



Table of Contents

1	Semitic Alphabets in North Semitic Alphabetical Order	1
1.1	Proto-Semitic.....	4
1.2	Proto-Sinaitic Alphabet	4
1.3	Fonts.....	5
1.4	Reordering of Letters.....	5
1.5	Arabic.....	6
2	The Outcome of the Three Fricatives /s/ [ʃ], /t/ [θ], and /s/ [h] in the Various Alphabets and Languages	6
2.1	The History of Some Semitic Fricatives	8
3	Hebrew Sounds Retained in the Spoken Language but not Adequately Represented in the Phoenician/Hebrew Alphabet.....	9
4	Aramaic Sounds Retained in the Spoken Language but not Adequately Represented in the Alphabet.....	10
5	A. G. Lundin’s reconstruction of “Linear Ugaritic”	12
6	Semitic Alphabets in South Semitic Alphabetical Order	14

Most Semitic alphabets are actually [abjads](#), and only include consonants, not vowels. These alphabets all seem to have come from a single source (see commentary [below](#)) except for Akkadian, which used a cuneiform syllabary rather than an abjad. (In the charts below I only list its consonants, not its actual writing system.) It is an [East Semitic language](#): the East Semitic languages underwent more early changes than any of the other languages, and were never written with an alphabet or abjad, but rather with a [cuneiform syllabary](#) that was totally unrelated to any of these alphabets.

1 Semitic Alphabets in North Semitic Alphabetical Order

In the chart below, the columns containing the Semitic alphabets that followed the North Semitic alphabetical order are marked at the top of the column with ↓. Two South Semitic alphabets are also included for comparison; these are marked with ↓. The Ugaritic alphabet has been found in [both North Semitic and South Semitic order](#), and so is marked with ↓↓. Letters in the same row generally have the same derivation. (Ugaritic letters are given in two different fonts, [Aegean](#) and [MPH 2B Damase](#). The former seems to be the standard form, as shown [here](#). I am not sure why the latter has a few very divergent forms.)

At the top of each list is shown the approximate date the language or alphabet was first written, or in the case of unwritten languages, when it was probably first spoken. This is followed by the number of consonants in each alphabet or language.

Colors used (see commentary after the chart for details):

Red: Letters which have been moved out of their standard alphabetical order in order to show their correspondence with the Ugaritic alphabet.

Pink: Consonant sounds which were not written with a distinct letter in a particular language, even though they were clearly distinguished in the spoken language.

Yellow: Consonant sounds which were lost in a particular language, showing what other consonant they merged with.

Green: Proto-Sinaitic consonant names and shapes which were [changed](#) in the Phoenician/Hebrew alphabet.

		↓	↓	⇓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓						
Proto-Sem-itic	IPA	Ak-kadian	Old Yem-eni alpha-bet	Ge'ez Name	Ugaritic Alpha-bet	Trans-literation	IPA	Name	Proto-Sinaitic (Lun-din)	Proto-Sinaitic (Al-bright, etc.)	Ancient Name	Ancient Meaning	Proto-Sinaitic (Brian Colless)	Ancient Name	Ancient Meaning	Phoen-ician (& Pa-leo-He-brew)	Hebrew Alpha-bet	IPA	Name	Meaning	Early Aramaic Alpha-bet	Trans-literation	Later Aramaic Alpha-bet	Trans-literation	Arabic Alpha-bet	Trans-literation	IPA			
3750 B.C.?	2800 B.C.?	1300 B.C.?	100 A.D.	1400 B.C.?	1850 B.C.?	1850 B.C.?	1850 B.C.?	1850 B.C.?	1400 B.C.?	1000 B.C.?	300 B.C.?	28	22	22 (23)	25	22 (23)	29	22	24?	28										
1. *ʾ	ʔ	—	17. 𐤀 𐤁	13. 𐤀 'ālf	1. 𐤀, 𐤁 'a ʔa	alpa	1. 𐤀, 𐤁	1. 𐤀, 𐤁	1. 𐤀, 𐤁	1. 𐤀, 𐤁	'alp	ox-head	1. 𐤀, 𐤁	𐤀, 𐤁	'alp	ox	1. 𐤀	1. ʔ	'aleph	ox	1. 𐤀	1. ʾ	1. 𐤀	1. ʾ	1. 𐤀	ʾ	ʔ			
2. *b	b	1. b	9. 𐤁 𐤂	9. 𐤁 bet	2. 𐤁, 𐤂 b b	beta	2. 𐤁	2. 𐤁	2. 𐤁	2. 𐤁	bêt	house	2. 𐤁	𐤁	bayt	house	2. 𐤁	2. 𐤁	2. b	beth	house	2. 𐤁	2. b	2. 𐤁	2. b/b	2. 𐤁	b	b		
3. *g	g	2. g	20. 𐤃 𐤄	20. 𐤃 gāml	3. 𐤃, 𐤄 g g	gamlā	3. 𐤃	3. 𐤃	3. 𐤃	3. 𐤃	gaml	throw-stick	3. 𐤃	𐤃	gaml	boom-erang	3. 𐤃	3. 𐤃	3. g	gimel	throw-stick	3. 𐤃	3. g	3. 𐤃	3. ḡ/g	3. 𐤃	j	g		
4. *ḥ	χ	3. ḥ	14. 𐤅 𐤆	11. 𐤅 ḥarm	4. 𐤅, 𐤆 ḥ x	ha	4. 𐤅	4. 𐤅	4. 𐤅	4. 𐤅	ḥa	hank of yarn	4. 𐤅	𐤅	ḥayr	thread		8. 𐤅	4. 𐤅			8. 𐤅	4. ḥ	8. 𐤅	4. ḥ	27. 𐤅	kh	χ		
5. *d	d	4. d																												
			21. 𐤇 𐤈	19. 𐤇 dānt	5. 𐤇, 𐤈 d d	delta	5. 𐤇							5. 𐤇	dalt	door	4. 𐤇	4. 𐤇	5. d	daleth	door	4. 𐤇	5. d	4. 𐤇	5. d/d	4. 𐤇	d	d		
6. *h	h	—	1. 𐤉 𐤊	1. U hoy																										
					6. 𐤉, 𐤊 h h	ho	E											5. 𐤉	5. 𐤉	6. h	he	window	5. 𐤉	6. h	5. 𐤉	6. h	5. 𐤉	h	h	
7. *w	w	5. w	6. 𐤌 𐤍	15. 𐤌 wāwe	7. 𐤌, 𐤍 w w	wo	7. 𐤌, 𐤍	7. 𐤌	7. 𐤌	7. 𐤌	waw	hook	7. 𐤌	𐤌	waw	hook	6. 𐤌	6. 𐤌	7. w	waw	hook	6. 𐤌	7. w	6. 𐤌	7. w	6. 𐤌	w	w		
8. *z	z/ dz	6. z																												
			24. 𐤏 𐤐	17. H zāy	8. 𐤏, 𐤐 z z	zeta	8. 𐤏	8. 𐤏	8. 𐤏	8. 𐤏	?	weapon	8. 𐤏	𐤏	ziq	fetter	7. 𐤏	7. 𐤏	8. z	zavin	weapon	7. 𐤏	8. z	7. 𐤏	8. z	7. 𐤏	z	z		
9. *ḥ	ḥ	—	3. 𐤑 𐤒	3. 𐤑 ḥāwr	9. 𐤑, 𐤒 ḥ ḥ	hota	9. 𐤑, 𐤒	9. 𐤑	9. 𐤑	9. 𐤑	ḥê(t)	court	9. 𐤑	𐤑	ḥasir	man-sion	8. 𐤑	8. 𐤑	9. ḥ	heth	wall, fence	8. 𐤑	9. ḥ	8. 𐤑	9. ḥ	8. 𐤑	ḥ	ḥ		
10. *t	tʿ	7. tʿ	23. 𐤓 𐤔	21. 𐤓 tāyt	10. 𐤓, 𐤔 t tʿ	tet	10. 𐤓	10. 𐤓	10. 𐤓	10. 𐤓	tô(t)	spindle?	10. 𐤓	𐤓	tab	good	9. 𐤓	9. 𐤓	10. tʿ	teth	wheel	9. 𐤓	10. tʿ	9. 𐤓	10. tʿ	9. 𐤓	tʿ	tʿ		
11. *y	j	8. y	26. 𐤕 𐤖	18. 𐤕 yāmān	11. 𐤕, 𐤖 y j	yod	11. 𐤕, 𐤖	11. 𐤕	11. 𐤕	11. 𐤕	yad	arm	11. 𐤕	𐤕	yad	hand	10. 𐤕	10. 𐤕	11. j	yodh	hand	10. 𐤕	11. y	10. 𐤕	11. y	10. 𐤕	y	j		
12. *k	k	9. k	12. 𐤗 𐤘	14. 𐤗 kaf	12. 𐤗, 𐤘 k k	kaf	12. 𐤗, 𐤘	12. 𐤗	12. 𐤗	12. 𐤗	kapp	palm	12. 𐤗	𐤗	kap	palm	11. 𐤗	11. 𐤗	12. k	kaph	palm (of hand)	11. 𐤗	12. k	11. 𐤗	12. k/k	11. 𐤗	k	k		
					13. 𐤙, 𐤚 š ʃ	šin	13. 𐤙	(see row 26. *š below)																						
13. *l	l	10. l	2. 𐤛 𐤜	2. 𐤛 lāwe	14. 𐤛, 𐤜 l l	lamda	14. 𐤛	13. 𐤛	13. 𐤛	13. 𐤛	lamd	ox-goad	13. 𐤛	𐤛	lamd	goat	12. 𐤛	12. 𐤛	13. l	lamedh	goat	12. 𐤛	13. l	12. 𐤛	13. l	12. 𐤛	l	l		
14. *m	m	11. m	4. 𐤝 𐤞	4. 𐤝 may	15. 𐤝, 𐤞 m m	mem	15. 𐤝	14. 𐤝	14. 𐤝	14. 𐤝	mêm	water	14. 𐤝	𐤝	maym	water	13. 𐤝	13. 𐤝	14. m	mem	water	13. 𐤝	14. m	13. 𐤝	14. m	13. 𐤝	m	m		
15. *d	ð (6. z)		25. 𐤟 𐤠	17. H	16. 𐤟, 𐤠 d ð	dāl	16. 𐤟, 𐤠	15. 𐤟	15. 𐤟	15. 𐤟	manacle		15. 𐤟	𐤟	dayp	eyebrow		(7. 𐤟)				6. 𐤟	15. d	(8. 𐤟)	d	26. 𐤟	dh	ð		
16. *n	n	12. n	13. 𐤡 𐤢	12. 𐤡 nāhas																										
					17. 𐤡, 𐤢 n n	nun																								
17. *ʔ	θʾ/ tθʾ	(15. y)	29. 𐤣 𐤤	23. 𐤣	18. 𐤣, 𐤤 z ðʿ	zu	18. 𐤣	(18. 𐤣, 𐤤 ʿên eye)					17. 𐤣	𐤣	zil	shade		(18. 𐤣)				18. 𐤣	17. 𐤣	(9. 𐤣)	(ʔ)	24. 𐤣	z	zʿ		

