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Brian Stubbs

Elements of Hebrew in Uto-Aztecan
A Summary of the Data

Summary:

Brian Stubbs offers findings that point to Hebrew as an ancestor language of the Uto-Aztecan language family. He discusses orthography and pronunciation, pre-Masoretic vowelings, sound correspondences, verb morphologies, and pronouns. He indicates that while there are similarities between the two languages, much non-Semitic morphology suggests that creolization is part of the history of most Uto-Aztecan languages.

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Abbreviations

adj.	adjective
adv.	adverb
Ak	Akkadian
Ar	Arabic
Aram	Aramaic
C	consonant
Ca	Cahuilla
cf.	compare
Cr	Cora
Cu	Cupeno
Eg	Egyptian
Eth	Ethiopic
Gu	Guarijio
Hbr	Hebrew
Hch	Huichol
Hp	Hopi
id.	identical
impf.	imperfect
intr.	intransitive
K	Kawaiisu
LHbr	later Hebrew
Ls	Luiseno
Mn	Mono
Msr	Masoretic
My	Mayo
n.	noun
NP	Northern Paiute
NT	Northern Tepehuan
perf.	perfect
Pg	Papago
pl.	plural
prep.	preposition
PS	Proto-Semitic
PUA	Proto-Uto-Aztecan
Sem	Semitic
sg.	singular
Sh	Shoshoni
s.o.	someone
SP	Southern Paiute
Sr	Serrano
ST	Southern Tepehuan
s.th.	something
Tb	Tubatulabal
Tbr	Tubar
Tr	Tarahumara
tr.	transitive
V	vowel
v.	verb
UA	Uto-Aztecan
UACS	Uto-Aztecan Cognate Sets, Miller, 1967.

Introduction

The findings presented in this paper are a summary of the data to be included in a larger, more detailed work. These findings point to Hebrew as an ancestor language of the Uto-Aztecan language family. Many non-Semitic patterns also exist in Uto-Aztecan (UA), suggesting substantial creolization early in UA prehistory and perhaps additional creolizations or outside influences later in the history of specific groups or languages. But whatever their history, enough similarities with Hebrew emerge to justify sharing this information with linguists, Uto-Aztecanists, and Semiticists, though many will think it not worth serious consideration strictly due to subject matter. Nevertheless, the quantity and types of similarities can hardly be ignored. As with any preliminary or working paper, further refinements are inevitable.

A quite consistent pattern of sound correspondences emerges; a substantial number of lexical similarities exist within that system of sound correspondences; more than 40% of the sets in Miller's Uto-Aztecan Cognate Sets are referred to in the larger paper; a considerable amount of Hebrew morphology is apparent in UA, some of it still productive (nif̈al prefix, masculine plural suffix), but most of it fossilized (feminine plural suffix, perfect and imperfect verb forms, pi̇el, pu̇al, hif̈il, and hof̈al verb conjugations); some striking semantic correspondences emerge, as Semitic roots often include some rather diverse, not-obviously-related semantic dimensions, which dimensions are also found in the UA stems. In short, the lexical, morphological, and root-specific semantic similarities seem too many to attribute to chance.

The Uto-Aztecan (UA) language family consists of the following groups and languages: The Numic languages in the Great Basin-- Northern Paiute (NP), Mono (Mn), Shoshoni (Sh), Southern Paiute (SP), and Kawaiisu (K); the Takic languages in Southern California--Serrano (Sr), Cahuilla (Ca), Cupeno (Cu), and Luiseno (Ls); Tubatulabal (Tb) in Southern California; Hopi (Hp) in Northern Arizona; the Pimic languages in Arizona and Mexico-- Papago (Pg), Northern Tepehuan (NT), and Southern Tepehuan (ST); the Tara-Cahitic branch in Northern and Central Mexico--Tarahumara (Tr), Guarijio (Gu), Tubar (Tbr), Yaqui (Yq), and Mayo (My); the Corachol group--Cora (Cr) and Huichol (Hch); and Nahuatl or Aztec (Nah) near Mexico City.

The Semitic languages referred to in the discussion and lexical sets include Hebrew (Hbr), Arabic (Ar), Aramaic (Aram), Akkadian (Ak), Ethiopic (Eth), and Egyptian (Eg) which is more distantly related to Hbr.

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Orthography and Pronunciation

The following may prove a helpful pronunciation guide for the non-linguist: /c/ = /ts/ as in ca<u>ts</u>, /θ/ as in <u>th</u>ink, /d̄/ as in <u>th</u>e, /š/ = sh as in <u>sh</u>oe, /ŋ/ last sound in si<u>ng</u>, /kw/ as in <u>qu</u>ick. The vowels are pronounced as in Spanish: /a/ as in raw, /e/ as in raid, /i/ as in reed, /o/ as in road, /u/ as in rude. /ɨ/ is a high central vowel not often occurring in English, /ö/ is a mid front rounded vowel, and /ə/ is the shwa as in mutton.

Other consonants can hardly be described without linguistic terminology: /x/ voiceless velar fricative, /ɣ/ voiced velar fricative, /ʕ/ voiced pharyngeal fricative, /ḥ/ voiceless pharyngeal fricative, /q/ voiceless uvular stop, /ṭ/ the Semitic emphatic voiceless stop.

In order to eliminate confusion, Semitic phonological variations not pertinent to the UA-Sem connection will be simplified. For example, almost all Sem languages have /g/ corresponding to PS /g/ except Ar, which has /j/, though even some Ar dialects have retained /g/; nevertheless, to eliminate readers having to remember that Ar /j/ equals Sem or Hbr /g/, and since Ar /j/ was originally /g/ anyway, Ar /j/ will be transcribed as /g/ in this paper.

Another simplification will be the lack of spirantization for the beged-kafat letters in Hbr. The vowelings and pronunciations in the Biblical Text (which constitutes more than 90% of the existing data for Biblical Hbr) show that the dialect of the Masoretes (they who wrote the vocalizations into the ancient consonantal text about 700 A.D.) had spirantized both the voiced (b,d,g) and voiceless (p,t,k) non-emphatic stops when following a vowel. For example, earlier or original forms such as /ʔab/, /napš/, /sakar/ became /ʔav/, /nafš/, and /saxar/ respectively in Masoretic pronunciation, the stops becoming fricatives after vowels. This spirantization is apparent in some UA languages for bilabials /b,p/, but not in all UA languages. Therefore, the Hbr forms will not show the Masoretic spirantization, unless bilabials in the UA forms are likewise spirantized, in which case both spirantized and non-spirantized Hbr forms may be listed adjacently. Consistent with that, Ar /f/ (from PS /p/) will also be written /p/. Distinctions in vowel length will not be depicted since original length seems to have nothing to do with retention, loss, or quality change in UA.

One matter worth mentioning in connection with spirantization is the behavior of Hbr /b/. The six spirantized stops, when written with a dagesh (a dot in the middle), were not spirantized; without the dagesh, they were pronounced as the corresponding fricative or spirant. Hbr /b/ corresponds to UA /kw/ in dageshed, or non-spirantized positions: word-initial /bašal/, following a consonant /yilbaš/, or when doubled /dabber/. But Hbr /b/ is Masoretic /v/ and corresponds to UA /p,v/ when not in dageshed positions (when spirantized in Masoretic pronunciation), that is, when following a vowel: /ʔav/, /hivšiil/, /kaved/, /davar/.

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Hbr emphatic /ṣ/ will be transliterated /c/ for the following
reasons: 1) It is pronounced /c/ in some dialects (Modern Hebrew
and among the European Jews). 2) It corresponds to /c/ in UA
languages. 3) There are already three or four other kinds of s's
in Semitic that require special diacritical marks. 4) Using /c/
will eliminate the constant need for readers to remember which of
the four s's corresponds to UA /c/. 5) and /c/ is also a
reasonable average of the three Proto-Semitic consonants that
merged to Hbr /c/. PS had three emphatics that merged in Hbr, but
remained distinct in Ar as /ṣ/, /ḍ/, and /ẓ/. Note that both
fricatives and stops are represented. /c/ is an affricate,
between a fricative and a stop, thus depicting something of a mean
of the three merging consonants better than /ṣ/ does.

A number of words from other Semitic languages are also compared
with UA. One must keep in mind that the vocabulary of spoken
Hebrew in Biblical times exceeded considerably what is found in
the Biblical text. To pretend otherwise would be comparable to a
claim that every use of every word in the English language can be
found in the King James Old Testament. So if UA words are found
to compare (in accordance with the sound correspondences) with
words of other Semitic languages or later Hbr (LHbr), then it is
not unreasonable that a cognate may well have existed in earlier
spoken Hbr, though it may not exist in the Biblical text. One
such example is the SP word for squirrel /sikko/. No word for
squirrel exists in the Biblical text; however, Ar /singaab/
'squirrel' would correspond to /šiggob/ or /šiggov/ in Hbr, though
no such word is known in Hbr. With the usual devoicing of /g/ to
/k/ and loss of the final bilabial after a round vowel, SP /sikko/
'squirrel' is exactly as expected in UA for Hbr /šiggob/.

