nd vowel: *okaci > okVci 'woman’. Assimilation *a-i > i-i is natural, especially with an alveopalatal between the two. No chance of *i-i > a-i for the 5 languages showing *a*. [*a-i > i-i in CN, most Tep, Opatan] [SUA: Tep, TrC, CrC, Azt]

88 Hebrew ʕaluqaa ‘leech’; Arabic **ʕalaq** ‘leeches’; Arabic **ʕalaqat** ‘leech’;
Syriac **ʕalqaa**, **ʕilaq-taa** ‘leech, anything clammy or sticky, n.f.’ from the root ʕlq ‘stick, adhere’;
UA *walaka ‘snail’ is a perfect phonological match, and leeches resemble snails in slimy adhering texture:
UACV-2057 ***walaka** ‘snail’: CN wilaka ‘caracol de monte [snail sp.]’; Tr warákoara ‘caracol [snail]’; Ls muvílaqa 'snail’; Wr nalágeloci ‘snail’; Tr narákuri ‘snail’. NUA liquids (Ls) and SUA liquids; Ls and Wr add prefixes eliminating initial w-. Wr alágaloci ‘snail’; and Tr narakuri show V transposition. [iddddua] [NUA: Tak; SUA: TrC, Azt]

89 Hebrew **śeeʕaar** ‘hair’; Arabic **šaʕr / šaʕar** ‘hair’; Arabic šaʕira ‘be hairy’:
UACV-1106a ***suwi** ‘body hair’: B.Tep70 *hogi ‘hide’; M67-211 *suwi ‘hair’; M88-su18 ‘hair’; KH/M06-su18: LP hog ‘hide’; NT ógi ‘hide’; ST ho’ ‘fur, leather’; PYp hogi ‘hide, skin, leather’; Tb šuuwi-l ‘pubic hair’; Hp sowícmi ‘facial hair’; NP musui ‘beard’ (< *mu-suwi ‘mouth/face hair’); Ls suuwi-l ‘pubic hair, body hair’; TSh suwii ‘pubic hair’. Tepiman *hogi ‘hide’ matches NUA *suwi ‘hair’ consonant-wise, whether u or o; I side with *u, like Miller and Hill. The close but not perfect match in o vs. u may be due to the influence of *-w-. [NUA u; SUA o]
UACV-1106b ***suhi**: Mn suhi ‘body hair’ and Ktn suhi-c ‘genital hair’ show *suhi.
UACV-1106c ***soho > *soo** ‘armpit (hair)’ (in SNum): Kw soo-rokwa ‘armpit’; Ch(L) sohorah ‘post with U-shaped fork, notched post’; SP soor’oaa ‘armpit’; WMU kiyæ-söö-v*ü* (lit: armpit hair); aá-söö-v*ü* ‘underarm, armpit (lit: arm hair), n’. Note that Ch(L) sohorah, Mn suhi ‘body hair’, and Ktn suhi-c ‘genital hair’ all show medial -h-. What of Tb šuu’itt ‘jackrabbit’ and Tb šuuwi-l ‘pubic hair’? [NUA: Tak, Tb, Hp, Num; SUA: Tep]

90 Hebrew **naʕar** ‘boy’:
UACV-1426 ***nowa** ‘son’: M67-389 *no ‘small’; L.Son177 *no ‘hijo del padre’; M88-no5; KH/M06-no5: Eu nówat; Tr no/nowa ‘hijo [son]’, pl: hinowa; Tr nowi ‘have a son’; Wr nolá /noló ‘son’; the two Wr forms align with fossilized vowel suffixes: **naʕar-á** ‘son-her, her son’ and **naʕar-ó** ‘son-his, his son.’ [Sem-p] [SUA: TrC]