Proto-Sem-itic	IPA	Akkadian	Old Yem-eni alpha-bet	Ge'ez	Name	Ugaritic Alpha-bet	Transliteration	IPA	Name ¹	Proto-Sinaitic (Lun-din)	Proto-Sinaitic (Al-bright, etc.)	Ancient Name	Ancient Meaning	Proto-Sinaitic (Brian Colless)	Ancient Name	Ancient Meaning	Phoenician (& Paleo-Hebrew)	Hebrew Alpha-bet	IPA	Name	Meaning	Early Aramaic Alpha-bet	Transliteration	Later Aramaic Alpha-bet	Transliteration	Arabic Alpha-bet	Transliteration	IPA		
18. *s	s	13. s									17. ?	samk	fish	18. ⇨	𐤎	samk	fish													
			11. 𐤎 𐤎	7. 𐤎	sat	19. 𐤎, 𐤎	s	s	samka	19. 𐤎				(see Colless)	samk	support	15. 𐤎	15. 𐤎	16. s	samekh	support	15. 𐤎	18. s	15. 𐤎	16. s	15. س	s	s		
19. *ʿ	ʿ	—	18. 𐤎 𐤎	16. 𐤎	'ayn	20. 𐤎, 𐤎	ʿ	ʿ	'ain	20. 𐤎	18. 𐤎 𐤎	'ên	eye	19. 𐤎	'ên	eye	16. 𐤎	16. 𐤎	17. ʿ	'ayin	eye	16. 𐤎	19. ʿ	16. 𐤎	17. ʿ	16. ع	ʿ	ʿ		
20. *p	p	14. p									21. 𐤎			19. 𐤎	𐤎	pi't	corner?													
			16. 𐤎 𐤎	25. 𐤎	af	21. 𐤎, 𐤎	p	p	pu	𐤎				20. 𐤎	pu	mouth	17. 𐤎	17. 𐤎	18. p	pe	mouth	17. 𐤎	20. p	17. 𐤎	18. p̄/p	17. ف	f	f		
21. *š	s ¹ /ts ²	15. š	28. 𐤎 𐤎	23. 𐤎	šādāy	22. 𐤎, 𐤎	š	s ¹	sade	22. 𐤎, 𐤎	20. 𐤎	𐤎	ša(d)	plant	21. 𐤎	𐤎	širar	bag	18. 𐤎	18. 𐤎	19. s ¹	tsadhe	hunt	18. 𐤎	21. š	18. 𐤎	19. š	18. ص	š	s ¹
22. *š	t ¹ /t ²		19. 𐤎 𐤎	24. 𐤎	šāppū		↑			(29. 𐤎?)	↑			↑							↑									
23. *k	k ¹	16. q	5. 𐤎 𐤎	8. 𐤎	kaf	23. 𐤎, 𐤎	q	q	qopa	23. 𐤎	21. 𐤎	𐤎	qu(p)	monkey	22. (see Colless)	qaw	cord, line	19. 𐤎	19. 𐤎	20. q	qoph	needle head	19. 𐤎	23. q	19. 𐤎	20. q	19. ق	q	q	
24. *r	r	17. r	8. 𐤎 𐤎	6. 𐤎	rā's	24. 𐤎, 𐤎	r	r	raša	24. 𐤎	22. 𐤎	𐤎	ra'š	head	23. 𐤎	𐤎	ra'š	head	20. 𐤎	20. 𐤎	21. r	resh	head	20. 𐤎	24. r	20. 𐤎	21. r	20. ر	r	r
25. *t	θ ²	↓	27. 𐤎 𐤎	7. 𐤎	s	25. 𐤎, 𐤎	t	θ	tanna	25. 𐤎	23. 𐤎	𐤎	com-posite bow	24. 𐤎	𐤎	tad	breast	↓	↓											
26. *š	ʃ ²	18. š	15. 𐤎 𐤎	7. 𐤎	s						24. 𐤎 𐤎	šimš	sun	25. (see Colless)	šimš	sun														
						13. 𐤎, 𐤎	š	ʃ	šin	13. 𐤎																				
27. *š	ʃ ²	↑	7. 𐤎 𐤎	5. 𐤎	šāwt	(30. 𐤎, 𐤎 ³)	š	(s)	šu	(28. 𐤎)	(24. 𐤎)	𐤎	com-posite bow	(25. 𐤎)	𐤎	tad	Breast	↑		21. 𐤎	23. 𐤎	sin								
28. *g	g	—	22. 𐤎 𐤎	16. 𐤎	'	26. 𐤎, 𐤎	g	γ	gain	26. 𐤎, 𐤎	25. 𐤎	ga	?	26. ?	ginab	grape	(16. 𐤎)	16. 𐤎	24. g											
29. *t	t	19. t	10. 𐤎 𐤎	10. 𐤎	tāwe	27. 𐤎, 𐤎	t	t	to	27. 𐤎	26. 𐤎	taw	owner's mark	27. 𐤎	taw	owner's mark	22. 𐤎	22. 𐤎	25. t	taw	mark	22. 𐤎	29. t	22. 𐤎	24. t/t	22. ت	t	t	t	
						28. 𐤎, 𐤎	i	ʔi	i																					
						29. 𐤎, 𐤎	u	ʔu	u																					
						30. 𐤎, 𐤎	s2(s)		šu	28. 𐤎	(see row 27. *š above)																			
						𐤎, 𐤎			word divider																					

¹ In [Wiktionary](#) names are provided for most of these letters, though meanings and Ugaritic spellings are not provided. However, it turns out that these names are merely reconstructions, mainly from the later Phoenician/Hebrew names, or in a few cases are simply the syllable pronunciations, at least according to [this page](#). Even so, apparently these reconstructions are based on good evidence that Ugaritic really did have names for their letters, and that we know for certain at least the first syllable of most of the letters, based on a tablet called KTU 5.14, which contains most of the letters with a corresponding Akkadian equivalent showing this first syllable. This tablet and the conclusions drawn from it are shown on [this page](#).

² See [The Outcome of the Three Fricatives /š/ \[ʃ\], /t/ \[θ\], and /s/ \[ʃ\]](#) to understand the ins and outs of these sounds and the letters used to represent them.

³ This letter was apparently [not used in Ugaritic to represent a separate sound](#), but based on its [appearance in the South Semitic alphabetical order](#), it was evidently intended to write the [ʃ] sound in other Semitic languages, corresponding to the sound traditionally transcribed as /š/ in Hebrew and in Proto-Semitic.

The dates in the [large chart above](#) are all estimates, and should all be taken with a big grain of salt. For the most part they are not my estimates, but estimates of experts in their respective fields. Even so, every one of them is a guess. For the languages that were written, this is usually the estimated date of the first texts found in archeological digs, but this does not mean that these languages might not have been written earlier, it simply indicates that neither archeology nor secular history can give evidence that it was written earlier. For Proto-Semitic the date is even more of a guess, because only comparative linguistics gives us any information, and neither archeology nor history can tell us anything about it.

I have put the date for the Phoenician alphabet down as 1400 B.C., which is much earlier than most sources state, and have cited an article about the 22-letter [Cuneiform Short Alphabet](#) (archived link) as evidence. This alphabet has an identical consonant inventory as the Phoenician alphabet, clearly distinguishing it from the 27-letter Ugaritic alphabet, suggesting that it was used to write a Semitic language with only 22 consonants, probably Phoenician.