Pre-Masoretic Vowelings

UA shows some vowelings older than those written in the Hebrew
Bible. Consider the data below for the masculine plural suffix in
Semitic languages and the plural suffix in UA languages:

Semitic languages		UA languages	
Arabic	-ina	Nah	-me
Aramaic	-in	SP	-ŋwɨ
Akkadian	-i	Hp	-m
Ugaritic	-ima	Tbr	-m
Hebrew, Msr.	-im	Sr	-m
reconstruction	*-ima	Hch	-ma
for West Semitic		Ca	-em
		Yq	-im
		Gu	-ima

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Masoretic Hbr tended to drop short final vowels, thus Masoretic
Hbr -im from an earlier *-ima. <1> Note that Nah, SP, Hch, and Gu
all show a vowel after the /m/, 2 of the 4 being /a/ and the other
two being higher. Note also that Ca, Yq, and Gu show high front
vowels before the /m/. Vowel leveling would account for all the
UA variations from a reconstruction of *-ima for Proto-UA, which
agrees with the earlier form for West Semitic and Hbr. Uto-
Aztecanists may disagree with the Gu form posited, but consider
the following sg. and pl. forms, typical in Gu:

sg. suʔka-ni, pl. suʔki-ma 'to sew'
sg. neha-ni, pl. nehi-ma 'to hand over'
sg. ola-ni, pl. ori-ma 'to shell corn'

The suffixes of sg. -ani and pl. -ima seem more likely, and both
happen to be Semitic suffixes, though -ani not necessarily a
singular suffix.

A second example of an early Hbr voweling is the nifɛal prefix.
The nifɛal, as one of the seven verb conjugations in Hbr, is
formed by prefixing ni- (in Msr Hbr) to the perfect stem to change
an active or transitive verb to passive, and occasionally
reciprocal or reflexive. However, the earlier form of the ni-
prefix was na-, not ni-.<2> Many Uto-Aztecan languages have a
passive, reflexive, reciprocal prefix na- (Hopi, the Numic
langauges, and the Taracahitic languages), but none have ni-, a
second example of an early, pre-Masoretic voweling. Consider the
following examples:

SP paqɨ to bathe (tr.); SP na-vaqɨ to bathe oneself;
SP wɨ-tonʔnoi to shake (tr.); SP na-ŋwɨ-tonʔnoi to shake oneself;
Hp ʔöqala to greet s.o.; Hp naaʔöqala to cheer oneself up;
Hp wɨɨsi brush, broom; Hp naawɨɨsi to comb one's hair;
Hp qöy-ta to start a fire; Hp naa-qöy-na to burn oneself;
Tr co- to hit with the fist; Tr na-co- to fight with each other;
Tr paba- to stone, to throw rocks at; Tr na-paba- to throw rocks
at each other.

There does seem to have been a change in emphasis from Hbr to UA.
In Hbr the meaning was mainly passive with some reciprocal and
reflexive, while in UA the meaning is mainly reciprocal and
reflexive with some passive; however, the difference between
reflexive and passive is often a very fine line, if even
discernible. For example, how much difference is there between
'he burned himself' and 'he got burned?'

A third example of early vowelings is the form of the perfect stem
itself. Semitic verbs generally have three consonants; different
voweling patterns, prefixes and suffixes form the various
conjugations, tenses, persons, etc. The most common (3rd m.s.

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qal) or basic form is CaCaC in Hbr, from PS *CaCaCa.<3> UA
languages often show the final vowel of PS, though that final
vowel was dropped in the Hbr of the Biblical text. Compare the
Semitic and UA forms of the verb 'to sit or dwell':

PS	waθaba	
Arabic	waθaba	he jumped
Aramaic	yaθiv	he sat, dwelt
Hbr	yašav	he sat, dwelt

UA languages		
Yq	yesa	to sit
Hp	yesiva	to sit, camp (pl.)
Tr	ʔasiba	to sit
Pg	dahiva	to sit
ST	daivo	to sit

Note that the Hp, Tr, and Pg forms show the PS final /a/ after the
3rd consonant, a third pre-Masoretic voweling. Also worth noting
is the fact that, except for the similarity of the middle vowel
/i/ with Aramaic, the UA forms point to Hbr over other Semitic
languages, in meaning and consonant correspondences. In addition,
observe that some of the UA languages have spirantized /b/ as did
Msr Hbr, but Tr (and others not in the list) have not.

Sound Correspondences

In studying language change, linguists have found that each sound
will change to a certain other sound, whenever it is in the same
phonological environment. This sound change is generally
consistent throughout the language. (Example, PS /b/ changed to
/v/ after vowels in Masoretic Hbr: PS waθaba > Hbr yašav.)
Therefore, the sounds of two related languages should correspond
to each other in a consistent pattern. Establishing such a
consistency in a system of sound correspondences between languages
is necessary to prove relationship. Using the old sounds-like or
looks-like method for comparing words does not hold water. Sound
correspondences may establish the relationship of two words that
sound or appear nothing alike to a non-linguist not familiar with
the sound correspondences of the language family. For example,
that Pg dahiva is related to Hp yesiva (and Hbr yašav) can only be
verified by the fact that in the Pimic branch (Pg, NT, ST) of UA,
Pimic /d/ corresponds to UA /y/ and Pimic /h/ corresponds to UA
/s/. Some of the basic sound correspondences within UA are given
below.<4> One will notice that the Pimic branch is quite
different phonologically from the rest of the UA language family.

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PUA	most UA lang's	Pimic	Tr	other
*kw	kw	b	w,kw	bw (Yq,My)
*p	v,p	v,p		? (initially in Nah)
*y	y	d		
*w	w	g		w,l (Hp)
*t	t	t,c	r	
*c	c	s		
*s	s	h		
*h	h	?	?	? (Tb,Tr,Cr,Hch)
*?	?	?		

There are further elaborations and refinements, and medial
consonants have more variations than initial consonants, but the
above are the basics as accepted by Uto-Aztecanists. A blank
means agreement with PUA. Below are these Uto-Aztecan
correspondences as they correspond to the PS and Hbr consonants:

Basic Hbr-UA Sound Correspondences

	PS/Ar	Hbr	UA	Pq	other exceptions
bilab.	b	b (dagesh)	kw	b	bw (Yq,My)
					w (Tr,Gu)
		v (non-dag)	v,p	v,p	
	p/f	p	v,p	v,p	
	m	m	m	m	
Alveol.	n	n	n	n	
	d	d	t	c	
	t	t	t	c	
Sibil.	θ	š	s	h	
	sl				
	s2	s	s	h	
	s3	s	s	h	
	d̠	z	t	t,c	
	z		t,c	c,s	
emph.	ẓ				
	ṣ	c	c	s	
	ḍ				
	ṭ	ṭ	c	s	
liq.	r	r	t (initial)	c	r (Tr)
			y,i	d,j	r (TrCah)
	l	l	l,ɨ,n	l,d	
vel.&	k	k	k,?	k	
uvular	g/j	g	k	g,k,?	n (Hp)
	q	q	k	k	
Phar.	ḥ	ḥ	ho,hu (init)	o,u,w,g	
	x		o,u,w (other)		
			o,u,w	o,u,w,g	
			?		
gl.stop	?	?	?,o,w		
glides	y	y	y	d	
	w	(initial /w/ merged with /y/)			

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Hbr /b/ in dageshed positions corresponds to UA /kw/ and Pimic /b/

The correspondence of labio-velars with bilabials is not uncommon. In Indo-European, Latin /kw/ corresponds to Greek /p/. In both Indo-European and UA, linguists point to *kw as being the proto- or original consonant. I know nothing about the arguments with regard to Indo-European, but in the Americas the following phenomena occur: 1) Within UA itself, UA /m/ sometimes becomes /ŋw/ in SP (see pl. suffixes on page 3), a bilabial nasal going to a labio-velar nasal, not the other direction. 2) In the Spanish dialects of the Argentine gauchos, which dialects were probably subject to considerable Native American influence, /w/ and /bw/ became /gw/: wevo > gwevo (huevo-egg), weso > gweso (hueso-bone), bueno > gweno, again bilabials becoming labio-velars rather than the other direction. ⟨5⟩

Hbr /r/ became UA /y/ and Pimic /d/ in non-initial position

Hbr /r/, when not at the beginning of a word, became /y/ or /i/ in UA generally. This sound change is also common enough. In addition to UA, there is an /r/ and /y,i/ correspondence in Athapascan ⟨6⟩, Mayan ⟨7⟩, and some English creoles ⟨8⟩. Hbr /r/ and Hbr /y/ both merged to correspond to UA /y/ and Pimic /d/, except in the Taracahitic languages where /r/ often remains /r/. With those two basic sound changes in mind, Hbr /b/ > UA /kw/ and Hbr /r/ > UA /y,i/, consider the following words. In the Hbr verbs, only the 3 consonants will be listed unless there is reason to do otherwise. An asterisk identifies a proto-form that occurs in several UA languages; if it occurs in only one or two, the language(s) will be specified. ⟨9⟩

	Hbr/Sem		UA		
1.	bšl	to boil, ripen	*kwasɨ	to boil, ripen	UACS#152c

(This is the first word that caused me to suspect that UA /kw/ corresponded to Hbr /b/, as the UA forms had the same two meanings (boil and ripen) as Hbr /bšl/ did and the second consonant was /s/.)

2.	brz	defecate (Ar)	*kwita	to defecate	UACS#126

(Semitic /z/ corresponds to UA /t/, and all 3 consonants fit.)

