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

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Brian Stubbs

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This FARMS preliminary report reflects substantial research but is not ready for final publication. It is made available to be critiqued and improved and to stimulate further research.

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	<u>Uto-Aztecan Cognate Sets</u> , 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 (nif'al prefix, masculine plural suffix), but most of it fossilized (feminine plural suffix, perfect and imperfect verb forms, pi'el, pu'el, hif'il, and hof'al 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.

Orthography and Pronunciation

The following may prove a helpful pronunciation guide for the non-linguist: /c/ = /ts/ as in cats, /θ/ as in think, /ð/ as in the, /š/ = sh as in shoe, /ŋ/ last sound in sing, /kw/ as in quick. 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, /ɔ̄/ 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, /ħ/ voiceless pharyngeal fricative, /q/ voiceless uvular stop, /ʔ/ 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/, /hivšii/, /kaved/, /davar/.

Hbr emphatic /š/ 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 /š/, /ḏ/, 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 /š/ 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:

<u>Semitic languages</u>		<u>UA languages</u>	
Arabic	-ina	Nah	-me
Aramaic	-in	SP	-ṇwṯ
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

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 vowelings is the nifʕal prefix. The nifʕal, 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 languages, and the Taracahitic languages), but none have ni-, a second example of an early, pre-Masoretic vowelings. Consider the following examples:

SP paqʕ to bathe (tr.); SP na-vaqʕ to bathe oneself;
SP wʕ-tonʔnoi to shake (tr.); SP na-ɣwʕ-tonʔnoi to shake oneself;
Hp ʔöqala to greet s.o.; Hp naaʔöqala to cheer oneself up;
Hp wʕsi brush, broom; Hp naawʕsi 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 vowelings patterns, prefixes and suffixes form the various conjugations, tenses, persons, etc. The most common (3rd m.s.

gal) 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':

<u>PS</u>	<u>waθaba</u>	
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 vowelizing. 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.

<u>PUA</u>	<u>most UA lang's</u>	<u>Pimic</u>	<u>Tr</u>	<u>other</u>
*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

	<u>PS/Ar</u>	<u>Hbr</u>	<u>UA</u>	<u>Pq</u>	<u>other exceptions</u>
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	s	s	h	
	s1				
	s2	s	s	h	
	s3	s	s	h	
	ḏ	z	t	t, c	
	z		t, c	c, s	
emph.	ḏ				
	s	c	c	s	
	ḏ				
	t	t	c	s	
liq.	r	r	t (initial)	c	r (Tr)
			y, i	d, j	r (TrCah)
	l	l	l, ð, n	l, d	
vel. & uvular	k	k	k, ?	k	
	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/)			

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 /ɣw/ 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 /ɣw/: 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>

<u>Hbr/Sem</u>	<u>UA</u>
1. bšl to boil, ripen (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/.)	*kwasi to boil, ripen UACS#152c
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	t*kwī 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) grain select, choose	*kwiya earth, land, dirt UACS#151 *kwiya, *kwi acorn UACS #1 kwiya, kwi keep, take (Nah)

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. ḍabb | lizard (Ar) | cakwa | lizard (Ca) |
| ḍabba | to keep locked (Ar) | cakwa | to imprison (Nah) |

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

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

The voiceless pharyngeal /ħ/ 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).

<u>Hbr/Sem</u>	<u>UA</u>
11. ḥec arrow	* (h)u(c) arrow UACS#9
12. ḥrk to move (Ar)	*hoyok move UACS#296
13. ḥpp to rub, cleanse (LHbr,Aram)	*hupa to bathe UACS#27
14. ḥmr to smear	humay to smear, paint (Ca)
15. ḥaberet wife ḥaber companion	*hupi wife UACS#471
16. ḥll to play the pipe	?ululu to play the flute (Tb)
17. ?ḥḥ to cough (Ar)	*?ohoho to cough (Hp,Tb,Ca) UACS#105
18. ḥntḥ to spice	*?ona salt UACS#359
19. crḥ to cry, roar	cayau to cry, yell (Tb)
20. cmḥ to sprout	camawa to grow (Nah)
21. ḥol sand	?o?oḍ sand, gravel (Pg) redupl.
22. ḥyl strong, able	wel able (Nah)
23. ḥny to camp, settle at	*wḥnḥ to stand, stop UACS#411
24. ḥlb milk, fat	*wip fat UACS#166
25. ḥḥl overtake,obtain(Ar) (Hbr=*hcl)	wacḥ to catch up with (SP)
26. ḥrs earthenware	wayisma-l dish, pot (Ca)
27. ḥargol locust	urugi-pari grasshopper (Tr)
28. ḥrc yellow	hoya yellowjacket (Hp) ura- yellow (Tr)
29. ḥuḥ thread, cord (Ar xyḥ)	*wic string UACS#419
30. ḥḥ? to miss, be wrong	wḥci false, misrepresent (Hp)
31. ḥaḥab firewood (Ar)	?uḥabdag pitch, resin (Pg)
32. ḥcr to settle, dwell	?oḥaḍ to rest, lie down (Pg)
33. ḥrp to harvest	?oḍ to harvest (Pg)
34. ḥrm wife (Ar)	oerume, oorume woman (Gu) -way- to take as wife, marry (Ca)