Of the 29 consonants in Proto-Semitic, Arabic retained 28 (but see [Arabic](#) below) and Ugaritic 27, though if we include 𐎗/𐎘 for /š/ [ʃ] there are letters for 28, though not the same 28 as for Arabic.

1.1 Proto-Semitic

[Proto-Semitic](#) was not a written language, and in fact evidently predated the [first writing](#) by [many hundreds of years](#), but based on comparison of all the known languages descended from it, it seems clear that it had a total of 29 consonants, and the Old Yemeni or South Semitic Alphabet (and its variant the Old North Arabian alphabet shown in the [South Semitic Alphabetical Order](#) section) retained all 29 of them (though with a couple of significant changes in pronunciation, shown in the [South Semitic chart](#) in red in the IPA column). See [Reflexes of Proto-Semitic Sounds in Daughter Languages](#) and the link for the first column in the chart. All of these alphabets, including the South Semitic ones, were probably derived from the same alphabet, which must be at least as old as the Ugaritic alphabet, which shows [both alphabetical orders](#).

1.2 Proto-Sinaitic Alphabet

As many have suggested, the [Proto-Sinaitic](#) alphabet is the most likely candidate for this original alphabet, and both the North Semitic and [South Semitic](#) alphabets were evidently derived from it, [including Ugaritic](#). The information for Proto-Sinaitic in the chart was obtained from various sources. The [Wikipedia article](#) suggests that there is doubt about Proto-Sinaitic being an alphabet, but actually there is little doubt, as shown by [this article](#) and the Colless article mentioned [below](#).

However, there seem to be (at least) two drastically different analyses of the inscriptions, and these affect the final alphabet inventory and the letter names. I have presented both in the chart: the first is by William Albright and others, and the other is by Brian Colless.

The Albright, etc. analysis is listed first, and uses a Proto-Sinaitic font obtained from [ancientroadpublications.com/Fonts.html#ProtoSinaitic](#), which was based on Albright's [Schematic Table of Proto-Sinaitic Characters](#) found at the bottom of [this page](#). The Ancient Names and Meanings mostly follow this table and the modified table by Simon Ager on [this page](#). Some additional ideas can be found on [this page](#) (in Spanish), but I did not find them all that helpful.

The Colless analysis can be found beside this in the chart, and is based on [this article](#), and especially on the chart at the bottom of it, which was drawn by hand and is somewhat hard to read. For many letters I have been able to use the same font as for Albright's analysis, though some of the symbols have been reinterpreted, but sometimes I could not, in which case I have said "(see Colless)", meaning that you will need to consult Colless's chart. (I have not yet had a chance to read Colless's article exhaustively, and I very much want to, because it sounds like he has done his homework.) I mention Colless repeatedly here: search to see all comments.

Proto-Sinaitic was evidently used to write an earlier form of a South Canaanite dialect, with more consonants than later Hebrew, Canaanite, or Phoenician. How many letters (consonants) did Proto-Sinaitic have? There is no way to know, since the data available is very limited. However, if we assume for each of these two analyses that the analysis is accurate, and if we also include letters that clearly existed later on in Phoenician and Hebrew (several are missing for Albright, and only one for Colless) we get a list of 26 letters for Albright and 27 for Colless, as shown in the chart above. Actually, Albright, Colless, and Ugaritic line up quite well: the one Proto-Semitic consonant totally missing from Ugaritic (22. */š/ [ʃ/tʃ]) is also missing from both Albright, etc. and Colless's lists, and Ugaritic 25. */t/ [θ] apparently corresponds to at least South Canaanite /š/ [ʃ] (see footnote ² above). This strongly suggests that the 27 letters of the basic Ugaritic system also represent the complete Proto-Sinaitic alphabet.

Of course, there could have been more consonants written in Proto-Sinaitic that have simply not come to light because of the limited number of inscriptions, and it is even possible that all of the letters in the Old Yemeni or South Semitic Alphabet came directly from Proto-Sinaitic, in which case it would have had symbols for all of the 29 consonants of Proto-Semitic. This is not outside the realm of possibility, since languages in both the far north (Early Aramaic) and in the far south ([Old South Ara-](#)

[bian](#)) did retain all of these consonants, and Canaan appears to be the area of greatest innovation involving loss of consonants, but when those losses occurred is impossible to determine. ([This page](#) assumes that Proto-Sinaitic had 30 letters, but they are evidently equating its alphabet with that of Ugaritic, which did have 30 letters, though it only had 27 native consonants.)

Even if it is true that the Proto-Sinaitic alphabet had all 29 letters, we have no way of knowing where the two letters missing from the 27-letter Ugaritic alphabet would have been placed in the North Semitic Alphabetical order, or even if they were ever placed in such an ordering. These are Proto-Semitic 27. /š/ [ʃ], which probably corresponds to letter 30 in the Ugaritic alphabet, but was clearly an afterthought because it was not a sound used in Ugaritic (having merged with /s/ [s]), and Proto-Semitic 22. /š/ [ʃ'/tʃ'], which had merged with 21. /š/ [s'/ts'] and so was not listed in the Ugaritic alphabet.

However, one fact which suggests that there was a form of the Proto-Sinaitic alphabet that had all 29 letters is precisely the fact that the Old Yemeni or South Semitic Alphabet did have all 29 consonants, and in the next section I suggest that we might use this alphabet as the Proto-Alphabet of Proto-Sinaitic.

One factor entering into this question is that some of the letters may have changed their names from Proto-Sinaitic to Phoenician/Hebrew (at least in the case of the Albright, etc. analysis): the [Phoenician alphabet page](#) says, «according to a theory by Theodor Nöldeke from 1904, some of the letter names were changed in Phoenician from the Proto-Canaanite script.» (Apparently the letter shape was usually also different as well.) The list follows, with some comments by me. I have colored these letters green (under the Albright, etc. analysis), and I have attempted to determine, simply by looking at the letter shapes, which of the two options the various alphabet symbols and letter names seem to correspond to, putting the two options on separate lines separated by a grey line. These are quite subjective, but perhaps instructive!

<i>gaml</i>	“throwing stick”	→	<i>gimel</i>	“camel”	I’m skeptical about this one, that it ever meant camel, as is Wikipedia : it looks like all they did was flip the symbol, so I left them all on one line!
<i>digg</i>	“fish”	→	<i>dalet</i>	“door”	
<i>hll</i>	“jubilation”	→	<i>he</i>	“window”	
<i>ziqq</i>	“manacle”	→	<i>zayin</i>	“weapon”	Apparently <i>ziqq</i> was originally <i>diqq</i> , and was the name of the letter pronounced /d/, which later merged with /z/ in Canaanite.
<i>nahš</i>	“snake”	→	<i>nun</i>	“fish”	According to this page , only the name was changed, not the symbol.
<i>pi`t</i>	“corner”	→	<i>pe</i>	“mouth”	
<i>šimš</i>	“sun”	→	<i>šin</i>	“tooth”	See The Outcome of the Three Fricatives /š/ [ʃ], /t/ [θ], and /š/ [ʃ] below.

I have not yet studied Colless’s article and data sufficiently to do the same for it, but I have colored his letters green when they disagree with Albright, etc., and have tried to arrange them in this system as well.

1.3 Fonts

The Aegean font used for Ugaritic was found on [this page](#). The *MPH 2B Damase* font used for Ugaritic and Phoenician was found on [this page](#). The two fonts used for the [Old Yemeni or South Semitic Alphabet](#) (Sabaic and Qatabanic styles) were found on [this page](#). However, since I have now posted this file in PDF format, all fonts should appear correctly for all users without having to download them.

1.4 Reordering of Letters

Arabic letters in **red** are normally at the end of the alphabet, as the numbering shows, but I have arranged them to show their relation to Ugaritic, since these two languages retained more of the original Semitic consonants than did most Canaanite languages (including Phoenician and Hebrew). These letters were placed at the end because the Arabic Alphabet was derived from the Aramaic Alphabet (essentially identical to the Hebrew Alphabet), but since this alphabet did not have all of the sounds in Arabic, these six letters were invented just for Arabic.

Because of the complex way in which phonemes have merged, I have also moved two of the Ugaritic phonemes out of their place in the alphabetical order, and have marked them in **red** also. (See Footnote ² above for an explanation of the red letter in the Proto-Sinaitic column.)

1.5 Arabic

Arabic only lost one of the 29 Proto-Semitic consonants, 26. */š/[ʃ], which merged with 18. */s/, but it changed the pronunciation of a number of them, which confuses the comparison with the other Semitic languages, as shown in the chart below. In this chart I only include significant sound changes, not minor differences like ejective versus pharyngeal or uvular.

Proto-Semitic Sounds which were Retained in Arabic, but with significant pronunciation change.

Proto-Semitic	IPA	Arabic Alphabet	Transliteration	IPA	
3. *g	g	3. ج	<i>j</i>	g	This is pronounced [dʒ] in most Arabic varieties, but is still [g] in Egyptian Arabic.
17. *t	θ' / tθ'	24. ظ	<i>z</i>	zˤ	
20. *p	p	17. ف	<i>f</i>	f	
22. *š	ʃ' / tʃ'	25. ض	<i>ḍ</i>	ḍˤ	
27. *š	ʃ	21. ش	<i>sh</i>	ʃ	

Thus all cases of 26. */š/[ʃ] became a simple [s] in Arabic, merging with existing [s], but then all cases of 27. */š/[ʃ] changed to [ʃ], which corresponded to a sound in Hebrew which later came out as [s], which is terribly confusing!