3.	brk	kneel,bless,praise	*kwika	to sing	UACS#379

(Praises to God were often sung.) kwey? to stoop down (Ca)

4.	bcr	to enclose	kwəcayai	to wrap around (SP)
5.	basar	flesh, penis	*kwasi	penis, tail	UACS#430
6.	dabber	speak	tɨkwi	tell, say (Mn,SP)
7.	šabber	break in pieces	sakwi	break, tear down, ruin(Hp)
			sakway	to mess up (Ca)
			cukwi	to crush (SP)
8.	mrr	to go (Ar)	*miya	to go,travel,run UACS#197
9.	brr	land (Ar),field(Hbr)	*kwiya	earth,land,dirt UACS#151
		grain	*kwiya, *kwi	acorn UACS #1
		select, choose	kwiya, kwi	keep, take (Nah)

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Note the same pattern in 8 and 9 of doubled final /rr/ > /iya/.
Note also the three corresponding meanings of the Semitic stem brr
with UA *kwi(ya): (1) earth, (2) a kind of grain, and the verbal
meaning of the stem (3) to select/take. What is the probability
that the three divergent meanings of the Semitic stem would match
the three meanings of the corresponding UA stem by coincidence and
the sound correspondences match as well?

In 6 and 7 above, the medial doubled /bb/ corresponds to /kw/ as
expected; for single /b/ we would expect UA /p,v/. Consider
another example of medial doubled /bb/ which includes another
interesting semantic correspondence:

10. dabb   lizard (Ar)   cakwa   lizard (Ca)
    dabba   to keep locked (Ar)   cakwa   to imprison (Nah)

Arabic /d/, by the way, corresponds to Hbr /c/.

The pharyngeals /ʕ/ and /ḥ/ become back round vowels (o,u,w).

The voiceless pharyngeal /ḥ/ in initial position sometimes appears
as ho-/hu-, but elsewhere and sometimes even initially, it appears
as a round vowel or semivowel (w,o,u).

	Hbr/Sem		UA		
11.	hec	arrow	*(h)u(c)	arrow	UACS#9
12.	hrk	to move (Ar)	*hoyok	move	UACS#296
13.	hpp	to rub, cleanse	*hupa	to bathe	UACS#27
		(LHbr,Aram)			
14.	hmr	to smear	humay	to smear, paint (Ca)	
15.	haberet	wife	*hupi	wife	UACS#471
	haber	companion			
16.	hll	to play the pipe	ʔululu	to play the flute (Tb)	
17.	ʔhh	to cough (Ar)	*ʔohoho	to cough (Hp,Tb,Ca)	UACS#105
18.	hnt	to spice	*ʔona	salt	UACS#359
19.	crh	to cry, roar	cayau	to cry, yell (Tb)	
20.	cmh	to sprout	camawa	to grow (Nah)	
21.	hol	sand	ʔoʔod '	sand, gravel (Pg) redupl.	
22.	hyl	strong, able	wel '	able (Nah)	
23.	hny	to camp, settle at	*wɨnɨ	to stand, stop	UACS#411
24.	hlb	milk, fat	*wip	fat	UACS#166
25.	hsl	overtake,obtain(Ar)	wacɨ	to catch up with (SP)	
		(Hbr=*hcl)			
26.	hrs	earthenware	wayisma-l	dish, pot (Ca)	
27.	hargol	locust	urugi-pari	grasshopper (Tr)	
28.	hrc	yellow	hoya	yellowjacket (Hp)	
			ura-	yellow (Tr)	
29.	hut	thread,cord (Ar xyt)	*wic	string	UACS#419
30.	ht?	to miss, be wrong	wɨci	false, misrepresent (Hp)	
31.	hatab	firewood (Ar)	ʔušabdag	pitch, resin (Pg)	
32.	hcr	to settle, dwell	ʔošad '	to rest, lie down (Pg)	
33.	hrp	to harvest	ʔod '	to harvest (Pg)	
34.	hrm	wife (Ar)	oeŕume, oorume	woman (Gu)	
			-way-	to take as wife, marry (Ca)	

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One can see that pharyngeal /ḥ/ changes to o,u,w with an /h/ or glottal stop /ʔ/ sometimes perceptible when in initial position. The fact that many UA languages seem to provide a marked glottal stop for vowel initial words is interesting since many Semiticists claim that Semitic languages do not allow words to begin with a vowel either, but automatically provide /ʔ/ in what would otherwise be vowel initial positions.

Besides /ḥ/, note the Semitic /r/ going to /y,i/ in most UA languages (12,14,15,19,26,28,34), going to /d/ in the Pimic languages (32,33), but remaining /r/ in the Taracahitic languages (27,28,34). Note the Hbr emphatic /ṭ/ (29,30,31) corresponds to UA /c/ and Pimic /s,š/ as does the other Hbr emphatic /c/ (11,19,20,25,32).

The Semitic /ɛ/ is the voiced pharyngeal and also appears as back rounded vowels (w,o,u).

	Hbr		UA		
35.	cɛq	to cry, cry out	*coak	to cry	UACS#114
36.	cnɛ	be modest, humble	cinoa	love, respect (Nah)	
37.	šgɛ	be mad, crazy to rage (As.)	sikoa	be angry (Nah), hog mad (Pg)	
38.	bcɛ	break off	kwecoa	break up (Nah)	
39.	rgɛ	(for,in) a moment	reko	shortly, soon (Tr)	
40.	ršɛ	be wicked, guilty	rasewa	fornicate,be permissive (Tr)	
			risiwa,risoa	pain,suffering (Tr)	
			tɨsɨwin	cause someone evil (Tb)	
41.	nṭɛ	plant (v.& nouns)	natwani	plant (Hp)	
42.	sɛr	hair	*suwi	hair	UACS#211
43.	nɛr	boy	nowi	have a son (Tr)	
44.	ɛly/ɛala	to go up	wel	rise up (Ca)	
			wal	go up, increase (Nah)	
			ʔol	go up (Tb)	
45.	ɛsy/ɛasa	to do	osi	to do (Tr)	
46.	ɛgz	grow old (of women) (Ar)	wegaca-ma	grow old (of women) (Tr)	
			*ʔoks	old woman (Pg,NT)	UACS#473
47.	zrɛ	to sow seed	cayawa	to sow seed (Nah)	
		seed, offspring	cayo	child (Hp)	
48.	blɛ	to swallow	kwelo	to taste (Hp) cf. UACS#152a	
49.	crɛ/caraɛat	leprosy	siyo-t	leprosy, scab (Nah)	
			(Hbr/c/should=UA/c/,but cf.#150,135)		
50.	yɛr	wood, forest	yuyi	evergreen tree (Ca)	
51.	cɛy/caɛa	to stoop,bend	cucuwi	to be hunched, stoop (Gu)	

One might notice that the Hbr velars and uvular (k,g,q) all merged to UA /k/ generally (35,37,39), with some interesting exceptions that will be discussed later. However, Tr is an uninteresting exception that can be mentioned right now, Hbr /g/ often remaining /g/ in Tr (27,46). One will notice a general devoicing pattern for the voiced stops of Hbr (b > kw/p, d > t, g > k), by which they generally merge with the voiceless stops. Note also the examples of Hbr and UA /s/ corresponding to Pimic /h/ (37,50). 46 and 47 will be discussed later (Hbr /z/, p. 15).

9

Hbr emphatic /ṭ/ corresponds to UA /c/

Hbr emphatic /ṭ/ generally merged with the other Hbr emphatic /c/
to UA /c/, except in consonant clusters (cf. 41).

	Hbr		UA	
52.	ṭll	sprinkle,drizzle(Ar)	cōlölö	sprinkle, start raining (Hp)
53.	ṭwy/ṭawa	to spin	cawa	to spin (Nah)
			šoo(m)	to sew (Pg)
54.	ṭḥy/ṭaḥa	throw,shoot(Ar)	cewa	to throw (Gu)
55.	ṭrḥ	drop,fall (Ar V)	cayawi	spill, fall (Nah)
	ṭrḥ	be burdened (Hbr)	ceriwe	be sorry or sad (Gu)
56.	ṭwḥ	to overlay, coat, smear	cuh-ca	to rub, put on clothes (Ca)
57.	ṭwl	cast, throw	šul(i)g	throw away (Pg)
58.	ṭḥn	grind, crush	šon	to pound, crack (Pg)
			coʔna-ni,coʔni-ma	pound,crush (Gu)
59.	ṭᶜm	to taste, eat	cuʔmi	to slurp, sip (Gu)
60.	ṭrw/ṭry	fresh, moist (Ar)	šuudagi	liquid (Pg)
		moisten,make wet(ArII)	weh-cori	mud (Gu) weh=earth
61.	ṭpl	smear,stick,glue	šp	make contact with (Pg)
62.	ṭmʔ	to be unclean	šomai(g)	to catch a cold (Pg)
63.	ṭhr	clean (ceremonially)	šaʔad-	forked, forming a fork (Pg)
64.	maṭṭe	branch, rod,tribe	komaci	kindling wood (Hp) (ko=fire)
65.	baṭṭiḥ	melon (Ar)	baci	pumpkin (Tr)
	ʔabaṭiḥ	melon (Hbr)		
29.	ḥyṭ	thread,twine (Ar)	*wic	string UACS#419
30.	ḥṭʔ	to miss, be wrong	wᵻci	false, misrepresent (Hp)
31.	ḥaṭab	firewood (Ar)	ʔušabdag	pitch, resin (Pg)

Again note the rounding nature of the pharyngeals (54,55,56,58,59,
29,30,31). Note the consistency of the Pimic (Pg) correspondent
/s/ with UA /c/ and Hbr /ṭ/ (53,57,58,60,61,62,63,31). Note more
examples of Taracahitic /r/ corresponding to Hbr /r/, UA /y/, and
Pimic /d/ (55,60,63). Note the tendency of Gu to show a glottal
stop along with a rounded vowel for pharyngeals in what may be
consonant clusters (58,59). In 63 the connection is that the law
of Moses considered animals with forked hoofs as ceremonially
clean. The sound correspondences match (Hbr /h/=PUA /h/=Pg/ʔ/).