91 Hebrew **naʕ^{a}ra(t)** (< ***naʕrat)** ‘girl’:
UACV-2586a ***nawiC** 'girl': M67-389 *no 'small’; BH.Cup *nawí girl; HH.Cup nawíi girl; Munro.Cup49 *nawi-l/*nawii-l 'girl, young woman'; M88-na21; KH.NUA; KH/M03-na21: TSh nawi 'girl'; Tb ’aanaawiš-t ‘girl’; Cp nawí-l^{y} 'young lady'; Cp nawíšma-l 'girl'; Cp nawíka-t 'woman'; Ca náwišmal 'girl'; Ls nawíí-l 'young woman'; Ls nawí-t-ma-l 'girl'; Sr naašt ‘girl’; Wr nu’iti /nu’inti ‘little, child’. Some terms suggest a final -C (Tb, Cp, Ca). [r > š adjacent to voiceless C; Fem -aa/-at > -i, as at ‘back’ (7)] [NUA: Tak, Tb, Num]

92 Hebrew **yáʕar** ‘wood, forest, thicket, wooded heights with trees to be felled’ (BDB); Hebrew yáʕar ‘thicket, undergrowth, wood’ (KB); Arabic waʕr ‘rock debris; rugged, roadless terrain’:
UACV-1627a ***yuyi** ‘evergreen sp.’: BH.Cup *yúyila ‘spruce’; M88-yu16; Fowler83; Munro.Cup29 *yúúyi-la ‘conifer sp.’; KH.NUA; KH/M06-yu16: Cp yúyi-ly ‘fir’; Ca yúyi-ly ‘California juniper’; Ls yúy-la ‘spruce’; Sr yuhaaţ ‘pine’.
UACV-1627b ***yuwiN (> *yuviN)** ‘ponderosa pine’: KHM/06-yu16: Kw yïvi-bï ‘ponderosa or yellow pine’; Ch yuvimpï ‘pine sp.’; CU yïvï-pï ‘pine tree’. I agree with M88 and KH/M06 that Tak *yuy/*yuwi(l) and SNum *yuviN are related, perhaps both deriving from s.th. like *yuwiN, for *w would be quite hidden in the environments of Tak, and if so, then w > v happens enough in Num. In addition, both show a final consonant. Ls absolutive suffix -la suggests a final liquid or nasal and Numic suffixes also suggest a final nasal or liquid. [w > v; Kw ï < u] [NUA: Tak, Num]

Note three terms—śʕr (89), nʕr (91), yʕr (92)—all have 2nd and 3rd consonants (-ʕr), and in UA are reflected as -ʕr > -uwi/-uy, while 90 may be of Sem-p in which final -ar > -a, instead of Sem-kw's -ar > -i.

2.10 Hebrew r- > UA *t- in Initial Position

Hebrew r- > UA *t- in **initial position** (at beginning of word), but in Tr it remained Tr ŕ. This change is similar to changes in other language families as well. Proto-Mayan initial *r became t in four Mamean languages: Ixil, Awakateko, Mam, and Teco (Purse and Campbell, 181). Wr(MM) re'te as a reduplication of re'- is similar to r > t, whether initial position or after a stop consonant.

93 Hebrew **rooš** 'head' (< *ra'š); Arabic **ra's-** 'head':
UACV-1157 SNum ***toCci** 'head': Kw toci-vü; Ch tocí; SP tocci-vi; WMU č*ih*čči-vi 'head'; CU tüčí-vi. As in Kw pika-roci 'bald', the -rusi of Tr po-rusi 'bald' likely belongs also. Notice *o > ï in CU's unaccented syllable and *o > i with palatalization of *t > č in WMU. All show an underlying doubled consonant; otherwise, we would see a lone *-t- > -r-, or *-c- > -y-. For ***'s >** UA ***c:** an affricate (c / ts) is a stop (t) plus fricative (s); in UA a glottal stop (thus, a stop) plus s (a fricative) often yields the affricate c: thus *-'š- > -cc-. [NUA: SNum; SUA: TrC]