2 The Outcome of the Three Fricatives */š/[ʃ], /t/[θ], and /š/[ʃ] in the Various Alphabets and Languages

Based on its shape and pronunciation, the Phoenician letter 21. ω (pronounced */š/[ʃ]), from which came the Hebrew letter ψ , used for two Hebrew consonants ψ (*/š/[ʃ]) and ψ (*/š/[ʃ]), was apparently derived from Ugaritic 13. \aleph/\aleph (*/š/[ʃ] [šin](#)), but it is placed alphabetically in the place of Ugaritic 25. τ/τ (*/t/[θ] [tanna](#)). (I don't know why the two different fonts show such incredibly distinct forms for Ugaritic 25; the former seems to be the right one, and neither looks anything like the Phoenician or Hebrew letter.) However, both Phoenician 21. ω (*/š/[ʃ]) and Ugaritic 13. \aleph/\aleph (*/š/[ʃ] [šin](#)) look a lot like the Proto-Sinaitic letter ω , which was evidently pronounced as either */š/[ʃ] or as */t/[θ], not as */š/[ʃ], and both Albright and Colless list a different letter for */š/[ʃ]. So how do we make sense of this?

Now the Old Yemeni or South Semitic Alphabet, and its variant the Old North Arabian alphabet, contain symbols for all of these sounds, in fact for all of the original Proto-Semitic consonants, so the simplest solution might be to assume that the South-Semitic alphabet represents the Proto-Alphabet from which all of the others came. The problem is that in the South-Semitic alphabet the symbol 7. \aleph \aleph is used to represent neither */š/[ʃ] nor */t/[θ], but */š/[ʃ], precisely the sound that was lost in both South Canaanite and Ugaritic!

However, it is precisely the variations in the two alphabetical orders, North Semitic and [South Semitic](#), that suggest an explanation and confirm that the South Semitic alphabet is probably the original. In the South Semitic Alphabet letter 7. \aleph \aleph represents */š/[ʃ] and letter 15. \aleph \aleph represents */š/[ʃ], but in the South Semitic alphabetical order established for the Ugaritic alphabet this order is reversed: letter 7. \aleph/\aleph represents */š/[ʃ] and letter 15. \aleph/\aleph was apparently intended to represent */š/[ʃ] in other languages, even though Ugaritic had lost this sound. And as we saw above, the Phoenician alphabet also shows a change in the alphabetical order for the Phoenician letter 21. ω */š/[ʃ]. To me this suggests that the Old Yemeni or South Semitic Alphabet shows us the original use of the letters it contains, but that the symbol \aleph or ω , originally used for the sound */š/[ʃ], was later reassigned to a different sound in Ugaritic, which no longer had the */š/[ʃ] sound, and replaced the original symbol for */š/[ʃ].

In Phoenician this new symbol 21. ω for */š/[ʃ] ended up being the only symbol that was retained, since */t/[θ] and */š/[ʃ] had both fallen together with */š/[ʃ]. However, Hebrew (and North Canaanite in general) did not lose */š/[ʃ], but because Phoenician ended up being the parent alphabet for Hebrew, this symbol 21. ω had to do double duty for both */š/[ʃ] and */š/[ʃ]. (See [Hebrew Sounds Retained in the Spoken Language](#).)

In fact, Phoenician turns out to be the only Canaanite language that merged all three sounds. But it turns out that South Canaanite and Ugaritic on the one hand and North Canaanite on the other ended up slightly different as regards the distribution of these three sounds. In Hebrew the Semitic phoneme */θ/ [θ] became /š/ [ʃ] (later spelled ש), which was a distinct sound from /s/ [s] (later spelled שׁ). However, [this page](#) says that «according to [William Albright](#), [the letter sin or shin] was based on a “bow” and with the phonemic value /š/ [ʃ] “corresponds etymologically (in part, at least) to original Semitic */θ/ (th), which was pronounced /s/ [sic] in South Canaanite”» (Presumably he means /s/ [s] here, later pronounced s in Hebrew.) This seems to suggest that */θ/ [θ] merged with /s/ [s] in South Canaanite but with /š/ [ʃ] in Central Canaanite and Hebrew. If so, then this explains why Albright’s table mentioned below shows the letter ש (/š/ [ʃ]) as derived from a Proto-Sinaitic letter 𐤎 with the name /šann/ (apparently equivalent to Ugaritic tanna “composite bow”), but shows a different Proto-Sinaitic letter 𐤎 /šims/ “sun” (later Hebrew שמש /šemes/) for the /š/ [ʃ] sound. In Phoenician all three of the sounds /θ/ [θ], /š/ [ʃ], and /s/ [s] were merged into one and were spelled with the Phoenician letter 𐤎, so the letter 𐤎 was not retained in Phoenician or the later Aramaic and Hebrew alphabets which derived from it, even though the sounds /š/ [ʃ] and /s/ [s] were still distinguished in Hebrew and Aramaic and were later spelled ש and שׁ. As for the symbol 𐤎, it looks like both a bow (or, according to [Colless](#), like breasts) and like a couple of teeth, so was apparently renamed /shin/ by reidentification.

Confused? No wonder!

Perhaps the table on the next page entitled “The History of Some Semitic Fricatives” can help clarify the situation.

(In the table, unless specified otherwise, I obtained the Proto-Semitic and Hebrew forms of possible letter names from [ahdictionary.com/word/semitic.html](#) and from [shodhganga.inflibnet.ac.in:8080/jspui/bitstream/10603/37097/2/appendices.pdf](#). The connection of בָּנָה “bend” with */šann/ “composite bow” is mostly guesswork, but the second link does confirm that this verb had */θ/ [θ] in Proto-Semitic.)

[Brian Colless](#) has a different opinion about the meaning, names, and origin of the symbols used, but otherwise his analysis agrees with the arrangement in the table.

The Proto-Alphabet Letter 15. 𐤎 𐤎 and its Unique History

This letter for the /š/ [ʃ] sound was named “sun” and given its symbol accordingly, but according to [Wiktionary](#) and [this note](#), the original Proto-Semitic form of the word “sun” was */šams/, not */šamš/, with a different initial consonant, but the initial /s/ [s] became /š/ [ʃ] in the Northwest Semitic languages (including Aramaic and all Canaanite languages, including Ugaritic). The second link clarifies that this change occurred because of “regressive assimilation” from the following /š/ [ʃ], which was a process that only occurred in Northwest Semitic, and which occurred even in cases like this where the consonants are not adjacent. What makes the Wiktionary entry confusing is that every single form is shown with initial /š/ [ʃ] except the Proto-Semitic form, which initially made me doubt its validity, but in fact in every case /š/ [ʃ] is the expected outcome for /s/ [s], and in some cases would not have been the outcome if the initial consonant had been /š/ [ʃ]. (See the first chart above and the last chart below to verify this.) For example, in Arabic */š/ [ʃ]→/s/ [s], but */š/ [ʃ]→/š/ [ʃ], so Proto */š/ [ʃ] never corresponds to Arabic /š/ [ʃ]. Even more confusing, In Old South Arabian */š/ [ʃ]→[ʃ], an unusual retracted sibilant which was spelled with 𐩦, leaving these languages without the /š/ [ʃ] sound, and so /s/ [s] is often written /š/ in transcribing words in these languages, even though it was still pronounced [s].

In any case, this word was evidently pronounced /šims/ in Proto-Sinaitic, and lent its name and letter shape to the Proto-Sinaitic letter 𐤎 and to the corresponding South Semitic letter 15. 𐤎 𐤎. Further evidence for this is that the Old North Arabian variant of 𐤎 is 𐤎, which looks exactly like a sun! The Old South Arabian and Old North Arabian languages adopted the entire alphabet, including this letter to write the /š/ [ʃ] sound (and its later reflex [ʃ] in Old South Arabian). They kept the sun symbol for this sound, even though their word for sun did not begin with this sound, because they didn’t invent it, only adopted it. (In fact the word for “sun” in Old South Arabian was 𐩦𐩨, according to the Wiktionary entry, whose consonants would have been /šms/ [hms]. I don’t know why the last consonant changed from 𐤎 to 𐩨.)

It is impossible to know what name the users of the South Semitic alphabet used for this letter, because the letter names are only known from Ge’ez, not from any earlier South Semitic languages, but Ge’ez had lost this sound and so discarded the letter!

([ahdictionary.com/word/semitic.html](#) and [shodhganga.inflibnet.ac.in/bitstream/10603/37097/2/appendices.pdf](#) do not agree that the original Proto-Semitic stem began with /š/ [ʃ], the former claiming that the consonantal stem was */šms/, and the latter that it was */šms/ or */šmš/, but neither seems to have considered the implications of the Arabic and Old South Arabian forms as I have explained above.)

A. G. Lundin has proposed a different “Proto-Alphabet”, which often follows the South Semitic one, but not always, and definitely not in the case of these three fricatives. (See the last column in the table on the next page and the discussion on [Lundin](#) later on.) In particular, he theorizes that South Semitic 15. 𐤏 𐤏 corresponds to Ugaritic 30. 𐎗/𐎗 and represents a fish, but all we need to do is look at the North Arabian descendant 16. 𐤎 of South Semitic 15. 𐤏 𐤏 to see that it clearly was a sun and not a fish! (See the following box for more info.)