Hbr /g/

Hbr /g/ provides some interesting peculiarities. In Hopi, it
often corresponds to the velar nasal /ŋ/ rather than a velar stop.

	Hbr		Hp	
66.	gbr/gvr	be strong	ho-ŋvi	strength
67.	gḥy/gaḥa	be cured,healed	ŋahᵻ	medicine
	gḥy/gaḥa	be freed & to free (Aram)	ŋaha	to untie
68.	gll	roll, gulla bowl	ŋölö	coil, circle
69.	lahga-t	tongue (Ar)	leŋi	tongue
70.	pgl	be thick (Ar)	poŋala	thick
71.	pgr	cleave,break up(Ar)	piŋya	to crack, break
72.	ygᵎᶜ	be weary	yᵻŋᵻw-ta	time of fasting

10

```
73.  gnn    surround        ŋöna   collar
                            ŋöŋönpi  necktie, harness
74.  grr    to saw          ŋayaya   to sway
            (a back and forth motion)
```

Another curious matter is that Hbr /g/ and /q/ in initial position
in Pg disappear to a glottal stop when the 2nd consonant is a
liquid /l/ or /r/.

```
     Hbr                        Pg
75.  geled, gild- skin         ʔeldag  skin (of person)
                               ʔeldaj  hide (of an animal)
68.  gll roll; gulla bowl      ʔola  ball,sphere  (cf. Hp ŋöla)
76.  gly/gala naked,uncover    ʔel(i)d  feel shame, decide
          reveal, make known
77.  qereb/qerev inside,midst  ʔeda  in, inside
     qerev bo  in it           ʔedavko  in the middle of
     qarov  near, soon         (Tr) ayobe, ayowe  soon (Tr)
```

(The semantic combination of Pg in 76 is unusual. One might
wonder how the same word could mean two things so different as
'feel shame' and 'decide'; yet the Hbr meanings explain both:
'be naked, uncovered' > 'feel shame' and 'reveal, make known
(thoughts on a matter)' > 'state a decision, decide.') In other
environments, Hbr /g/ shows the usual velar reflexes.

```
     Hbr                        UA
78.  gabha,gaba  forehead (Ar) kua  forehead (Pg), kova- (NT)
                               kowa-ra (Tr);k va- face(SP) UACS#190
79.  gabiš crystal             *kɨpa  snow  UACS#400  giv (Pg)
     el-gabiš  hail
80.  gebim,gevim (pl.) locust  kɨvi-  locust (SP)
66.  gbr/gavur  strong         gɨv-k  strong (Pg), guvu- strong(NT)
                               ho-ŋvi  strength (Hp)
```

Frequent loss of Hbr /k/ in initial position

Initial /k/ seemed prone to disappear.

```
81.  kanap  wing               *ʔanap  wing  UACS#465
82.  kinnim  gnat,gnats        *ʔani  mosquito  UACS#288
83.  klm  address, talk to(Ar) ʔalaw  talk (Tb), ʔiim  greet (Pg)
84.  kmr  to be or grow hot     ʔeme  feel hot, get burned (Ca)
85.  knɛ  be humble            ikno  be humble (Nah)
     kinɛa  bundle, pack        *ʔno  carry, haul  UACS#80
```

In connection with initial /k/ going to /ʔ/, look at the 2nd
person pronoun forms in UA from the Hbr masculine suffix pronouns
/ka/ sg. and /kem/ pl. One might keep in mind that /a/ often
became the equivalent of the UA shwa, which is /ɨ/.

86.

	singular	plural
Tb	imbi	imbuumu
Ch	ɨmi	mɨmi
Hp	ʔɨm	ʔɨma
Yq	ʔempo	ʔemeʔe
Cr	muʔee	muʔeen
SP	immi-	mwɨmmwi-

Hbr	ka	kem	
Ca	ʔe	ʔem	
Hp	ʔɨɨ-	ʔɨmi-	(poss. pron's)
Yq	-aʔe	-aʔem	(encl. pron's)
My	-ʔe	-ʔem	(encl. pron's)

Those UA forms above the line seem to derive both the sg. and pl.
forms from the pl. as evidenced by an abundance of the pl. suffix
/m/. (The same thing happened in English. 'Thou' was replaced by
'you' so that now both singular and plural are from the old 2nd
person plural 'you.') However, those below the line match fairly
well with the sg./pl. distinction of Hbr sg. /ka/ 'you/your' and
pl. /kem/ 'you/your.'

For /k/ to become /ʔ/ or disappear in a consonant cluster is
common in many languages--Navajo, English, etc. UA languages are
no exception. In looking at the following words for metate
(a mortar or grinding stone), note the glottal stop in Tr.

87. Hbr maktešˇ 'a mortar or hollow for pounding' from the verb
kataš 'to pound fine.' UACS #283 (metate): mata- (SP); manaa-1
(Tb); mata (Hp); maccud (Pg); maʔta (Tr:Brambila); matta (My);
mata (Yq); mwaata (Cr); maataa (Hch); meta-t (Nah); mahta (Gu).

Hbr /e/ is generally from PS /i/, thus maktešˇ < *maktišˇ; but
*maktašˇ is a much more common voweling pattern for nouns and UA
showing /a/ for Masoretic Hbr /i/ is evident elsewhere: na- p.4,
#82, 87, 158, 159). So with a vestige of /k/ in the consonant
cluster showing itself in Tr and the possible older voweling, we
have everything except the 4th consonant: Hbr maktašˇ > UA *maʔta.
The final consonants in Tb, Nah, and probably Pg are noun suffixes
that are not part of the stem. Consider another word in Tr as the
lone revealer of /q/ in a cluster.

88. Hbr zaqan chin, beard. (Other Semitic vowelings are ḏiqan,
ḏaqan, ḏaqn, ziqnu.) UACS #293 (mouth) *ten has all but the Numic
branch (which is a compound) agreeing with *ten; however, Tr again
shows a glottal stop: reʔna 'mouth.' (Hbr /z/ corresponds to UA
/t/ and UA /t/ corresponds to Tr /r/ in initial position.)

Devoicing of Hbr stops (example: Hbr /d/ > UA /t/)

As mentioned before, the Hbr voiced stops were generally devoiced:
b > kw, d > t, g > k. Consider the following examples of Hbr /d/
> UA /t/ = Pg /c/.

12

```
89. degel   standard, banner    tekela   stripe, hatband, pole at the
                                          bottom edge of the roof (Gu)
90. dayeq   siege-wall          tɨyɨqa- wall    (Hp)
91. dky/daka  to crush          tex-  to grind (Ca)
                                          (Ca /x/ = UA non-initial /k/)
92. dᵉw/da�élrsa to call,name(Ar)*tewa  name (n.&v.) UACS#300
93. dᵉk  to go out (of fire) *tuk  to go out (of fire) UACS#172
                                 cuk  to burn out, die out (Pg)
94. dlg  to leap, spring        celko(n)  to skip (Pg)
95. dopi  blemish, fault        cecpa(i)mag(i) be dotted, have dots
    dpy/dapa (v. form)          cecpaʔavi  immoral woman (Pg)
96. dqq  pulverize,make fine    cuʔa  reduce to powder,pulverize(Pg)
                                 cuʔi  powder, flour  (Pg)
97. dqr  to poke, pierce        cekid  vaccinate,put a stake in (Pg)
                                 teki  to cut (Nah)
98. deqel  palm tree (LHbr)     takko  palm tree (Yq)
    diqla (Aram) daqal (Ar)     raku  palm tree (Tr)
99. deseʔ  grass                tisiv  grass (Ch),  tiisi weed (Hp)
 6. dabber  to speak            tikwi  to tell, say
```

The initial consonant is reduplicated in 95 and the Hbr meaning
'blemish, fault' is a perfect connection for the two Pg meanings
'spotted' and 'prostitute' that would otherwise be hardly
reconcilable. In 94 the doubled /qq/ may have created the glottal
stop, as the two make a cluster and /q/ and /k/ tend toward /ʔ/ in
consonant clusters. As for 98, /l/ often goes to the high central
vowel /ɨ/; however, being clustered with the uvular /ql/ may have
caused the high vowel to move back (ɨ > u). The first two
consonants match perfectly and the semantic correspondence is so
specific. Note the examples of Pimic /c/ (93,94,95,96,97)
corresponding to UA /t/ and Hbr /d/.

The rounding tendency in UA of the Hbr glottal stop /ʔ/

A rounding tendency for the Hbr ʔaleph or glottal stop /ʔ/ is
apparent in both Sem and UA languages. A couple of examples exist
within Sem. (1) Hbr and Arabic occasionally show a correspondence
of Hbr /ʔ/ with Ar /w/ rather than the usual Hbr /ʔ/=Ar /ʔ/ and
Hbr initial /y/=Ar /w/.

```
Hbr: ʔamar,  ʔalam,  ʔakal,  ʔašam;    yašab,  yašen,  yacaᵉ
Ar:  ʔamara, ʔalima, ʔakala, ʔaθima;   waθaba, waθina, waḍaᵉa
```

```
However, Hbr:  ʔacal,   ʔazan
         Ar:   waṣala,  wazana
```

(2) Within Ar, the V form of Ar /saʔala/ is sometimes /tasawwala/.
The fact that medial /aʔ/ in Ar corresponds to a long /o/ in Hbr
(Ar raʔs, Hbr roš; Ar daʔn, Hbr con; Ar yaʔkulu, Hbr yokal; Ar
yaʔmuru, Hbr yomar) is due to a sound change of /aʔ/ > /aa/ >
/oo/, all PS and Ar /aa/ corresponding to Hbr /oo/.