94 Hebrew **ršʕ** 'act wickedly, be guilty':
UACV-101 ***tasawa** 'be/do bad': Tb tïsï 'be bad'; Tb tïsawiin 'cause s.o. evil'; Tb(H) tïššawiinat 'cause one evil'; Tb(H) tïšwan 'bad'; Tb(H) tïššït 'be bad, ill'; Tr rasewa 'fornicate'; Tr rasewa-me 'permissive person'; SP -rïssu'ai-na'ai 'not heeding, paying no attention'. Tr is the only UA language that retains initial r as r (SP -r- is non-initial). [SUA: TrC; NUA: Tb, Num]

95 Hebrew **rbb / *rabba** 'shoot (an arrow)':
SP tokwa 'snap (of bow)'; the following 'throw/hit' verbs derive from hurl/hit with or shoot (an arrow):
UACV-2310 ***tïkwa** 'hit by striking or throwing, shoot (arrow)': TSh tïkwan 'hit, strike, vi'; Sh tïkwa 'hit, knock down, vt'; Cm tïkwïrï 'shoot, propel (arrow)'; Cm tahtïkwarï 'throw at, vt'.
UA *tïkwï 'throw (away): Ls tokwi 'throw away' (Ls o< *ï, and Cp/Ca e<*ï); Cp tekwe 'throw away'; Cp tekwe-le 'brush off'; Ca tekwe 'be shaken off/down'. [NUA: CNum, Tak]

96 Hebrew **rby / raabaa** 'shoot (bow and arrow)'; Aramaic(J) rəba' / rəbee(y) 'to stretch the bow string, shoot'; Hebrew participle robe 'archer'; the difference between 95 rbb/rabba and 96 rby/rabaa is that the *-bb- > -kw- in 95, but a single non-dageshed *-b- > -p/v- in 96:
UACV-2309a ***tapa / *tapi** 'throw, hit': Mn tabi 'strike'; Mn tabipa'i 'strike repeatedly'; NP tabi 'throw'; NP tïtabi'hu 'throw, vi'; Kw tavi 'throw, hit'; Kw ta-tavi 'throw, hit, redupl'; Ch tïrávi 'throw down'; SP tïravi 'throw'; SP tavi 'hit by throwing'; CU tïrávi 'throw at, vt'; Eu mútava 'hit'; CN tepiiniaa 'punch, hit, strike, vt'. Below *tapa > *tïpa due to stress, and in SUA, consonants harmonize *tïpa to *pïpa / papa:
UACV-2309b ***tïpa** 'throw, hit': Hp tïïva 'throw'; Hp tahtïva 'hit with thrown obj'; Hp tatatïpna 'throw stone';
UACV-2309c ***pïpa / *papa** 'throw' (< *tïpa): Yq hibéeba 'hit, throw'; AYq veeva 'hit, strike'; AYq hiveva 'hit, strike it'; My béeba-k 'throw out'; Wr paba-ní 'throw pl objs'; Wr ihpába-ni 'throw, drop pl objs'; Wr ihpa-ní 'throw, drop sg obj'; Tr pa, apa, iba; Tr ne-pabá 'throw rocks'; NP pibu'a 'throw pl objs'; Ls píva(n) 'throw stones'; NT vúúpai 'throw'; NT vúúpakaroi 'sling'. This stem is a consonant harmony of *tïpa/tapa 'throw'. M88-pi22 and KH/M06-pi22 list Tak forms of *pi'a 'throw, bewitch' (see at bewitch) which may be a different stem or perhaps a sort of reduction of a harmonization: *tVpa > pipa > *pi'a 'throw' (Sr pii' 'throw sg obj'; Sr piivi' 'throw pl objs'). [NUA: Num, Hp, Tak; SUA: Tep, TrC, Azt]