One can see that pharyngeal /ħ/ 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 /ħ/, 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 /ṛ/ (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 /ʕ/ is the voiced pharyngeal and also appears as back rounded vowels (w,o,u).

<u>Hbr</u>		<u>UA</u>	
35. cεq	to cry, cry out	*coak	to cry UACS#114
36. cnε	be modest, humble	cinoa	love, respect (Nah)
37. šgε	be mad, crazy	sikoa	be angry (Nah), hog mad (Pg)
	to rage (As.)		
38. bcε	break off	kwecoa	break up (Nah)
39. rgε	(for,in) a moment	reko	shortly, soon (Tr)
40. rṣ̌ε	be wicked, guilty	rasewa	fornicate,be permissive (Tr)
		risiwa,risoa	pain,suffering (Tr)
		ṭiṣwin	cause someone evil (Tb)
41. nṭε	plant (v.& nouns)	natwani	plant (Hp)
42. ṣεr	hair	*suwi	hair UACS#211
43. ṇεr	boy	nowi	have a son (Tr)
44. εly/εala	to go up	wel	rise up (Ca)
		wal	go up, increase (Nah)
		ʔol	go up (Tb)
45. εsy/εasa	to do	osi	to do (Tr)
46. εgz	grow old (of women)	wegaca-ma	grow old (of women) (Tr)
	(Ar)	*ʔoks	old woman (Pg,NT) UACS#473
47. zrε	to sow seed	cayawa	to sow seed (Nah)
	seed, offspring	cayo	child (Hp)
48. blε	to swallow	kwelo	to taste (Hp) cf. UACS#152a
49. crε/caraεat	leprosy	siyo-t	leprosy, scab (Nah)
			(Hbr/c/should=UA/c/,but cf.#150,135)
50. yεr	wood, forest	yuyi	evergreen tree (Ca)
51. cεy/caεa	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).

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).

<u>Hbr</u>		<u>UA</u>	
52. ṭll	sprinkle, drizzle (Ar)	cōlōlō	sprinkle, start raining (Hp)
53. ṭwy/ṭawa	to spin	cawa	to spin (Nah)
		šoo(m)	to sew (Pg)
54. ṭhy/ṭaha	throw, shoot (Ar)	cewa	to throw (Gu)
55. ṭrh	drop, fall (Ar V)	cayawi	spill, fall (Nah)
	be burdened (Hbr)	ceriwe	be sorry or sad (Gu)
56. ṭwh	to overlay, coat, smear	cuh-ca	to rub, put on clothes (Ca)
57. ṭwl	cast, throw	šul(i)g	throw away (Pg)
58. ṭhn	grind, crush	šon	to pound, crack (Pg)
		coʔna-ni, coʔni-ma	pound, crush (Gu)
59. ṭem	to taste, eat	cuʔmi	to slurp, sip (Gu)
60. ṭrw/ṭry	fresh, moist (Ar)	šudagi	liquid (Pg)
	moisten, make wet (Ar II)	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. matte	branch, rod, tribe	komaci	kindling wood (Hp) (ko=fire)
65. baṭṭih	melon (Ar)	baci	pumpkin (Tr)
	ʔabaṭih		melon (Hbr)
29. hyṭ	thread, twine (Ar)	*wic	string UACS#419
30. hṭʔ	to miss, be wrong	wīci	false, misrepresent (Hp)
31. haṭab	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/?/).