Hbr	UA
100. ʔak yet, surely, but	ok still, yet (Nah)
101. ʔarak, ʔarok long	*weyak, *weyok big, long UACS#39
102. ʔari lion	wori mountain lion (Gu)
103. ʔadam man	*ʔodam person, man, Indian
	(NT, Pg, Tbr, Yq, My)
104. ʔbd/ʔabad be wild,	obatu be wild, ferocious (Gu)
startle easily (Ar)	
105. plʔ/palaʔ be wonderful	palaw be pretty (Ca)
or extraordinary	
106. nbʔ tell, inform (Ar)	navo- learn by hearing, know (Hp)
107. qrʔ call, cry (&Ar)	te-koyoa howl, koyo-t coyote (Nah)
108. gʔl buy, redeem	kowa buy (Nah), ʔuʔuwe buy (Ca)
109. šʔp gasp, pant	soʔa faint, die (Hp)
	soʔapim corpses (Hp)
110. peʔa corner, sideburn	*poʔa, powa, po UACS #212b
	hair, corner, fishhook
111. pʔr be beautiful (*qal)	vuḍ be beautiful (Pg)
112. kamʔ truffle (Ar)	kamoʔ sweet potato (Nah) UACS #428
	kamwah sweet potato (Cr)
113. tirmania truffle (Med)	tɨmna, tɨmön potato (Hp)

'Tirmania' (113) is a Mediterranean word (probably of Greek or
other non-Semitic origin) for a truffle of fair size native to
North Africa. ⟨10⟩ Truffles, like potatoes, grow under ground as
fleshy, edible appendages of a root system. Having two Mideast
words for truffle that correspond so well with two UA words for
potato is worth noting and should encourage further investigation.

With regard to 111, Pg/p/ is /v/ in initial position; for example,
the reduplicated plural of 'vuda' is 'vupuda' (bundles). Note
that the correspondences for /r/ are all as expected (101,102,107,
111). As in Hbr, the ʔaleph in UA sometimes tends toward rounding
and sometimes does not. The matter needs further consideration.
Below are instances of ʔaleph without rounding.

114. ʔap (denotes addition)	ʔep again, also, another (Pg)
also, even, yea	
115. ʔepod ephod, garment,	ʔipuḍ skirt, dress (Pg)
shoulder cape	
116. ʔaḥar, ʔaḥor behind,	ʔahoyi go back (Hp)
remain behind, back	ʔoid to follow (Pg)
part, backwards	wari back (Cr,Hch) cf. UACS #16
	owena backwards (Tr)
117. ʔz/ʔaza make hot(Aram)	*ʔete hot UACS#236
ʔzz kindle, burn (Ar)	

With 117 showing Hbr /z/ > UA /t/, consider some further examples.

```
2.    brz   defecate (Ar)        *kwita  defecate        UACS#126
88.   zqn   chin                 *tɨʔn   mouth           UACS#293
117.  ʔaza  make hot             *ʔete   hot             UACS#236
118.  zəʔeb wolf                 *tɨʔɨb  wolf            UACS#469
      ďiʔb  wolf (Ar)                    however, Pg šeeʔe wolf
119.  zɛq   cry out              toq-    to yell, whistle (Hp)
120.  zakar male, man            *taka   man             UACS#272
121.  zrq   blue (Ar)            ceedag  blue, green (Pg)
122.  zny/zana  be a harlot      cona    have fun in an exhibitionistic
      zona    a harlot, act              way (Hp)
              as a harlot        cocona  to kiss (Hp)
                                 cind-   to kiss (Pg)
```

With regard to this consonant correspondence, there are some problems within UA itself, as well. Note that in 118 the Pg cognate should show /c/, not /š/, corresponding to UA /t/. 121 is as expected. 122 is interesting in that the 3rd underlying consonant of the Hbr stem is /y/ (zny), which is not apparent in most Hbr conjugations, but does appear as the expected /d/ in Pg. However, Pg /š/ should correspond to Hp /c/, or Hp /t/ should correspond to Pg /c/. Below are some words wherein Hbr /z/ appears to correspond to UA /c/ rather than /t/. Part of the problem may be related to the fact that Hbr /z/ is a merger from PS /ď/ and PS /z/. In Arabic they did not merge. The distinction between UA /t/ and /c/ for Hbr /z/ somewhat matches the distinction between PS /ď/ and /z/ respectively, but not quite. This is a matter that needs to be looked at more carefully. Consider the following.

```
123.  zepet   pitch             cohpi   a kind of pine (Gu)
47.   zrɛ     to sow seed,      cayawa  to sow seed (Nah)
              seed, offspring   cayo    child (Hp)
46.   ɛgz grow old (of women)   wegaca  grow old (of women) (Tr)
                                ʔoks    old woman (Pg,NT)
124.  zḥl     to crawl          cawa-   to crawl (Ca)
      zḥp     to crawl (Ar)
```

In the last two groups we have 12 words dealing with Hbr /z/. Below, one can see that the PS distinction between /ď/ and /z/ matches the UA distinction between /t/ and /c/ 8 of the 12 times. A possibility that comes to mind is that a certain Hbr dialect had not yet fully merged the two PS consonants. Finding forms older than the Biblical text and closer to PS is consistent with other matters already discussed (-im(a), CaCaC(a), and na-).

15

	46	47	123	124	122	2	88	117	118	119	120	121
PS/Ar:	z	z	z	z	z	z	d̄	z	d̄	z	d̄	z
UA:	c	c	c	c	c,t	t	t	t	t	t	t	t

Another possible PS distinction in UA is /ɣ/ and /ʕ/, both of which merged to /ʕ/ in Biblical Hbr. However, the first is not a pharyngeal, like the second is, and does not usually cause rounding in the few instances available in UA, consistent with what we would expect. It appears as a glottal stop, if at all.

125.	ɣrs	to plant (Ar)	ʔɨyis	early summer, planting time
			ʔɨyi	a plant (Hp)
126.	ɣsl	to wash,clean (Ar)	*ʔas,ʔasi	to bathe UACS#26
			ʔasi	to wash hair (Hp)
127.	ʕrb	evening, sunset	ariwa	become evening (Tr)
	ɣrb (Ar,PS)		ari	evening (Gu)
128.	ɣym, ɣama, ɣuyum, etc.		ʔamawɨ, ʔoma	cloud (Hp)
	clouds, to cloud up (Ar)		(wɨ=big and may be that affix)	

UA /kw/ combined with a back round vowel /o,u/ becomes /ko,ku/.

This sound change is natural enough. What is interesting though is that even in Pimic (which has /b/ = UA /kw/) /bo,bu/ became /ko,ku/. Consider the number of words in Saxton's Pg dictionary for each initial CV combination:

C vowels	a	i	ɨ	o	u	totals
b	24	3	12	0	0	37
w/v	60	20	38	27	22	167
k	22	15	8	52	48	145
totals	106	38	58	79	70	

One can quickly see that there are no initial /bo/ or /bu/ syllables in Pg, while the number of /ko/ and /ku/ syllables are more than double the other kV combinations: 52 & 48 vs. 22, 15, & 8. ⟨11⟩ Additional evidence is the two forms for the name of a plant in Pg: bihul & hikul (metathesis of 1st and 2nd consonants). I do not think Uto-Aztecanists have yet considered that UA /kw/ is also /kw/ in Pimic, rather than the usual /b/, when before back round vowels. A few examples of Hbr /bo,bu/ > UA /ko,ku/ are in order.

129.	bəʔer, bor	well (Hbr)	te-kori	well (Tr) (te=rock)
	buʔra	hole (Ar)	koʔre	fence, box, trap (Gu)
			tehte-kore	stone fence, ditch (Gu)
			koyok	well (Nah)
			koysi	hole-in-the-ground oven (Hp)
130.	bo	in it, in something	-ko	inside, in, at (Nah)
		at a place	ko	in it (Pg) see #75
			bo,po	in (Yq,My:/bw/=UA /kw/)
131.	bwc	be white	kuca	light gray, ashes (SP,Ch)
		white linen		

```
132. bɛr   to burn          *ku  fire  UACS #170
                            qöy-  to start a fire (Hp)
133. ben (Hbr), ibn (Ar) son  kone-  child, offspring (Nah)
134. ʔecbaɛ   finger (Hbr)   ciko  five (Nah)
     ʔiṣbaɛ, ṣubaɛ (Ar)      civot five (Hp)
```

The Hbr word for finger (134) is an oddly voweled noun from the
root /cbɛ/. A vowel is prefixed which necessitates initial
glottal stop /ʔ/, and the /b/ is dageshed when not following a
vowel. The CVCV tendency of UA may have encouraged a metathesis
of /icbaɛ/ to /cibaɛ/, the two forms plutting /b/ in a dageshed
and non-dageshed position, respectively. Here we have both forms
in UA. Hp shows the spirantized form, suggesting that the
spirantization rule was still productive in Hp through the
metathesis; and Nah has the dageshed form, suggesting the phoneme
was set before the metathesis. Thus, the two UA words for five
show the two possible forms that could result from a metathesis
toward a CVCV pattern: the pharyngeal (+ perhaps fem. pl. -ot)
provides /o/, then Hp /v/ and Nah /kw/ show the expected forms of
non-dageshed and dageshed /b/ respectively, with /kw + o/ becoming
/ko/ in Nah. Uto-Aztecanists, without admitting the above, would
not be able to explain the two forms, outside of suggesting
different morphemes suffixed to /ci/. Hp /civot/ (and perhaps
Nah) is probably the fossilized Hbr pl. /ʔecbaɛot/. In 133 the
vowel is so short (or non-existent in Ar) that /kw + n/ becomes
/kon/. Another example of /kw + u/ > /ku/ is a word for navel in
Hbr and six UA languages:

```
135. ṭabbur,ṭibbur   navel  *siku(r) navel (SP,Sr,Pn,Nah,Tr,Tbr)
     ṭibbura (Aram)          sikura  navel (Tr)
```

The only problem is that Hbr /ṭ/ normally corresponds to UA /c/,
not /s/, though /c/ vs. /s/ problems are as common among UA
languages themselves as in the Hbr/UA connection. Outside of
that, the semantic correspondence is so specific and all other
sound correspondences are as expected.