2.1 The History of Some Semitic Fricatives

Proto-Semitic	Proto-Semitic Form of Probable Later Letter Name	Proto-Alphabet (& South Semitic) ^a	Old North Arabian Symbol	Proto-Sinaitic and South Canaanite	Later Symbol Use	Ugaritic (Far-North Canaanite)	Phoenician	North Canaanite & Hebrew	Lundin’s “Proto-Alphabet”
26. */š/ [ʃ]	*šamš “sun” → šamš ^b *šinn “tooth”	15. 𐤏 𐤏	16. 𐤎	𐤎 šimš “sun” ⇒ (symbol lost)	⇒ (symbol lost)	13. 𐎗/𐎗 /š/ [ʃ] šin “tooth”	(Only one symbol retained) ⇒ 21. 𐤍 /š/ [ʃ] shin “tooth” ⇒ ⇒	𐤍 /š/ [ʃ] šemeš / 𐤍 /š/ [ʃ] shin “tooth” (𐤍 šēn)	13. 𐤍
25. */t/ [θ]	*tann “composite bow” *tad “female breast(s)”	27. 𐤌 𐤌	28. 𐤐	𐤌 or 𐤍: tann “composite bow” or tad “female breast(s)” (Pronunciation uncertain, either /t/ [θ] or /s/ [ʃ])	↑ ↑ (⇒ symbol reassigned to a different sound with a new name) ⇒ ⇒	25. 𐎗/𐎗 /t/ [θ] tanna “composite bow”	↓ ↓	(𐤍) /šā nāh/ “to bend”???) 𐤍 šad “female breast(s)”	25. 𐤐
27. */s/ [ʃ]	Original name unknown, possibly šāwt (Ge’ez alphabet), or first syllable possibly šu ¹ (Ugaritic alphabet), meaning unknown in either case.	7. 𐤍 𐤍	7. 𐤎	(new symbol created for Ugaritic) ⇒	⇒ (new symbol created for Ugaritic) ⇒	(30. 𐎗/𐎗)	⇒ ⇒	𐤍 /s/ [ʃ] šin [ˈlin]	28. 𐤏
Note that none of these sounds was the same as the simple [s] sound, which was quite distinct and experienced no changes:									
18. */s/ [s]	?	11. 𐤌 𐤌				11. 𐤌 𐤌	19. 𐤍/𐤍 /s/ [s] samka	21. 𐤎 /s/ [s] samekh “support” (𐤍 sā maḵ “to lean, support”)	a) 𐤎

However, much later, well after the completion of the Old Testament, Hebrew 𐤍 /s/ [ʃ] changed to [s], giving 𐤍 and 𐤎 the same pronunciation.

^a I show the South Semitic symbols here, because this is the only alphabet that retained the full inventory, but this alphabet was developed for a Northwest-Semitic language, probably Proto-Sinaitic, not for a South Semitic language. The importance of this is seen in the next footnote.

^b See the box above entitled [The Proto-Alphabet Letter 15. 𐤏 𐤏 and its Unique History](#) for an explanation of this letter’s name.

3 Hebrew Sounds Retained in the Spoken Language but not Adequately Represented in the Phoenician/Hebrew Alphabet

In earlier versions of this article I had said that Hebrew had retained only 23 of the 29 Proto-Semitic consonants, since the distinction between [ʃ] and [ħ] was clearly retained and eventually distinguished in the spelling, as שׁ and שׂ even though the alphabet officially has only 22 letters. Thus שׁ and שׂ are normally listed as one letter in the alphabet, but have different pronunciations and dotting.^c Eventually the pronunciation of שׁ merged with שׂ, but the spelling distinction was retained.^d The original pronunciation of שׁ was probably [ħ], which is [how Sylvester the cat pronounces his s's in the Warner Brothers cartoons](#).^e This was determined by comparing Hebrew words containing שׁ with the same words in some of the South Semitic languages that retain this sound. However, there are also a few vestiges of evidence in Greek words borrowed from Hebrew:

Proto-Semitic	Early Hebrew	Later Hebrew	Greek	Examples			
				Early Hebrew ^f	Akkadian	Greek	meaning
*/š/ [ħ]	שׁ /š/ [ħ]	שׂ /s/ [s]	[ls] λσ	םֶשֶׁבֶט /'bōšem/ ['bo:lem]		βάλσαμον ['bálsamon]	balsam
*/š/ [ħ]	שׁ /š/ [ħ]	שׂ /s/ [s]	[l] λ	םֶשֶׁדִּים /kaš'dîm/ [kaħ'dîm]	kaldu	Χαλδαῖοι [xa'l'dâioi]	Chaldeans

The Hebrew word םֶשֶׁבֶט /'bōšem/ ['bo:lem] is quite frequent in the Old Testament, usually translated “spice” in modern translations, but the Greek word βάλσαμον is not used to translate it in either the Septuagint or the Greek New Testament.

The Greek word Χαλδαῖοι derives from the Akkadian, in which Proto-Semitic *[ħ] is normally realized as /š/ [ʃ], but according to [William Barrick](#): “Akkadian scholars have long recognized a peculiarity of the Akkadian language: the phenomenon of a phonetic shift of the sibilant (שׁ /š/ [ħ]) to a *lamed* when the sibilant is followed by a dental (ד /d/).” This is not surprising given the original pronunciation, but would make little sense with a pronunciation of /š/ [ʃ].

However, it seems that Hebrew actually retained 25 consonant phonemes, as seen in the IPA column to the right of the Hebrew Alphabet Column in the [large chart above](#), not just 23, using ן and ף to write two consonant phonemes each. The reason they only wrote with 22 letters is because they adopted the Phoenician alphabet to write Hebrew, and the Phoenician dialect of Canaanite had already reduced its consonant inventory to 22. The following chart is taken from [en.wikipedia.org/wiki/Biblical_Hebrew_language#Consonants](#), but I have modified it to make it easier to read:

^c [This dotting](#) was not used to distinguish these two sounds until the second half of the first millennium A.D., so the distinction was only maintained orally up to that time, just as it was for the two pronunciations of ן and ף. The difference is that the latter merged into one sound each before the dotting was invented, whereas the pronunciation distinction of שׁ and שׂ is still maintained today.

^d It might seem that the story of “shibboleth” שִׁבּוֹלֶת /šib'bōlet/ and “sibboleth” שִׁבּוֹלֶת /sib'bōlet/ in Judges 12:6 provides evidence that these sounds were already merging at the time of the judges, and that the merger had progressed farther in some regions than in others. However, this is an apparent case of the merger of שׁ /š/ [ʃ] and שׂ /s/ [s], not of שׁ /š/ [ħ] and שׂ /s/ [s], which is confusing, since there is no evidence that שׁ /š/ [ʃ] and שׂ /s/ [s] had merged in any Northwest Semitic language of this period, according to Hendel ([jstor.org/stable/1357296](#)), and they are still clearly distinguished in Hebrew today. However, Hendel’s article provides a proposed solution, which turns out to have no bearing on our discussion here.

^e In this example the tongue is not pulled back as much as it is for [ħ] in most of the languages that use it, but it is still clearly [ħ] rather than [s].

^f In Hebrew and Aramaic the text between slashes is the traditional transliteration, which matches the written Hebrew form with a late ([Tiberian](#)) pronunciation, whereas the text between // is the probable real pronunciation in [IPA](#). I have not always been able to complete this information for Aramaic.

Proto-Semitic	Later Hebrew	Aramaic	Arabic	Examples					
				Hebrew ^f	Early pron.	Late pron.	Aramaic ^f	Arabic	meaning
*/h/ [χ]	ח /h/ [h]	ח /h/ [h]	[χ] خ	חַמֵּשׁ / <i>hāmiš 'šā</i> /	[χami]ʃa:h]	[χami]ʃa:h]	חַמֵּשׁ / <i>hamā 'šā</i> / [χamə 'ʃa:ʔ]	خمسة [xamsah]	five
				צָרַח / <i>šā 'rah</i> /	[sʰa:'rah]	[sʰa:'rah]	צרח	صرخ [sʰa'rax]	shout (verb)
*/h/ [h]			[h] ح	מָלַח / <i>mā 'lah</i> /	[ma:'lah]	[ma:'lah]	מלח	ملح [milh]	salt (verb)
*/g/ [ʁ]	ע // [ʁ]	ע // [ʁ]	[ʁ] غ	עָרַב / <i>'ō 'rēb</i> /	[ʁo:'reb]	[ʁo:'reb]	עראב	غراب [ʁa'ra:b]	raven
				מְעָרַב / <i>ma 'ā rāb</i> /	[maʁa'ra:b]	[maʁa'ra:b]	ערב	غرب [ʁarb]	west
*/ʕ/ [ʕ]			[ʕ] ع	עָבַד / <i>'ēbed</i> /	[ʕebed]	[ʕebed]	עבד / <i>'ābēd</i> / [ʕabēd]	عبد [ʕabd]	slave

“...these phonemes are also distinguished consistently in the Septuagint of the Pentateuch..., but this becomes more sporadic in later books and is generally absent in Ezra and Nehemiah.”