Hbr /q/

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

<u>Hbr</u>		<u>Hp</u>	
66. gbr/gvr	be strong	ho-ŋvi	strength
67. ghy/gaha	be cured, healed	ŋahṭ	medicine
	ghy/gaha be freed & to free (Aram)	ŋaha	to untie
68. gll	roll, gulla bowl	ŋölō	coil, circle
69. lahga-t	tongue (Ar)	leni	tongue
70. pgl	be thick (Ar)	poŋala	thick
71. pgr	cleave, break up (Ar)	piŋya	to crack, break
72. ygε	be weary	yṭṭw-ta	time of fasting

73. gnn surround ḡöna collar
 ḡöḡönpi necktie, harness
 74. grr to saw ḡayaya 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/.

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

- | <u>Hbr</u> | <u>UA</u> |
|------------------------------------|---|
| 78. gabha, gaba forehead (Ar) | kua forehead (Pg), kova- (NT)
kova-ra (Tr); k va- face (SP) UACS#190 |
| 79. gabiš crystal
el-gabiš hail | *kḡpa snow UACS#400 giv (Pg) |
| 80. gebim, gevim (pl.) locust | kḡvi- locust (SP) |
| 66. gbr/gavur strong | ḡiv-k strong (Pg), guvu- strong (NT)
ho-ḡvi 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. knḡ be humble | ikno be humble (Nah) |
| kinḡa 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 /ḡ/.

86.	<u>singular</u>	<u>plural</u>
Tb	imbi	imbuumu
Ch	imi	mimi
Hp	?im	?ima
Yq	?empo	?eme?e
Cr	mu?ee	mu?een
SP	immi-	mwimmwi-
<hr/>		
Hbr	ka	kem
Ca	?e	?em
Hp	?i-	?imi- (poss. pron's)
Yq	-a?e	-a?em (encl. pron's)
My	-?e	-?em (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 makteš 'a mortar or hollow for pounding' from the verb kataš 'to pound fine.' UACS #283 (metate): mata- (SP); manaa-l (Tb); mata (Hp); maccud (Pg); ma?ta (Tr:Brambila); matta (My); mata (Yq); mwaata (Cr); maataa (Hch); meta-t (Nah); mahta (Gu).

Hbr /e/ is generally from PS /i/, thus makteš < *maktiš; but *maktaš is a much more common vowel 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 vowel, we have everything except the 4th consonant: Hbr maktaš > UA *ma?ta. 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 diqan, daqan, daqn, 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: re?na '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/.

89. degel	standard, banner	tekela	stripe, hatband, pole at the bottom edge of the roof (Gu)
90. dayeq	siege-wall	tɔyɔqa-	wall (Hp)
91. dky/daka	to crush	tex-	to grind (Ca)
			(Ca /x/ = UA non-initial /k/)
92. dɛw/daɣa	to call, name(Ar)*tewa	name (n.&v.)	UACS#300
93. dɛk	to go out (of fire)	*tuk	to go out (of fire) UACS#172
		cuk	to burn out, die out (Pg)
94. dlɔ	to leap, spring	celko(n)	to skip (Pg)
95. dopi	blemish, fault	cecpa(i)mag(i)	be dotted, have dots
	dpy/dapa (v. form)	cecpa?avi	immoral woman (Pg)
96. dqɔ	pulverize, make fine	cu?a	reduce to powder, pulverize (Pg)
		cu?i	powder, flour (Pg)
97. dqr	to poke, pierce	cekid	vaccinate, put a stake in (Pg)
		teki	to cut (Nah)
98. degel	palm tree (LHbr)	takko	palm tree (Yq)
	diqla (Aram) daqal (Ar)	raku	palm tree (Tr)
99. dese?	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 /qɔ/ 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, yacaɣ
 Ar: ʔamara, ʔalima, ʔakala, ʔaθima; waθaba, waθina, waɖaɣa

However, Hbr: ʔacal, ʔazan
 Ar: wašala, 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/.

<u>Hbr</u>	<u>UA</u>
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, startle easily (Ar)	obatu be wild, ferocious (Gu)
105. plʔ/palaʔ be wonderful or extraordinary	palaw be pretty (Ca)
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)	vudʔ be beautiful (Pg)
112. kamʔ truffle (Ar)	kamoʔ sweet potato (Nah) UACS #428 kamwah sweet potato (Cr)
113. tirmania truffle (Med)	t̄mna, t̄mön 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) also, even, yea	ʔep again, also, another (Pg)
115. ʔepod ephod, garment, shoulder cape	ʔipuð skirt, dress (Pg)
116. ʔaḥar, ʔaḥor behind, remain behind, back part, backwards	ʔahoyi go back (Hp) ʔoid to follow (Pg) wari back (Cr,Hch) cf. UACS #16 owena backwards (Tr)
117. ʔz/ʔaza make hot(Aram) ʔzz kindle, burn (Ar)	*ʔete hot UACS#236