Hbr non-initial /r/ in the Taracahitic languages

As stated earlier, medial /r/ is /y,i/ in most UA languages, /d/
in the Pimic languages, but often is /r/ in the Taracahitic
languages (Tr, Gu, Tbr, Yq, My).

```
136. baraq   lightning          berok, beʔok  lightning (Yq,My)
                                 bebedki  thunder (Pg)  cf. UACS#262
                                 vɨpɨdoxudami  lightning (NT)
137. ʔerec  land                uri  lowland (Tr)
138. tor    turtle dove         tori  chicken (Tr)
139. ruḥ    spirit, soul        arewa  spirit, soul (Gu)
     riḥ    wind (Ar)           (a- perhaps def. art. prefix)
140. šɛr    feel,perceive (Ar)  sura  heart (Tr)  UACS #222a
     šuɛur  feeling,sentiment   huḍ  heart (Pg)
```

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135. ṭibbura	navel	*siku(ra) navel (Tr) UACS#301
55. ṭrḥ	be burdened	ceriwe be sorry, sad (Gu)
129. boṙ	well	kori (Tr), kore (Gu)
28. ḥrc	yellow	ura- yellow (Tr)
34. ḥrm	wife	orume woman (Gu)
27. ḥargol	locust	urugi-pari a kind of grasshopper (Tr)
102. ʔari	lion	wori mountian lion (Gu)
9. brr	land, field	*kwiya land, earth UACS#151
		bid mud (Pg)
		kwira earth (Tbr)

Initial Hbr /r/ corresponds to UA /t/ and Tr /r/

141. rbb	to shoot	tokwa snap (of bow), shoot (SP)
142. rnn	to ring,echo, resound (Ar)	tŏna voice, trachea (Hp)
143. rɛ	sun (Eg)	*tawa sun UACS#423a (in 7 UA lang's)
		rawe sun (Tr)
144. rɛm	thunder v. & n.	*tom thunder, thunder cloud UACS#93
		tawva thunder (Ca)
		reʔo-ma thunder (Tr)
145. rbṭ	to tie up, bind	*tapic to tie UACS#438
146. rɛb	be hungry (PS:rɣb)	tiɣi hunger (SP)
147. rḥl	ewe (PS:rxl)	tiɣia deer (SP) cf. UACS#123 deer
148. roq	spit, spittle	*toh spit UACS#405 (Mn,Cm,Tb,Hp)
149. raqiɛ	sky	*tuku sky UACS#383 SP,Pn,Ca,Sr,Hp,Ch
40. ršɛ	wicked	tɨsɨwiin cause evil (Tb)
		rasewa to fornicate (Tr)
150. rbc	to lie down	toosa (Yq,My), tuʔa(Cr), tweso (Tbr)
		tapasol-li (Nah), kos (Pg) all=nest
151. rajul,ragul	man (Ar)	*tihoi man UACS#273d
		cioj man (Pg); rihoy man (Tr)
152. rʔy/raʔa	to see	*tewa to see UACS#365
153. roš	head	tocci- head (SP)
154. rukab	knees (Ar)	*takap knee UACS#245

There are other examples of /m/ > /v,w/ when in a consonant
cluster as in 144. Note that all the Tr cognates begin with /r/
(143,144,40,151), while the other UA languages begin with /t/,
except for Pimic with its expected /c/ (151). The SP reflexes
(146,147) are two more examples of velar fricatives in PS (Proto-
Semitic) corresponding to velar fricatives in UA, even though the
PS velar fricatives merged with the pharyngeals in Biblical Hbr
(See 125-128 above and discussion.)

Similarities of sound change between UA *w and Arabic /ɛ/

One more matter needs to be presented with regard to the
pharyngeal /ɛ/. Before the Hp non-high vowels /a,e & ö/, PUA
(Proto-Uto-Aztecan) /*w/ became /l/ in Hp, giving the
correspondence: UA /w/, Pimic /g/, and Hp /l,w/. This is accepted

by Uto-Aztecanists. Such an array of correspondences fits well
the Semitic ʕain. For the ʕain to become /w,l & g/ in UA is
significant since the ʕain is sounded as the other liquid /r/ and
as /w/ in some Arabic dialects.<12> As well, I have heard ʕains
as pharyngeal as any Arabic ʕain in the Ute dialect of White Mesa.
Consider some examples of Hp /l/ corresponding to Hbr /ʕ/.

155. ʕql   bend, crooked   gakol- crooked (Pg)
156. ʕqb/ʕaqav heel, foot-   gooki   track,footprint (Pg)
        print, to deceive   *wok   foot, tracks UACS#257b
                             kɨk-laqvi   tracks (Hp) (kɨk=foot)
     ʕoqev deceiver   lölöqaŋw snake (Hp)
157. ʕerwa pudenda   löwa   vulva, vagina (Hp)
158. ʕbryt/ʕivrit (LHbr)   lavayi-t   language (Hp)
     Hebrew language   ʔivilu- Cahuilla language (Ca)

/ʕivrit/ (Msr pronunciation from consonants: ʕbryt) for 'Hebrew
language' is only verifiable in later Hebrew (not existing in the
Biblical text), but may have been part of the spoken vernacular.
Accordingly, the Hp and Ca words for 'language' are worth noting.
Hp /lavayit/ portrays exactly as expected the five consonants of
Hbr /ʕ b ryt/ though the voweling is different than the Masoretic
pronunciation, which is nothing new, as we have seen many times.
Also included are a couple of examples of the Pg reflex /g/
(155,156). It is unclear why the final /b/ went toward /kw/
instead of the expected /v/ in 'snake' (156), unless it was the
backing effect of a reduplicated ʕain and an uvular; and other
examples do exist for final Hbr /b/ becoming /ŋw/ in Hp. All else
is as expected. Hbr /r/ in 157 (Hbr /r/ being a fronted vowel in
Hp) probably _is_ the fronting of the front round vowel /ö/, or is
at least assimilated within it; therefore, it is there, but not
obviously so. There are other examples of Hbr /ʕ/ > Hp /l/, but
the explanations are complex. As a rest from complex examples,
consider the following.

159. kilya,*kalya kidney   kele-vosna kidney(Hp);kani- kidney(SP)
160. katep shoulder   kotva   shoulder (Pg)
     katpa shoulder (Aram)
161. qane   stalk, reed   *kana   willow UACS#461
162. hiskal- be prudent   iskal   train, be discrete,prudent(Nah)
       make wise, teach
163. šekem   shoulder   *seka   shoulder UACS#375
                             *seka   arm UACS#7 (also probably)
164. šoq   leg   so- foot, leg (Nah)
                             soki   hoof, fingernail (Hp)
165. snw be beautiful(Eth) soniwa look good, fine (Hp)
        shine (Ar)   sonwayoʔ be beautiful   (Hp)
166. *šiggob squirrel   sikko squirrel (SP)
        (=Ar singaab squirrel)
167. šippa to plane off   *sipa to scrape UACS#364
        (LHbr piʕel, from:
     špy/šapa to make level, smooth, bare)