Numerous examples can also be found in the Greek New Testament:

Proto-Semitic	Later Hebrew	Arabic	Greek	Examples					
				Hebrew ^f	Early pron.	Late pron.	Arabic ^g	Greek	meaning
*/h/ [χ]	ח /h/ [h]	[χ] خ	[x] χ	רַחֵל / <i>rā 'hēl</i> /	[ra:'χe:l]	[ra:'he:l]	(راحيل) [ra:'hi:l]	Ῥαχήλ [raxé:l]	Rachel
*/h/ [h]		[h] ح	—	יִצְחָק / <i>yisʰ hāq</i> /	[yisʰ'ha:q]	[yisʰ'ha:q]	إسحاق [ʔis'ha:q]	Ἰσαάκ [isaák]	Isaac
*/g/ [ʁ]	ע // [ʁ]	[ʁ] غ	[g] γ	עָזָה / <i>'az 'zā</i> /	[ʁaz'za:h]	[ʕaz'za:h]	غزة [ʕazzah]	Γάζα [gáza]	Gaza
				עֲמֹרָה / <i>āmō 'rā</i> /	[ʁamo:'ra:h]	[ʕamo:'ra:h]	عمورة [ʕamu:'rah]	Γόμορρα [gómōra]	Gomorra
				כְּדָרְלֹמֶר / <i>kədārālā 'ōmer</i>	[kəda:rəla:'ʁo:mer]	[kəda:rəla:'ʕo:mer]		Χοδολλογόμορ [xodollōgómōr]	Chedorlaomer
*/ʕ/ [ʕ]		[ʕ] ع	—	עֵשָׂו / <i>'ē 'šāw</i> /	[ʕē'ʔa:w]	[ʕē'ʔa:w]	عيسو [ʕi'su]	Ἡσαῦ [e:sáu]	Esau

Thus these four phonemes were still distinguished at the time of the writing of the Septuagint, in the 3rd century B.C., after the completion of the Old Testament, and it seems probable that the [h] pronunciation of **ח** was retained around that time also. However, by the time the Masoretes developed their diacritic system for clarifying the pronunciation of Tiberian Hebrew in the second half of the first millennium A.D., these distinctions had been lost, and these sounds had their Later Hebrew pronunciation.

4 Aramaic Sounds Retained in the Spoken Language but not Adequately Represented in the Alphabet

The situation of Aramaic is even more complicated. Its alphabet was borrowed in about the year 1000 from the Phoenician Alphabet, which only had 22 letters, and as stated in Note 4 under en.wikipedia.org/wiki/Semitic_languages#Consonants:

^g Those examples in parenthesis in Arabic do not have the expected letter, but since these are names, they were probably borrowed from Hebrew at a late stage.

Although early Aramaic (pre-7th century BCE) had only 22 consonants in its alphabet, it apparently distinguished all of the original 29 Proto-Semitic phonemes, including */d/, */t/, */x/, */s/, */š/, */g/ and */h/ — although by [Middle Aramaic](#) times, these had all merged with other sounds. This conclusion is mainly based on the shifting representation of words etymologically containing these sounds; in early Aramaic writing, the first five are merged with /z/, /š/, /s/, /q/, respectively, but later with /d/, /t/, /t/, /s/, /ʿ/. (Also note that due to [begadkefat](#) spirantization, which occurred after this merger, OAm. /t/→/t/ and /d/→/d/ in some positions, so that PS */t/,/t/ and */d/,/d/ may be realized as either of /t/,/t/ and /d/,/d/ respectively.) The sounds */g/ and */h/ were always represented using the pharyngeal letters ʿ and /h/, but they are distinguished from the pharyngeals in the Demotic-script papyrus Amherst 63, written about 200 BC. This suggests that these sounds, too, were distinguished in the Old Aramaic language, but written using the same letters as they later merged with.

Thus of all the alphabets listed here, Aramaic's was the one *least suited to the language it represented*, with 29 consonants in Early Aramaic and 24 in Later Aramaic being represented by only 22 letters. (Like Hebrew there was a distinction between the sounds later written as **שׁ** and **שׂ** in the Aramaic sections of the Old Testament, but as in Hebrew these [dots](#) were not added until the second half of the first millennium A.D.) Those extra consonant sounds that were not distinguished are marked in **pink** on the chart.

5 A. G. Lundin's reconstruction of "Linear Ugaritic"

[A. G. Lundin](#) (archived link) suggests that the source of the Ugaritic [cuneiform](#) alphabet was not cuneiform but a linear alphabet that had a form very close (though not identical) to the "Proto-Alphabet" of all the Semitic languages, presumably derived from Proto-Sinaitic, though he does not make this entirely clear. This "Linear Ugaritic" corresponded exactly to the Ugaritic alphabet, and in fact he claims to be able to reconstruct the actual forms of the "Linear Ugaritic" letters based on the Ugaritic wedge shapes (with help from the later alphabets). His conclusions (Table I, page 94) are shown in the chart below, with the numbering corresponding to that of the Ugaritic Alphabet in the [chart above](#), with 27 consonants plus 3 extras added later. His system is quite logical and compelling, though of course that does not make it authoritative! However, [Brian Colless](#) (different article than the one mentioned repeatedly above) seems to agree with many of his conclusions, suggesting that he should be taken seriously.

Lundin's theory, then, is that Ugaritic was originally written in a linear alphabet like the other Semitic Languages, but that because it was written on perishable materials no examples have been found. This alphabet was then converted to a cuneiform alphabet in order to write it on clay, a much more permanent medium.

Cuneiform had only two signs: 1. The wedge, usually \blacktriangleleft or \blacktriangleright , though it could have other orientations
2. The angle wedge \blacktriangleleft (Winkelhaken), in other fonts \blacktriangleleft .

The following are Lundin's rules for how the Linear Ugaritic letters were transformed into cuneiform, sometimes rephrased by me to make them clearer. The numbers represent the consonant numbers in the chart. To really understand how the rules work, you need to read the article.

Rule 1: A circle in Linear Ugaritic is represented by the angle wedge in Ugaritic cuneiform (10, 18, 20, 23, 25; Figure 1).

Rule 2: A straight line (or a line with an appendix) in Linear Ugaritic is represented by a wedge in Ugaritic cuneiform. Vertical and horizontal lines retain their orientation, but oblique lines are shown in various ways.

Rule 3: A broken or curved line in Linear Ugaritic is represented by three successive wedges in Ugaritic cuneiform (17, 4, 11). (However, sometimes three successive wedges represent a straight line of three segments as in 5.) Figure 3 shows both cases.

Rule 4: Two parallel wedges in Ugaritic cuneiform usually represent an angle in Linear Ugaritic, not parallel lines (21, 18, 19, 12, 24; Figure 4, misnumbered as Figure 5).

Rule 5: Crossed lines in Linear Ugaritic are represented by two wedges meeting at a right angle (10, 15?; Figure 5, misnumbered as Figure 4). The rest of this rule seems confusing to me, or based on only one real example.

These rules are unidirectional: the cuneiform letters can be derived from the linear letters, but not the reverse. Thus Lundin had to use all of the known linear alphabets as well as the cuneiform to help him reconstruct the presumed original alphabets.

In the chart below, PA, Lundin's reconstructed "Proto-Alphabet", is essentially the same as the Proto-Sinaitic Alphabet, which others have estimated from the 17th–13th century B.C., except that Lundin claims it had symbols for the full 29 consonants of Proto-Semitic. However, in his chart he does not list *š [ʃ/ʃʰ], because this is the one phoneme which had no symbol in the Ugaritic alphabet. Lundin recognizes this, though he calls this phoneme /d/, which is actually its Arabic reflex. Presumably its South Semitic form is the only information we have on this letter, so I have added this at the bottom of the chart.

Beside Lundin's chart I am showing each Ugaritic consonant in two different fonts. The first font ("Aegean") is usually closer to Lundin's analysis, and also seems to be the standard form; the second is the one I have originally used everywhere else in this article, though I have now included both.

Beside these I also show the corresponding South Semitic (Old Yemeni) consonant, again in two different fonts, corresponding to the Sabaic and Qatabanic variations. Lundin seems to have mostly followed the Sabaic forms. As expected, the one Proto-Semitic consonant not listed is 22. *š [ʃ/ʃʰ], corresponding to South Semitic 19.

South Semitic symbol 27. \aleph \aleph , which corresponds to Ugaritic 25. */t/ [θ], looks quite different from Lundin's symbol \aleph , but apparently Lundin's was a standard variation, since it matches the Old North Arabian symbol 28. \aleph .

South Semitic 29. \aleph \aleph , which corresponds to Ugaritic 18. */t/ [θʰ], is also a bit different from Lundin's symbol \aleph , though its correspondence looks plausible.