Hbr /z/ became UA /t,c/

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

2.	brz	defecate (Ar)	*kwita	defecate	UACS#126
88.	zqn	chin	*tʔn	mouth	UACS#293
117.	ʔaza	make hot	*ʔete	hot	UACS#236
118.	zəʔeb	wolf	*tʔib	wolf	UACS#469
	diʔb	wolf (Ar)		however, Pg	seeʔe 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 way (Hp)	
	zona	a harlot, act 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 /ʃ/, 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 /ʃ/ 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 /ḏ/ 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 /ḏ/ 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, seed, offspring	cayawa	to sow seed (Nah)	
			cayo	child (Hp)	
46.	ɛgz	grow old (of women)	wegaca	grow old (of women) (Tr)	
			ʔoks	old woman (Pg,NT)	
124.	zhl	to crawl	cawa-	to crawl (Ca)	
	zhp	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 /ḏ/ 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-).

132. bḡr to burn *ku fire UACS #170
qöy- to start a fire (Hp)
133. ben (Hbr), ibn (Ar) son kone- child, offspring (Nah)
134. ʔebaḡ finger (Hbr) ciko five (Nah)
ʔiṣbaḡ, ṣubaḡ (Ar) civot five (Hp)

The Hbr word for finger (134) is an oddly voweled noun from the root /cbḡ/. 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 /icbaḡ/ to /cibaḡ/, 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. /ʔebaḡot/. 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
vɪpɪdoxudami lightning (NT)
137. ʔerec land uri lowland (Tr)
138. tor turtle dove tori chicken (Tr)
139. ruḡ spirit, soul arewa spirit, soul (Gu)
riḡ wind (Ar) (a- perhaps def. art. prefix)
140. ṣḡr feel, perceive (Ar) sura heart (Tr) UACS #222a
ṣuḡur feeling, sentiment huḡ heart (Pg)

135. ṭibbura	navel	*siku(ra)	navel (Tr)	UACS#301
55. ṭrḥ	be burdened	ceriwe	be sorry, sad (Gu)	
129. bor	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)	tōna	voice, trachea (Hp)
143. rε	sun (Eg)	*tawa	sun UACS#423a (in 7 UA lang's)
		rawe	sun (Tr)
144. rεm	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. rεb	be hungry (PS:rεb)	tiyi	hunger (SP)
147. rḥl	ewe (PS:rεl)	tiyia	deer (SP) cf. UACS#123 deer
148. roq	spit, spittle	*toh	spit UACS#405 (Mn,Cm,Tb,Hp)
149. raqie	sky	*tuku	sky UACS#383 SP,Pn,Ca,Sr,Hp,Ch
40. ršē	wicked	tiswiin	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 /ε/

One more matter needs to be presented with regard to the pharyngeal /ε/. 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 ξ ain. For the ξ ain to become /w,l & g/ in UA is significant since the ξ ain is sounded as the other liquid /r/ and as /w/ in some Arabic dialects.<12> As well, I have heard ξ ains as pharyngeal as any Arabic ξ ain in the Ute dialect of White Mesa. Consider some examples of Hp /l/ corresponding to Hbr / ξ /.

155. ξ ql bend, crooked gakol- crooked (Pg)
 156. ξ qb/ ξ aqav heel, foot- gooki track,footprint (Pg)
 print, to deceive *wok foot, tracks UACS#257b
 k \acute{a} k-laqvi tracks (Hp) (k \acute{a} k=foot)
 ξ oqev deceiver lölöqanw snake (Hp)
 157. ξ erwa pudenda löwa vulva, vagina (Hp)
 158. ξ bryt/ ξ ivrit (LHbr) lavayi-t language (Hp)
 Hebrew language ?ivilu- Cahuilla language (Ca)

/ ξ ivrit/ (Msr pronunciation from consonants: ξ bryt) 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 / ξ 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 ξ ain and an uvular; and other examples do exist for final Hbr /b/ becoming / η w/ 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 / ξ / > 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. \check{y} sekem shoulder *seka shoulder UACS#375
 *seka arm UACS#7 (also probably)
 164. \check{y} soq leg so- foot, leg (Nah)
 soki hoof, fingernail (Hp)
 165. snw be beautiful(Eth) soniwa look good, fine (Hp)
 shine (Ar) sonwayo? be beautiful (Hp)
 166. * \check{y} siggob squirrel sikko squirrel (SP)
 (=Ar singaab squirrel)
 167. \check{y} sippa to plane off *sipa to scrape UACS#364
 (LHbr pi ξ el, from:
 \check{y} py/ \check{y} sapa to make level, smooth, bare)