19

168. ṣnw twins (Ar)   cono? twins (Tb)
        ˙(Ar ṣ=Hbr c/*cnw)
169. cemer/camr wool   comi   wool, silk (Nah)
170. ns?/nasa? lift, carry   no-   carry on the back (SP)
        na + nasa? (nifₑal)   nonosi to dream (SP)
             to be lifted in vision
171. ns?/nasa? to lend   nasi-moki borrowed thing (Hp)
172. nṣp be noon,half (Ar)   naasave? be in the middle (Hp)
                                  tawa-nasave noon,mid-day (Hp)
                                  nasipa   half (Tr)
                                     (UA /s/ for /c/ is problematic)
173. cəvi   gazelle   cöövi-wɨ antelope (wi=big) (Hp)
174. səlaw   quail   sol-in   quail (Nah)
175. ṣmm to close, be deaf   cum?ma   to close the eyes(SP)UACS#92
     ḍmm to draw together
        (both Ar; both would=Hbr *cmm)
176. cll   tingle, quiver,   čeleley   to shake (Ca)
            clink, rattle   čilcil   to sound (of a rattle) (Ca)
     cilcal whirring,   silala-   to jingle, clink (Hp) (not c)?
            buzzing   čil-li   chile (Nah) perhaps from
                                             rattling noise when ripe & dry
177. cwd to hunt (Ar ṣyd)   cayrɨ elk (Hp) d,t>r between vowels
     cayid hunted game,   caayrɨra moose (Hp)
            provision,food   mo-sayɨrɨ buffalo (Hp)
                                  šaad   to chase (Pg) (Pg s=UA c)
178. nar   fire (Ar)   naad   fire (Pg) (Pg d=Hbr r)
179. qeren horn   koyonia bore, pierce (Nah)
                                  koyonka hole, window (Nah)
180. qarₑ gourd (Ar)   kuyawi   gourd (Gu & others)
181. qama standing grain   qummia   corn (SP)
        (from qwm 'stand')   oma   cane (Gu)
182. qy? to vomit   *?yo? to vomit UACS#451 (Mn,Tr,Hp)
183. qpz to leap,jump (Ar) kapadva to dance the leaping dance(Pg)
184. qaswa-t basket of palm gihot carrying basket (Pg)
        leaves (Ar)   (remember Pg/h/ = UA and Hbr /s/)
     qaswa, qəsot (pl.) jar,jug
185. ksr to break (Ar)   kasi   to break (Tr)
                                  kasi   to break (Gu)
186. yayin/yen- wine   yena   strong (of liquor) (Gu)
187. mḍɤ chew (Ar)   möc-   chew (Hp)
        (would=Hbr mc)
188. moḥ, moḥa (Aram)   *mo?o head, brains UACS#218
          marrow, brain
189. mšš to feel,grope   imasu to feel,probe (in the dark) (Gu)
190. mol,mul front   mulu- go ahead, be first (Ca)
                                  mo-   front (Hp)
191. mwg to melt, soften   moik   be soft (Pg)
                                  mɨkɨy- thaw out; mɨki hot (Hp)
192. npl 1. fall 2. be born nopidva   trip (Pg)
                                  -puli- 1. fall 2. be born (Ca)

20

The Gu form in 189 is probably a fossilized imperfect verb form.
For Hbr /npl/, the perfect stem is /napal/ and the imperfect stem
is /-pol/. In addition, it has the two meanings of the Hbr verb
'fall' and 'be born.'

193. bši to vomit (Eg)   *pis to vomit UACS#450
194. nmi to wander (Eg)   *nemi to wander, walk UACS#263
195. šm to go,depart (Eg)   *simi to go   UACS#198

<u>Similar Semantic Combinations between Hbr and UA (cf. also 9 & 10)</u>

196. The Hbr root   pny/pana 1. to turn 2. to look
     has a pl. noun form of   panim   face
     &constr. used prepositionally paney/*pani (on) the face of

SP pɨnni see, look; Ca peni-pis appear; Ch puunii see, look
Ca puni spin, whirl; Hp ponila turn s.th. around; Hp poniwma
                                                  to go around

Tr   pana cheek; Gu pana cheek
Nah pani on, on the surface of

The Hbr pl. /panim/ means 'face'; the meaning of the sg. form
*pane/*pana is not known. The Tr and Gu forms /pana/ for 'cheek'
are interesting. The two verbal meanings and the prepositional
meaning are also found in UA languages.

197. Hbr /l/ becoming UA /ɨ/ or disappearing in consonant
clusters has not been treated, but there are a number of examples
of the phenomenon (1,24,25,151,197,204), this being one. With
that in mind, consider

Hbr kly to be complete, finished
Hbr kli,kəliy 1. tool,article 2. weapon 3. vessel,receptacle
Hp   kɨkɨyi   emerge, complete one's appearances
Hp   kɨkɨyva   ceremony concludes
Hp   kɨyi   liquid in a container, kɨyapi   a dipper
Tb   kɨyi   arrowhead

Three diverse meanings of Hbr (to complete, weapon, container) are
also apparent in UA (conclude ceremony, arrowhead, liquid in a
container).

198. Hbr tqɛ 1. thrust, drive (weapon or s.th.) into (s.th.)
                  2. blow a horn
Tbr takoa   injured, damaged;   Tbr -tako- palm of the hand
Nah takoa   to harm, damage, sin; UA *taka   palm of the hand
                                              UACS#314 (NT,Tr)
Tr   tokowa to crow,cackle   Pg   ma-tk palm (ma=hand)
Tr   tekowa master,lord,owner   Hp   map-qölö palm of the hand
Nah teku-   lord, nobleman   Hp   kɨk-qölö soul of foot
SP   tuttuɣua- supernatural helper,
                  manitou

21

For Tbr to have basically the same word (takoa) to mean both
'injured' and 'palm of the hand' would arouse the curiosity of
any believer in the Book of Mormon (the final /a/ of the noun
probably dropping due to added suffixes). In addition, the Nah
cognate seconds the verbal meaning 'injure' and the other UA words
for 'palm' would reconstruct to PUA *takaw/takawa also. Most of
the reflexes for 'palm' show only the first two consonants, but
Tbr (takoa) and Hp (-qölö) point to /ɛ/ as the third consonant.
Along with the obvious allusion to the crucified Lord, note the
Tr, Nah, and SP reflexes for 'lord' that also agree with
PUA *tkw/Hbr tqɛ . Also note the Tr reflex 'crow, cackle' in
connection with the other verbal meaning 'blow a horn.' While on
the subject of Christ's visit to ancient Americans, consider the
following:

199. Hbr mšḥ to anoint; mašiah/mašiḥ Anointed One or Messiah
     Hp   masawɨ supreme diety, supernatural judge

With the three consonants agreeing, the Hp word is strong.
Nahuatl 'Mešiko' is another possibility, though weaker in having
two conflicting etymologies--one, that it is a compound of mec-
moon, sik- navel, and -ko at the place of, equaling 'in the middle
of the moon'; the second, that 'meši-' is the name of a god.<13>
If the latter were correct, then Hbr mašiah is a fair possibility,
in which case 'meši-ko' would mean '(at) the place of the
Messiah,' or more literally 'Messiah in it/thereat' (mašiah-bo).

Fossilized Hbr verb morphology

200. Hbr yacab & yacaɛ to set, lay, put
          mocib & mociɛ (corresponding hifɛil participles)
     Gu   yahca to set, place seated; mociwa to set, place seated
     Pg   daaš to set, put;   Gu mocipa to sit down

The morphological similarities of this verb in Hbr and UA are
striking. When Hbr /y/ is the first of the three consonants, it
appears as the original PS /w/ in the hifɛil participle. That is,
even though the perfect of the qal /CaCaC/ regularly has a hifɛil
participle of /maCCiiC/, the patterns for initial /y/ verbs are
/yaCaC/ and /moCiiC/ (from underlying /*mawCiiC/). Gu yahca and
Pg daaš correspond to the qal perfect and Gu mocipa and mociwa
correspond to the hifɛil participle, though not all such forms
happen to occur in the Biblical text.

152. Hbr raʔa to see; roʔe a seer (as a prophet, one who sees)
UACS#365 *tew to see (Ls,Ca,Pg,ST); Ls towi 'see supernaturally'
also Hp tɨwa to find; Yq & My teuwa to find; Tbr temo to see,
find (UA/w/=Tbr/mw/).

Here we have eight languages with reflexes for the qal form of the
verb, and one with a reflex for 'supernatural seeing.' Now

22

consider the following reflexes for the nifçal. Remember that Hbr
/r/ is /t/ in initial position but /y/ (or Pg /d/) elsewhere.

SP nayava   to seem, look like (Sapir correctly attributes initial
                              na- to the UA recipr./reflex. prefix na-)
Pg neid   to see, be seen, appear (cf. UACS#366 *ne to see)

Not only do we have the na- prefix in both the SP and Pg forms,
but they also have passive meanings of the active /*tewa/. The
sound correspondences also match.

201. The Hbr root /nky/ is used almost exclusively in the hifçil
and hofçal to mean 'smite, kill' and 'be smitten, killed'
respectively, the hofçal being the passive of the hifçil. The
participles for these are makke 'smite' and mukke 'be smitten.'
The passive (mukke 'be smitten') is one of the most frequent words
in UA with no less than 13 UA languages having reflexes of
PUA *muki 'die, be sick' (UACS #128a), one of these being the well
known Hp word 'moki' (Hp moki 'dead, dead ones'). However, most
interesting is the Cahuilla pair: -muk- get sick,die & -mek- kill.

All the vowels in PUA rose a notch (mukke > muki & makke > meki),
except for the high vowel /u/ which could not rise any more, and
the hifçil voweling and meaning is plainly contrasted from the
voweling and meaning of the hofçal, with the help of Ca.

202. Hbr   napš/nefeš spirit, soul, breath (v. to breathe)
           hinnapeš to take breath, refresh oneself (nifçal inf.)
     Yq   hiapsi   heart, soul (/n/ missing)
     My   hiapsi   "   "
     Pg   ?i?ib-hiopha   catch one's breath (Pg /h/ = UA /s/)
     SP   ɨnɨpici evil spirit, ghost   (Hbr/s/ often = SP/c/)
     Hp   hiikwis to breathe
     Ca   hikus   to breathe, take a rest
     Hp   pa-newsi fog, mist

In Hp hiikwis and Ca hikus, the /n/ has been absorbed by the next
consonant to double it, which causes /pp/ > /kw/. The form fits
the pattern of a hifçil verb /hippiis/. In UA, bilabials often
become /w/ as first consonant in a cluster, which is what happened
in Hp pa-newsi. 'Pa' means water; therefore, the compound /pa-
newsi/ conveniently yields 'water-spirit' for 'fog,mist.'