A. G. Lundin's reconstruction of "Linear Ugaritic" and the "Proto-Alphabet"

F1	F2	SSS	SSQ	Signe	U	U.lin.	P	Parc.	SS	PS	PA	F1	F2	SSS	SSQ	Signe	U	U.lin.	P	Parc.	SS	PS	PA	
1.	→	→	17. 𐤀 𐤁	1.	𐤀	𐤀	𐤀	𐤀	𐤀	𐤀	𐤀	16.	𐤀	𐤀	25. 𐤀 𐤁	16.	𐤀	𐤀	𐤀	𐤀	𐤀	𐤀	𐤀	𐤀
2.	𐤂	𐤂	9. 𐤂 𐤃	2.	𐤂	𐤂	𐤂	𐤂	𐤂	𐤂	𐤂	17.	→	→	13. 𐤂 𐤃	17.	𐤂	𐤂	𐤂	𐤂	𐤂	𐤂	𐤂	𐤂
3.	𐤄	𐤄	20. 𐤄 𐤅	3.	𐤄	𐤄	𐤄	𐤄	𐤄	𐤄	𐤄	18.	𐤄	𐤄	29. 𐤄 𐤅	18.	𐤄	𐤄	𐤄	𐤄	𐤄	𐤄	𐤄	𐤄
4.	𐤆	𐤆	14. 𐤆 𐤇	4.	𐤆	𐤆	𐤆	𐤆	𐤆	𐤆	𐤆	19.	𐤆	𐤆	11. 𐤆 𐤇	19.	𐤆	𐤆	𐤆	𐤆	𐤆	𐤆	𐤆	𐤆
5.	𐤈	𐤈	21. 𐤈 𐤉	5.	𐤈	𐤈	𐤈	𐤈	𐤈	𐤈	𐤈	20.	𐤈	𐤈	18. 𐤈 𐤉	20.	𐤈	𐤈	𐤈	𐤈	𐤈	𐤈	𐤈	𐤈
6.	𐤋	𐤋	1. 𐤋 𐤌	6.	𐤋	𐤋	𐤋	𐤋	𐤋	𐤋	𐤋	21.	𐤋	𐤋	16. 𐤋 𐤌	21.	𐤋	𐤋	𐤋	𐤋	𐤋	𐤋	𐤋	𐤋
7.	𐤎	𐤎	6. 𐤎 𐤏	7.	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎	22.	𐤎	𐤎	28. 𐤎 𐤏	22.	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎
8.	𐤑	𐤑	24. 𐤑 𐤒	8.	𐤑	𐤑	𐤑	𐤑	𐤑	𐤑	𐤑	23.	𐤑	𐤑	5. 𐤑 𐤒	23.	𐤑	𐤑	𐤑	𐤑	𐤑	𐤑	𐤑	𐤑
9.	𐤔	𐤔	3. 𐤔 𐤕	9.	𐤔	𐤔	𐤔	𐤔	𐤔	𐤔	𐤔	24.	𐤔	𐤔	8. 𐤔 𐤕	24.	𐤔	𐤔	𐤔	𐤔	𐤔	𐤔	𐤔	𐤔
10.	𐤘	𐤘	23. 𐤘 𐤙	10.	𐤘	𐤘	𐤘	𐤘	𐤘	𐤘	𐤘	25.	𐤘	𐤘	27. 𐤘 𐤙	25.	𐤘	𐤘	𐤘	𐤘	𐤘	𐤘	𐤘	𐤘
11.	𐤛	𐤛	26. 𐤛 𐤜	11.	𐤛	𐤛	𐤛	𐤛	𐤛	𐤛	𐤛	26.	𐤛	𐤛	22. 𐤛 𐤜	26.	𐤛	𐤛	𐤛	𐤛	𐤛	𐤛	𐤛	𐤛
12.	𐤟	𐤟	12. 𐤟 𐤠	12.	𐤟	𐤟	𐤟	𐤟	𐤟	𐤟	𐤟	27.	𐤟	𐤟	10. 𐤟 𐤠	27.	𐤟	𐤟	𐤟	𐤟	𐤟	𐤟	𐤟	𐤟
13.	𐤢	𐤢	7. 𐤢 𐤣	13.	𐤢	𐤢	𐤢	𐤢	𐤢	𐤢	𐤢	28.	𐤢	𐤢	17. 𐤢 𐤣	(1.)	𐤢	𐤢	𐤢	𐤢	𐤢	𐤢	𐤢	𐤢
14.	𐤥	𐤥	2. 𐤥 𐤦	14.	𐤥	𐤥	𐤥	𐤥	𐤥	𐤥	𐤥	29.	𐤥	𐤥	17. 𐤥 𐤦	(1.)	𐤥	𐤥	𐤥	𐤥	𐤥	𐤥	𐤥	𐤥
15.	𐤨	𐤨	4. 𐤨 𐤩	15.	𐤨	𐤨	𐤨	𐤨	𐤨	𐤨	𐤨	30.	𐤨	𐤨	15. 𐤨 𐤩	28.	𐤨	𐤨	𐤨	𐤨	𐤨	𐤨	𐤨	𐤨

The dates for U.Lin. and PA are Lundin's estimates. The other dates are merely those of the first documented examples, and in fact Lundin suspects that the 29-consonant SS variety existed in Palestine and Syria as early as the 15th century B.C.

19. 𐤀 𐤁 29. 𐤀 𐤁 𐤀 𐤁 𐤀 𐤁

Column Titles:	Signe = Proto-Semitic consonant	PS = Phoenician Script (for official or monumental use)
F1 = Font 1 (Aegean)	U = Ugaritic (14 th –13 th century B.C.)	SS = South Semitic Alphabet (10 th century B.C., aka the Old Yemeni Alphabet)
F2 = Font 2 (MPH 2B Damase)	U.Lin. = Lundin's reconstructed "Linear Ugaritic"	PA = Lundin's reconstructed Proto-Alphabet (late 16 th – early 15 th century B.C.)
SSS = South Semitic Alphabet, Sabaic font	P = Phoenician (12 th –11 th century B.C.)	Black numbers (except parenthesized) represent the established alphabetical orders. The red numbers represent the 29 consonants of Proto-Semitic, PA, and SS.
SSQ = South Semitic Alphabet, Qatabanic font	Parc. = Partial??	

Lundin says that Ugaritic 𐎗, corresponding to South Semitic 17, had two different forms, both representations of a bull's head, represented by the Phoenician letter 𐤍, and 𐤎 the South Semitic one 17. 𐎗 𐎘 (though again, his form doesn't look exactly like the ones in the fonts, though again the Old North Arabian form 𐩣 does!). He theorizes that both were used in Ugaritic in order to provide a way to write the three vowels, 𐎗 for [ʔa], and 𐎘 flipped sideways to provide forms to represent [ʔi] and [ʔu].

6 Semitic Alphabets in South Semitic Alphabetical Order

In the chart below the columns containing the actual South Semitic alphabets are marked at the top of the column with ↓. The Ugaritic alphabet has been found in [both North Semitic and South Semitic order](#), and so is marked ↓↓; it is numbered in the South Semitic order, but the North Semitic order is also shown for reference. Letters in the same row generally have the same derivation. (Ugaritic letters are given in two different fonts, [Aegean](#) and [MPH 2B Damase](#). The former seems to be the standard form, as shown [here](#). I am not sure why the latter has a few very divergent forms.)

There is some variation in the South Semitic order, as shown in the variation in numbering. The Ugaritic order is probably the original, but because the Old Yemeni or South Semitic Alphabet is the only one (along with the Old North Arabian alphabet which was derived from it) with a complete inventory of the original Semitic consonants, I have listed them in this order, marking variations in Ugaritic, Ge'ez, and Old North Arabian in red. (A couple of the South Semitic consonants had significant changes in pronunciation from their Proto-Semitic counterparts, and these are shown in the chart below in red in the IPA column)

The [Modern South Arabian languages](#) are apparently not descended from [the languages that used the Old Yemeni Alphabet](#), all of which died out no later than 600 A.D., though they are related to them. Even so, in both cases all of the original 29 Proto-Semitic consonants are retained, with only a couple of changes in pronunciation in the Modern South Arabian languages (marked in red in the chart below).

For the [Old North Arabian alphabet](#) (a derivative of the Old Yemeni or South Semitic Alphabet) there are absolutely no free fonts available to represent it! However, I was able to find images for the letters. You can see the characters themselves and a description at unicode.org/charts/PDF/Unicode-7.0/U70-10A80.pdf, pages 2 and 3. This alphabet was not included in the North Semitic chart, since it does not differ essentially from the Old Yemeni or South Semitic Alphabet, though one letter is placed differently.

The web sites unicode.org/charts/PDF/U10A60.pdf and unicode.org/charts/PDF/Unicode-7.0/U70-10A80.pdf give names for all of the letters in the Old Yemeni or South Semitic Alphabet and in the Old North Arabian alphabet respectively, but I believe that these names are simply names of convenience taken from various actual names used in other alphabets, or modifications of these, and do not reflect actual knowledge of their original names. I have included these in the chart below, but have colored them **yellow** to show that they are not reliable.

Colors used:

Red: Letters which have been moved out of their standard alphabetical order in order to show their correspondence with the Old Yemeni or South Semitic Alphabet.

Pink: New letters not derived from previous alphabets, representing innovative consonant sounds.

Yellow: Consonant sounds which were lost in a particular language, showing what other consonant they merged with. (Also used for letter names that are assumed to not reflect the actual names in a particular alphabet, as explained above.)

The only languages that still use a form of the South Semitic Alphabet today are those spoken in Ethiopia, which use modifications of the Ge'ez alphabet. As an example of these I have included the Amharic alphabet. It still retains all of the letters in the Ge'ez alphabet, even though it has lost (or merged) a number of the sounds. It is actually a [syllabary](#), with the vowels attached in various ways to the original Ge'ez letters, but I have listed the original forms without an attached vowel (which in the Amharic syllabary actually represent syllables with the vowel normally transliterated as ä).