97 Hebrew rab, rabbaa (f.) 'great, large, many'; Hebrew rby / raabaa 'be(come) numerous, powerful, grow up'; Syriac rab 'great, loud, large, long, strong': Aramaic rab/rabbaa 'large, great, numerous, senior':
UACV-1386 ***tïpï / *tapu** 'long, tall': B.Tep248 *tïvï 'long'; M67- 268 *tep/*te 'long'; L.Son294 *tïpï 'largo'; M88-tï11 'long'; KH/M06-tï11: My teebe 'long, tall'; AYq teeve 'tall'; Yq téebe 'long, tall'; Wr tepihkúma / tehpekúma 'long' (Hebrew qoomaa 'height'); Eu tevéi 'long'; TO cew 'tall, long'; UP čïwï; LP tïv; NT tïvï; NT tïvïïdu 'be long, tall'; ST təv; Wc téví / téwí 'long'; Cr áh-tyee 'he is tall'. Add Nv tubu/tubutu 'eminente' (u for ï); Tbr tepe 'tall, hill' and CN tepee-tl 'hill, mountain, precipice'. Add Ls tavú-lvu-š 'long' whose vowels are more original, in fact, agree with Semitic, while the others did a typical leveling, as *a* > ï, and u > ï both occur in UA. Jane Hill (p.c.) adds Ktn tïpuck 'thick (like a board)' as a cognate, with the same 2nd V. This may be of Sem-p. [NUA: Tak, Tb; SUA: Tep, TrC, CrC]

98 Hebrew **rqʕ** ‘beat, stamp, beat out, spread out’; Hebrew **raaqii^{a}ʕ** ‘extended surface, expanse, firmament, sky’ is the source for UA *tukuN- in * tukuN-pa ‘sky’. Consider UA terms for ‘**SKY**’:

Mn	--	Hp	tokpela	Eu	tewíka / tevíka
NP	kumiba (pidaggwabaatï)	Tb	tuguumba-l	Tbr	tamwa-kalí-t / tamokalít
TSh	tukumpana(pin)	Sr	tukuhpţ	Yq	téeka
Sh	tukum-pin; tukumpana	Ca	túkva-š / túkwi-š / túki-š	My	téeka/ téweka
Cm	tomo(ba’atï)	Cp	túkva’a-š	Wr	teweká
Kw	tugu-bayaa-vi-dï	Ls	nááxuyni-t; túúpa-š	Tr	ŕe’paní ‘sky, up’
	tugu-na-paya=aka	TO	daam kaačim ‘over-lie lifeless’		se’pótare ‘starry sky’
Ch	tugúmpa	PYp	tevagi	Cr	tahapuá
SP	tukuN	Nv	damakatuma	Wc	múuyúavi
WMU	tuku(m)paya	LP	tïvïg/tïvgï/tïvg (B.Tep)		
	tuġúppaya	NT	tïváági		
CU	tugú-payá	ST	tïvaa’; hiš dyaam	CN	ilwi-ka-tl

In short, UA terms for ‘sky’ are NUA *tukuN(-pa); SUA *tukuN-pa > SUA *tïkopa or *tVkpa after V syncopation. SUA *tawa-kali ‘sun-house’ mostly in TrC, but in Azt *ilwi-ka, as well.