As for bilabials to /w/ in clusters, another example follows.

203. Hbr   šipḥa/šifḥa maid, maid-servant
     Nah   siwa   female, girl, wife UACS #470
     Yq   siwwa   "
     Hp   siwa   younger sister

The bilabial becomes /w/ as first consonant of a cluster, and the
pharyngeal also becomes /w/, so the doubled consonant in Yq is
interesting.

23

In connection with 202 above and 204 below, both of which have
examples of /n/ or /l/ being absorbed to double an adjacent
consonant, a few examples from Hbr itself may be in order. The
perfect and imperfect forms of regular verbs are /CaCaC/ and
/yiCCaC/ or /yiCCoC/. As one can see, the imperfect puts first
and second consonants in a cluster. When the first consonant is
/n/ or /l/, it often assimilates so as to double the next
consonant: laqah̬/yiqqah̬; nasaq/yissaq; nafal/yippol (192). Also
in nouns: Ar ʔanfuhu/ Hbr ʔappo; Ar bint/Hbr batt; Ar ʔanta/ Hbr
ʔatta; and 'squirrel' on page 3. The /l/ of the definite article
behaves similarly, in Ar assimilating some of the time, in Hbr
always: hal+davar > haddavar. With that, consider 204.

204. Hbr   lbš/lavaš/yilbaš(impf.) to dress, clothe, wear, put on
      Ch   -kwasu-ntu to dress, put on clothes
      Hp   kwasa   dress
      Pg   ʔikus   cloth, to wear a piece of cloth
      Hp   yɨwsi   clothing & put on clothes

The first three UA forms (Ch,Hp,Pg) show the /b/ as doubled, as it
would be in the imperfect. The fourth form, Hp yɨwsi, has /b/
going to /w/ in a cluster with /s/ and also shows the imperfect
prefix /yi-/ fossilized into the verb form. Of considerable
interest are forms like Ch -kwasu- and Gu -imasu-(189). The final
/-u/ may be the short final vowel of the PS and Ar imperfect
indicative, which again was lost in Masoretic Hbr.

205. Hbr yšb/yašav to sit, dwell
The various UA forms of the perfect of this verb were introduced
on p.5, all meaning to 'sit' and some also meaning 'live' or
'camp.' Compare also SP yokwi 'sit' (pl.) with Hbr yošbim (the
qal plural participle. With a reinterpretation of shwa mobile to
shwa quiescent or with assimilation of /š/ to double the /b/,
either would produce UA yokwi from Hbr yošbi-m, given the UA
tendency toward the construct plural (i.e., dropping /m/). Mn and
Cm also have reflexes like SP, and with the pl. meaning only:

Hbr   yašab/yašav (sg.perf.)   Hbr yošbi-m (pl. participle)
Yq   yese   SP yokwi   sit (pl.)
Hp   yesiva   sit,camp (pl.) Mn yɨkwi   " (pl.)
Tr   ʔasiba   Cm yɨkwi   " (pl.)
Pg   dahiva
NT   daivo

206. For another example of /šb/ to /kw/ after a round vowel, cf.
SP ukwi 'grass' and Ar ʕušb 'grass.'

24

Pronouns

The Hebrew pronouns are spottedly apparent in UA, along with much that is non-Semitic. Most UA languages have some form of /-ni/ for the 1st person singular pronoun, and Langacker's tentative reconstruction is PUA *-ni. Compare Hbr ʔani, -ni. On the other hand, 1st person plural pronouns do not agree with Hbr. The 2nd person singular and plural suffix pronouns were cited on p. 12, and Langacker's reconstructions of *-ʔi and *-ʔimi agree with the conclusion on p. 12.<14> Hbr 3rd person masc. pronouns, sg. hu,-o and pl. hum,hem, -am appear in some UA languages, often as parts of an enlarged demonstrative system; for some UA languages, the demonstrative system has replaced or incorporated whatever 3rd person pronouns there may have been.

Conclusions

Much more could be presented. This summary constitutes less than half the data. There are more than 250 additional Sem roots with apparent reflexes in UA. More phonological rules could be presented with examples. There are more examples of Hbr verb morphology in UA. Besides the masculine plural (-ima), a few UA words show fossilization of the Hbr feminine plural (-ot).

In contrast to similarities, one must keep in mind that a lot of non-Semitic morphology and vocabulary exists in UA, suggesting creolization as part of the history of most UA languages. Beyond morphology and vocabulary, creolization would also explain another matter--the possible objection to the existence of a 2500-year-old Hbr base for UA on the grounds that UA supposedly has a 5000-year time depth according to glottochronology. First, many questions are being asked with regard to glottochronology. And second, if a primary ancestor language were to spread and mix with a variety of other languages, so that many of the descendant languages were approximately 50/50 creoles, would not that group of 2500-year-old, 50/50 creoles appear to have a time depth of 5000 years?

Something similar to that is what I suggest is the case for Uto-Aztecan. There appear to be more similarities with Hebrew than could be attributed to chance. A quantity of vocabulary fits a fairly consistent system of sound correspondences. More than 40% of the lexical sets in Miller's UACS are referred to in a larger work to be produced (not a bad percentage for 50/50 creoles). A number of morphological similarities present themselves, though most are not productive, but are fossilized, which one would expect as a result of time and creolization. A number of striking semantic combinations in Hbr that also appear in UA only add more credence to the thesis. The phonological, morphological, and semantic correspondences point quite specifically to Hbr over other Semitic languages, and the consonant distinctions and pre-Masoretic vowelings suggest an early dialect phonologically closer to PS than is Masoretic Hbr. Though I expect these findings will eventually prove significant, they raise as many questions as they answer and are only the foundation for further investigation.

Notes

1.   Sabatino Moscati, <u>An Introduction to the Comparative Study of the Semitic Languages</u>, 1964, pp. 88,97. East Semitic masculine plural forms were -u (nom.) and -i (oblique). The West Semitic languages, however, have the shared innovation of an additional -m(a) or -n(a): Ar -ina, Aram -in, Hbr -im, and Ugaritic -ima. The fact that a final (a) appears after n (nunation) or m (mimation) makes an early Northwest Semitic form of *-ima not unlikely. The accent pattern on -im also suggests that an earlier short, final vowel has been dropped. (Blau, p. 30)

2.   Joshua Blau, <u>A Grammar of Biblical Hebrew</u> (Wiesbaden: Otto Harrassowitz, 1976), p. 51. Joshua Blau, perhaps the foremost Hebrew linguist-grammarian, states that the earlier voweling of the nif̔al prefix was na- rather than ni-.

3.   Moscati, pp. 122,170.

4.   Wick R. Miller, <u>Uto-Aztecan Cognate Sets</u> (Berkeley: University of California Press, 1967), pp. 8,9.

5.   My wife, Silvia Canelo Stubbs, is from Argentina and informs me that such was the dialect where she grew up in Tucuman of the northwest corner of Argentina, and that such pronunciations (gw for Spanish /w/ and /bw/) are common to the Gauchos and various dialect areas in western Argentina.

6.   Harry Hoijer et al., <u>Studies in Athapaskan Languages</u> (Berkeley: University of California Press, 1963), p. 19.
        Ingalik: sruš 'bear';   sran 'summer'; zruŋ   'black.'
        Kutchin: syí 'bear';   syín 'summer'; zrei   'black.'
        Navajo: šaš /bear';   ši̧ 'summer'; žin   'black.'

7.   Lyle Campbell, <u>Quichean Linguistic Prehistory</u> (Berkeley: University of California Press, 1977), pp. 97-100.

8.   Derek Bickerton, <u>Roots of Language</u> (Ann Arbor: Karoma Publishers, Inc., 1981), p. 61. Bickerton lists three English creoles in which English 'for' became /fo/, /fi/, and /foe/. The first loses /r/ as the last segment. The two which did not drop the /r/ both show it as a high front vowel.

9.   Lexical sets followed by UACS are listed in Wick Miller's <u>Uto-Aztecan Cognate Sets</u> under the number following UACS. Most of the reconstructed forms (UA words preceded by an asterisk) are those listed in Miller's UACS, though a few of the asterisked forms are my own reconstructions, which reflect evidence in the reflexes that I feel suggest an additional consonant or syllable. Any words not taken from UACS are taken from the respective dictionaries or grammars listed in the bibliograhpy.

10.   Charles Heimsch, "Truffle," <u>The Encyclopaedia Americana</u> (New York: Americana Corporation, 1962), vol. 27, p. 103h.

11. These statistics were compiled by myself from initial /b-/ and initial /k-/ words in Saxton's Papago dictionary listed in the bibliography.

12. I have heard native speakers of Arabic from Syria and Libya pronounce the ʕain as /r/ in certain environments. One example I specifically remember is a Syrian saying repeatedly /sabriina/ for /sabʕiina/ (the word for seventy). The following high front vowel may be involved because he did not consistently pronounce all ʕains as /r/. Likewise have I heard /w/ for the ʕain in the speech of some speakers in some phonological environments.

13. Remi Simeon, <u>Diccionario de la Lengua Nahuatl or Mexicana</u> (Mexico City: Siglo Veintiuno Editores, 1977).

14. Ronald W. Langacker, <u>Studies in Uto-Aztecan Grammar</u> (Arlington: The Summer Insitute of Linguistics and The University of Texas at Arlington, 1977), pp. 124,126.

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