Proto-Semitic	IPA	Modern South Arabian	↓ Old Yemeni Alphabet	trans-literation	IPA	Name	↓ Old North Arabian Alphabet	Name	↓ Ge'ez Alphabet	trans-literation	IPA	Name	Amharic Alphabet	IPA	↓ Ugaritic Alphabet	trans-literation	IPA	Name	↓ North Semitic order
3750 B.C.?		?	1300 B.C.?				100 B.C.?		100 A.D.						1400 B.C.?				
29	29	29	29				29		24 (26)						28?				
1. *h	h	[h]	1. 𐩦 𐩧	h	h	he	1. 𐩦	heh	1. 𐩦	h	h	hoy	1. 𐩦	h	1. 𐩦/𐩧	h	h	ho	6
2. *l	l	[l]	2. 𐩨 𐩩	l	l	lamedh	2. 𐩨	lam	2. 𐩨	l	l	läwe	2. 𐩨	l	2. 𐩨/𐩩	l	l	lamda	14
3. *ħ	ħ	[ħ]	3. 𐩪 𐩫	ħ	ħ	heth	3. 𐩪	hah	3. 𐩪	ħ	ħ	ħäwt	3. 𐩪	h	3. 𐩪/𐩫	ħ	ħ	hota	9
4. *m	m	[m]	4. 𐩬 𐩭	m	m	mem	4. 𐩬	meem	4. 𐩬	m	m	may	4. 𐩬	m	4. 𐩬/𐩭	m	m	mem	15
5. *k	k'	[k']	5. 𐩮 𐩯	q	q	qoph	5. 𐩮	qaf	8. 𐩮	k'	k'	kaḥ	9. 𐩮	k'	5. 𐩮/𐩯	q	q	qona	23
6. *w	w	[w]	6. 𐩰 𐩱	w	w	waw	6. 𐩰	waw	15. 𐩰	w	w	wäwe	20. 𐩰	w	6. 𐩰/𐩱	w	w	wo	7
7. *š	ʃ	[ʃ]	7. 𐩲 𐩳	s ²	ʃ	shin	7. 𐩲	es-2	5. 𐩲	š	ʃ	säwt	5. 𐩲	s	7. 𐩲/𐩳	š	ʃ	šin	13
8. *r	r	[r]	8. 𐩴 𐩵	r	r	resh	8. 𐩴	reh	6. 𐩴	r	r	rā's	6. 𐩴	r	8. 𐩴/𐩵	r	r	raša	24
9. *b	b	[b]	9. 𐩷 𐩸	b	b	beth	9. 𐩷	beh	9. 𐩷	b	b	bet	10. 𐩷	b	14. 𐩷/𐩸	b	b	beta	2
10. *t	t	[t]	10. 𐩹 𐩺	t	t	taw	10. 𐩹	teh	10. 𐩹	t	t	täwe	12. 𐩹	t	9. 𐩹/𐩺	t	t	to	27
11. *s	s	[s]	11. 𐩻 𐩼	s ¹	s	sat	11. 𐩻	es-1	7. 𐩻	s	s	sat	7. 𐩻	s	10. 𐩻/𐩼	s	s	samka	19
12. *k	k	[k]	12. 𐩽 𐩾	k	k	kaph	12. 𐩽	kaf	14. 𐩽	k	k	kaḥ	18. 𐩽	k	11. 𐩽/𐩾	k	k	kaf	12
13. *n	n	[n]	13. 𐩿 𐻀	n	n	nun	13. 𐩿	noon	12. 𐩿	n	n	nähas	15. 𐩿	n	12. 𐩿/𐻀	n	n	nun	17
14. *ħ	χ	[x]	14. 𐻁 𐻂	ħ	x	kheth	14. 𐻁	khah	11. 𐻁	ħ	χ	ħarm	14. 𐻁	h	13. 𐻁/𐻂	ħ	x	ħa	4
15. *š	ʃ	[ʃ],[h]	15. 𐻃 𐻄	s ³	ʃ	samekh	16. 𐻃	es-3	7. 𐻃	s	s				(15. 𐻃/𐻄)	š		šu	30
16. *p	p	[f]	16. 𐻅 𐻆	f	f	fe	17. 𐻅	feh	25. 𐻅	f	f	äḥ	33. 𐻅	f	16. 𐻅/𐻆	p	p	pu	21
17. *ʔ	ʔ	[ʔ]	17. 𐻇 𐻈	ʔ	ʔ	'alef	18. 𐻇	'alef	13. 𐻇	ʔ	ʔ	'äḥ	17. 𐻇	ʔ	17. 𐻇/𐻈	ʔ	ʔa	alpa	1
18. *ʕ	ʕ	[ʕ]	18. 𐻉 𐻊	ʕ	ʕ	'ayn	19. 𐻉	'ain	16. 𐻉	ʕ	ʕ	'äyn	21. 𐻉	ʔ	18. 𐻉/𐻊	ʕ	ʕ	'ain	20
19. *š	ʃ/tʃ	[ʃ]	19. 𐻋 𐻌	ḍ	ʃ	dhadhe	20. 𐻋	dad	24. 𐻋	š(ḍ)	ʃ	šäppä	32. 𐻋	ts'	(𐻋/𐻌)	š	s ^ʕ	(22)	
20. *g	g	[g]	20. 𐻍 𐻎	g	g	gimel	21. 𐻍	geem	20. 𐻍	g	g	gäml	27. 𐻍	g	20. 𐻍/𐻎	g	g	gamla	3
21. *d	d	[d]	21. 𐻏 𐻐	d	d	daleth	22. 𐻏	dal	19. 𐻏	d	d	dänt	25. 𐻏	d	21. 𐻏/𐻐	d	d	delta	5
22. *ğ	ɣ	[ɣ]	22. 𐻑 𐻒	ğ	ɣ	ghayn	23. 𐻑	ghain	16. 𐻑	ʕ	ʕ	'äyn			22. 𐻑/𐻒	ğ, ʕ	ɣ	ğain	26
23. *t	t'	[t']	23. 𐻓 𐻔	t'	t'	teth	24. 𐻓	tah	21. 𐻓	t'	t'	täyt	28. 𐻓	t'	23. 𐻓/𐻔	t'	t'	tet	10
24. *z	z/dz	[z]	24. 𐻕 𐻖	z	z	zayn	25. 𐻕	zain	17. 𐻕	z	z	zäy	22. 𐻕	z	24. 𐻕/𐻖	z	z	zeta	8
25. *ḍ	ḍ	[ḍ]	25. 𐻗 𐻘	ḍ	ḍ	dhaleth	26. 𐻗	thal							25. 𐻗/𐻘	ḍ→d	ḍ	ḍal	16
26. *y	j	[j]	26. 𐻙 𐻚	y	j	yodh	27. 𐻙	yeh	18. 𐻙	y	j	yämän	24. 𐻙	j	26. 𐻙/𐻚	y	j	yod	11
27. *t	θ	[θ]	27. 𐻛 𐻜	t	θ	thaw	28. 𐻛	theth	7. 𐻛	s	s				27. 𐻛/𐻜	t	θ	tanna	25

Proto-Semitic	IPA	Modern South Arabian	↓ Old Yemeni Alphabet	trans-literation	IPA	Name	↓ Old North Arabian Alphabet	Name	↓ Ge'ez Alphabet	trans-literation	IPA	Name	Amharic Alphabet	IPA	↓ Ugaritic Alphabet	trans-literation	IPA	Name	North Semitic order
28. *š	s'/ts'	[s']	28. 𐩨	𐩨	ʃ	s ^ʃ	𐩨	šad	23. 𐩨	ʃ	ts'	šādäy	31. 𐩨	ts'	28. 𐩨/𐩨	ʃ	s ^ʃ	sade	22
29. *θ	θ'/tθ'	[θ']	29. 𐩩	𐩩	z	θ ^ʃ	𐩩	zah							19. 𐩨/𐩨 ?z/ð ^ʃ	z→g	ð ^ʃ	zu	18
			𐩨	No. 1			𐩨	1	22. 𐩨	p	p'	päyt	30. 𐩨	p'	(29. 𐩨/𐩨)	i	ʔi	i	28
			𐩨	No. 50			𐩨	10	26. 𐩨	p	p	psa	34. 𐩨	p	(30. 𐩨/𐩨)	u	ʔu	u	29
			𐩨	numeric indicator			𐩨	20					8. 𐩨	ʃ	𐩨/𐩨				
													11. 𐩨	v					
													13. 𐩨	tʃ					
													16. 𐩨	ɲ					
													19. 𐩨	h(x)					
													23. 𐩨	ʒ					
													26. 𐩨	dʒ					
													29. 𐩨	tʃ'					

⁴ If we compare lines 7 and 15 of the South Semitic chart above, we see that the Old Yemeni sounds and the Ugaritic sounds seem to have swapped places. However, in fact Ugaritic 𐩨/𐩨, numbered 15 in the [South Semitic alphabetical order](#) and 30 (as if an afterthought) in the North Semitic order, was apparently [not used in Ugaritic to represent a separate sound](#), but was either unused or was used for the same sound as 10. 𐩨/𐩨 [s]. Therefore it is not surprising that the Ugaritic alphabet swapped 7 and 15. This is why it seems probable that Ugaritic 𐩨/𐩨 was intended to write the [ʃ] sound in other Semitic languages, traditionally transcribed /š/. For more info, see [The Outcome of the Three Fricatives /š/ \[ʃ\], /t/ \[θ\], and /s/ \[ʃ\]](#).