UACV-2032a ***tukuN-pa** ‘sky, up, above’: Sapir; M67-383 *tuku ‘sky’; I.Num229 *tukuN ‘sky’; M88-tu16 ‘sky’; KH.NUA; KH/M06-tu16: **NUA *tukuN-pa**(ya) ‘sky’ (in Num); Tb tuguumba-l; Hp tokpela; Tak *tuk(u)pa-. The NUA unity is clear and a compound of *tukuN- + *-pa ‘sky-in it’. UA *tukuN- ‘sky’ < Hebrew ***raqiiʕ** ‘sky’, all vowels assimilating to the two rounding influences: the uvular and the pharyngeal. The Tak forms lost the 2nd vowel, and in Ls the C also: *tukuN-pa > tukpa > tupa (Ls). Yet in spite of Luiseño’s loss of -ku-, the *p remains a stop, due to an underlying -kp- cluster—*tukupa > *tukpa > *tuupa—otherwise, we would expect intervocalic -v- or tuva. Of interest is that Hebrew *raqiiʕ literally means ‘beat broad or flat’, used in beating metal flat, but also means sky, as a broad expanse, and the Ca, Cp, Sr, and Ls forms all mean both ‘sky’ and ‘iron/knife’: e.g., Cp tukva’a-š ‘sky, iron’ (see b). Note also Sr tukuhp|ţ 'sky' (dative: Sr tukuhpakya’ 'up, above'; ablative: Sr tukuhpanu’ 'from above'); Cp túkuči 'high'; Gb tokúpar; Ls túúpaš ‘sky’; Hp tokpela ‘sky’; Mn túgupaa 'above'; NP; TSh; Sh; Kw; Ch; SP; CU; Tb; Cp; Ca; Ls; Sr; Hp. Sapir lists Gb tuku-pa-r ‘sky’. Other forms show only *tukuN: TSh tukun ‘straight up, directly above’ (vs. TSh tukumpin/tukun- ‘sky’); Sh tukun ‘straight up, straight down’ (vs. Sh tukum-pin ‘sky’); Cm tukuhputï ‘upward’. Add Ktn tukuhpa-č ‘sky’. Perhaps PYp tuuk ‘uphill’. This may be a Semitic-p term.

UACV-2032b ***tïk(V)pa (< *tukuCpa)** ‘cutting tool: obsidian, knife, flint, metal’: KH.NUA notes the dual meanings in most Tak languages of both ‘iron/knife’ and ‘sky’: Cp túkva’aš ‘iron, sky’; Ca túkvaš / túkwiš / túkiš ‘sky’; Ca túkvaš / túkwaš / túkiš ‘iron, knife’; Sr tukuhp|ţ ‘sky, iron’; Ktn tukuhpa-č ‘bead, metal, sky’. Relative to the metal beat flat as tool dimension, note Kw paha-rïka-dï ‘pounded metal’; Cr tehka ‘obsidian’; Tr ŕikibara ‘knife’; CN tekpa-tl ‘flint’. Ktn’s vowel could suggest original *-u-, with which Kw (*u > ï in Num) may agree. In Azt, *u > CN i, then *i-a > e-a, and some others may be Aztecan loans. Though Yq has another term for ‘sky’, Yq tepohtim ‘fierro, hierro [iron]’ is cognate (tepoh- < *tïkpoh < *tukuNpa) with only the one meaning ‘metal’. While above reflexes for ‘sky’ are in all 8 branches, those with ‘flint, knife, metal’ meanings remain in 5, with loan or dialect recycling. Perhaps Ktn toq-šiva-t ‘flint, flint tip of arrow’ and Ls tiqé-t ‘arrowhead’ as recycled loans. [NUA: Num, Tak; SUA: TrC, CrC, Azt]

UACV-2032c ***tïkpa-wa** ‘up, above, sky, on’: B.Tep246 *tïvagi ‘sky, cloud’: SUA ***tï’pa** ‘sky’ < NUA *tukuN-pa. The non-Numic reductions *tu(k)pa approximate ****tï’pa*** with a slight vowel change (u > ï) and k > ’/ø in a cluster, as the k disappears in Ls also. So Tr ŕe’pa and similar TrC forms, and the Tep forms *tïvagi (< UA *tïpawi < ****tï’pawi**) are cognate: Tr ŕe’pá; Tr ŕe’paní 'sky, up'; Eu téva(n) / téwa ‘(por) arriba’; Cr tahapuá 'sky’; and Tep *tïvagi (< *tïpawi) likely belongs too, from *tïkpa-wa, and note Hp tokpela (with Hp l < *w). [k > h in Cr; -kp- > -’p-] [NUA: Num, Tb, Hp, Tak; SUA: Tep, TrC, CrC, Azt]