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? (nif_{al}) 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-w_ṣ 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
 dmm 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) cayr_ṣ elk (Hp) d,t>r between vowels
 cayid hunted game, caayr_ṣra moose (Hp)
 provision, food mo-say_ṣra buffalo (Hp)
 čaad 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. qar_ḡ 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, q_ṣsot (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. m_ḡ chew (Ar) möc- chew (Hp)
 (would=Hbr mc)
188. moḡ, moḡa (Aram) *mo?o head, brains UACS#218
 marrow, brain
189. m_{ṣṣ} 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)
 m_ṣk_ṣy- thaw out; m_ṣki hot (Hp)
192. npl 1. fall 2. be born nopidva trip (Pg)
 -puli- 1. fall 2. be born (Ca)

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

Similar Semantic Combinations between Hbr and UA (cf. also 9 & 10)

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 pšnni 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 /š/ 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 kəkəyi emerge, complete one's appearances
 Hp kəkəyva ceremony concludes
 Hp kəyi liquid in a container, kəyapi a dipper
 Tb kəyi arrowhead

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

198. Hbr tqε 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 tekua- lord, nobleman Hp kək-qöLö soul of foot
 SP tuttušua- supernatural helper,
 manitou

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 /ǧ/ 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 tqǧ. 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/maših Anointed One or Messiah
 Hp masawz 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 & yacaǧ to set, lay, put
 mocib & mociǧ (corresponding hifǧil 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 hifǧil participle. That is, even though the perfect of the qal /CaCaC/ regularly has a hifǧil 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 hifǧil 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

consider the following reflexes for the nifʕal. 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 hifʕil and hofʕal to mean 'smite, kill' and 'be smitten, killed' respectively, the hofʕal being the passive of the hifʕil. 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 hifʕil vowel and meaning is plainly contrasted from the vowel and meaning of the hofʕal, with the help of Ca.

202. Hbr napš/nefeš spirit, soul, breath (v. to breathe)
hinnapeš to take breath, refresh oneself (nifʕal inf.)
Yq hiapsi heart, soul (/n/ missing)
My hiapsi " "
Pg ʔiʔib-hiopha catch one's breath (Pg /h/ = UA /s/)
SP ʔnʔpici 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 hifʕil 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 šipħa/šifħa 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.

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: laqaḥ/yiqqaḥ; 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	yšwsi	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 yšwsi, 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 gal 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	yškwī " (pl.)
Tr	ʔasiba	Cm	yškwī " (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.'

Pronouns

The Hebrew pronouns are spottedly apparent in UA, along with much that is non-Semitic. Most UA languages have some form of /-nɛ/ for the 1st person singular pronoun, and Langacker's tentative reconstruction is PUA *-nɛ. 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 *-ʔɛ and *-ʔɛmɛ 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, An Introduction to the Comparative Study of the Semitic Languages, 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, A Grammar of Biblical Hebrew (Wiesbaden: Otto Harrassowitz, 1976), p. 51. Joshua Blau, perhaps the foremost Hebrew linguist-grammarian, states that the earlier vowel of the nif'al prefix was na- rather than ni-.
3. Moscati, pp. 122,170.
4. Wick R. Miller, Uto-Aztecan Cognate Sets (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., Studies in Athapaskan Languages (Berkeley: University of California Press, 1963), p. 19.
Ingalik: sruš 'bear'; sran 'summer'; zruŋ 'black.'
Kutchin: syí 'bear'; syín 'summer'; zrei 'black.'
Navajo: saš /bear'; ši 'summer'; žin 'black.'
7. Lyle Campbell, Quichean Linguistic Prehistory (Berkeley: University of California Press, 1977), pp. 97-100.
8. Derek Bickerton, Roots of Language (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 Uto-Aztecan Cognate Sets 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 bibliography.
10. Charles Heimsch, "Truffle," The Encyclopaedia Americana (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 ɣain as /r/ in certain environments. One example I specifically remember is a Syrian saying repeatedly /sabriina/ for /sabɣiina/ (the word for seventy). The following high front vowel may be involved because he did not consistently pronounce all ɣains as /r/. Likewise have I heard /w/ for the ɣain in the speech of some speakers in some phonological environments.

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

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

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