99 Hebrew **rakb-uu** ‘they mounted, climbed’ or rokb-im/-in ‘mount, climb up’ (pl participle); Hebrew **rakb-o** ‘mounted it’; K&B note that “the most prominent meaning of the root rkb in other Semitic languages (Ugaritic and Akkadian) is to mount, to climb up”; Syriac pl participle: **raakb-iin** ‘climbing/ers’; Syriac **rakb-uu-hi** ‘they climbed it’; Syriac rakbaa ‘upper millstone’; Aramaic(J) rikbaa’ ‘upper millstone’ (what rides on the lower grinding stone); -p- (instead of -kw-) suggests these are of Semitic-p instead of Semitic-kw:

UACV-461a ***tï’pu** ‘climb up’ (< **rakb-uu)**: NP tïbbu’ya ‘climb up’; Wr mo’tepú-na ‘climb up s.th.’.

UACV-461b ***ciCpuhi** 'climb’ (< **rakb-uu-hi)**: Mn cibuhi 'climb with arms and legs'; NP cibui 'climb up on s.th.’ These Western Numic forms align perfectly with Semitic rakb-uu-hi/ha ‘climb up on it’ (rakb-uu-ha/hi ‘ride-pl-it), considering initial r > t, then t > c with palatalization before the high-front vowel.

UACV-461c ***tiCpiN > *cippiN** ‘climb or come out or onto’ (< **raakb-iin** ‘climbing/ers): Kw čipii- ‘climb’; Ch cipí- ‘come out’; SP cippiN ‘come out, appear, ride’; WMU č*ih*ppí-y ‘come out, bubble out (like a spring), climb into (car), onto (horse)’; CU čipí ‘mount, climb on, get on top’. Also related are Ca čípi ‘get covered (hole), vi’ and Ca čípi-n ‘cover, vt (causative)’ which also show geminated *-pp-, and covering (a hole)

is causing s.th. to get on top of, and a hole getting covered is as a spring bubbling out, its hole being covered by water' or 'surfacing to the top'. SNum -p- instead of -v- means a cluster, and these are a palatalization of the above *tï'pu > ciCpu. CN tlakpa-k 'above, on top' fits the Semitic f sg verb rakbaa or a mecial vowel loss; CN -ikpa-k 'on or at the head of, above'. [SNum –p- vs. –v-; redtn] **UA**CV-2032d ***tïko / *tïku**: CL.Azt131 *təhko 'raise, ascend'; M88-tï45; KH/M06- tï45: ST tï'kov 'alto, arriba'; CN tle'koo 'ascend'; HN tle'ko 'climb, ascend'; Pl tehku; PYp teik 'upriver, above'; Wc téikï 'allá arriba' (Wc ï < *u). These perhaps with loss of -p- (tVkpu > tVku), since the three branches it appears in (Azt, CrC, and Tep) all lose -p- readily. Differing PYp teik 'upriver, above' vs. PYp tuuk 'uphill', and differing Nahuatl forms may mean recycled loans. [1r,2k,3b] [NUA: Num, Tak; SUA: Tep, TrC, CrC, Azt]

100 Hebrew ***ra'oot(-aa)** 'seeing (it), to see (it), infinitive/ verbal noun':
UACV-1912 ***ta'uta** 'find': TSh utaa 'find'; TSh ta'ota 'find'; Sh ta'uta 'find'; Cm ururï 'find';
Cm to'ururï 'meet someone, find something being looked for'. [*-t- > -c-, *uta > uci; *hu > wV?] [NUA: CNum]

3 Pronouns of Uto-Aztecan

In comparative work, pronouns are always an important consideration. Most UA pronouns align with Semitic, and two 3rd person singular pronouns align with Egyptian. All basic pronominal slots (sg: 1st, 2nd, 3rd; pl: 1st, 2nd and 3rd) are well represented in this tie; and a good 1st pl (we/us) possibility is last at 1528.

101 Hebrew -i 'my' is a possessive suffix pronoun, and like other Semitic suffix pronouns came to serve as prefix pronouns in UA, and so Hopi i- 'my' is identical to the Semitic 1st sg possessive, with adjusted syntax.

	1st sg: independent pronouns (I)		suffix (object and possessive: me, my)	
	Aramaic 'anáá'	Hebrew 'anii, 'anoki	-nii,	-iy
Ch	nïï			
SP	nï			
WMU	nïï'			
Tb		nik		
Hp	nï			i-
Ca	ne'			
Tr	ne			
TO	a-ni		-ni	
CN	ne'			

102 Hebrew 'anii 'I'; Arabic **'anaa** 'I'; Aramaic **'anaa'** 'I'; Syriac **'inaa' / naa'** 'I':
Uto-Aztecan *nï' 'I' does not align with Hebrew (except possibly TO aañi), because final -i is Uto-Aztecan's favorite final vowel, so if Hebrew 'anii 'I' were the source, there would not be a change in the final vowel. However, Uto-Aztecan *nï' 'I' aligns well with Arabic / Aramaic / Syriac 'anáá, and the 2nd vowel, long and stressed, was retained. Relaxation of the vowel a > ï is common in the Semitic-to-UA data and loss of an unstressed vowel is also common; thus, 'anáá > nïï is expectable, doing like Syriac **'inaa' / naa'** 'I' in its schwa-like behavior of 1st vowel (a > i) or complete loss of it (as in UA) for lack of stress:
UACV-2658 ***nï'** 'I, me, my': Sapir; B.Tep 295 *'á:nï'i/'á:niï; BH.Cup *nə; I.Num 118 *nï; CL.Azt 89 *nəh' CL.Azt 247 *nï'; M88-pr1; KH/M06-pr1: WSh nï (acc. nïi); TSh nï (acc. nïa); Hp nï' (acc. nïy); Sr nï:' (acc. nï:i); Ktn nï' (acc. nïy); Ca ne'; Cp nə' (acc. nə'iy); Ls no: (acc. ney); Gb nóma'; TO aañi('i); NT aáni; ST aañi'; Nv ani; Eu nee (pospuesto ne, gen. no, acc. nečt); Tr nihé (Ht); My ne (clítico) (acc. ne:); Wc né; CN ne' / ne'wa(tl), acc v pref: neeč; Pl naha. [NUA: Num, Tak, Hp, Tb; SUA: TrC, Tep, CrC, Azt]

103 While Hebrew -i is the 1st sg suffix possessive pronoun 'my' as in Hopi (101) but changed to a prefix, Hebrew -ni is the object 1st sg pronoun 'me' and UA *-ni 'me' is also in several UA languages and remains a suffix: Tb -ni 'me' (Voegelin 1935a, 37); Ch -ni 'me (1 sg pronoun postfix)' (Press 1979, 48); -ni 'me' (Langacker 1977a, 37); Tr -ni 'I'; Sh -nia 'me' has the -a 'accusative suffix' added to -ni 'me'.

Second person pronouns, Semitic *-ka 'you/your, masc sg' and Semitic *-ki 'you/your, fem sg' and Hebrew *-kem 'you/your, pl' (Arabic -kum) parallel UA *-'ï 'you, your, sg' and UA *-'ïm 'you, your, pl' respectively (also Egyptian -k 'you/your). These Semitic pronouns were originally suffixed, so -k was usually in a cluster, thus loss of k, or *-k > -' or ø in a cluster, as in English: him > -əm when suffixed (feed-im, love-im). Then they changed from suffix to independent and subject pronouns, for even in Hebrew the possessive pronoun can be subject of a verb: ra'ot-ka 'seeing-you (obj)' or 'your seeing (as subj)'. Yet given *-k > -'/ø, some UA languages show a similar sg and pl distinction as in Semitic/Hebrew.