Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Organisation Internationale de Normalisation
Международная организация по стандартизации

Doc Type: **Working Group Document**
Title: **Revised proposal for encoding the Phoenician script in the UCS**
Source: **Michael Everson, EGT (IE)**
Status: **Expert Contribution**
Action: **For consideration by JTC1/SC2/WG2 and UTC**
Date: **1998-11-23**

This document is based on the proposal written by Rick McGowan and published in UTR#3, and the proposal written by me in N1592. It is a revision of N1592, and contains the proposal summary.

A. Administrative

1. Title
Revised proposal for encoding the Phoenician script in the UCS.
2. Requester's name
Michael Everson, EGT (WG2 member for Ireland).
3. Requester type
Expert contribution.
4. Submission date
1998-11-23.
5. Requester's reference
6a. Completion
This is a complete proposal.
6b. More information to be provided?
No.

B. Technical – General

1a. New script? Name?
Yes. Phoenician.
1b. Addition of characters to existing block? Name?
No.
2. Number of characters
27.
3. Proposed category
Category C.
4. Proposed level of implementation and rationale
Phoenician requires Level 1 implementation.
5a. Character names included in proposal?
Yes.
5b. Character names in accordance with guidelines?
Yes.
5c. Character shapes reviewable?
Yes (see below).

6a. Who will provide computerized font?
Michael Everson.
6b. Font currently available?
Yes.
6c. Font format?
TrueType.
7a. Are references (to other character sets, dictionaries, descriptive texts, etc.) provided?
Yes.
7b. Are published examples (such as samples from newspapers, magazines, or other sources) of use of proposed characters attached?
See annex A below.
8. Does the proposal address other aspects of character data processing?
Yes (see below).

C. Technical – Justification

1. Contact with the user community?
Attempted…
2. Information on the user community?
Scholarly community and script enthusiasts.
3a. The context of use for the proposed characters?
Phoenician script is commonly used to write Phoenician.
3b. Reference
See bibliography below.
4a. Proposed characters in current use?
Yes.
4b. Where?
By scholars and script enthusiasts worldwide.
5a. Characters should be encoded entirely in BMP?
Yes. Positions U+0760 – U+077F are proposed for the encoding.
5b. Rationale
Accordance with the Roadmap.
6. Should characters be kept in a continuous range?
Yes.
7a. Can the characters be considered a presentation form of an existing character or character sequence?
No.
7b. Where?
7c. Reference
8a. Can any of the characters be considered to be similar (in appearance or function) to an existing character?
No, apart from the usual resemblences with related scripts like Latin, Greek, Runic, Etruscan, etc.
8b. Where?
8c. Reference
9a. Combining characters or use of composite sequences included?
No.
9b. List of composite sequences and their corresponding glyph images provided?
No.
10. Characters with any special properties such as control function, etc. included?
No.

E. Proposal

User community

The Phoenician alphabet and its successors were widely used over a broad area surrounding the Mediterranean Sea. Phoenician evolved over several hundred years from the end of the -2nd millennium (before -1100) with some modifications until the -2nd century, with the last neo-Punic inscriptions dating from about the 3rd century. The Phoenician alphabet is a forerunner of the Etruscan, Latin, Greek, Arabic, Hebrew, and Syriac scripts among others, many of which are still in modern use. It has also been suggested that Phoenician is the ultimate source of the Indic scripts descending from Brahmi and Kharoshthi.

Phoenician is quintessentially illustrative of the historical problem of where to draw lines in an evolutionary tree of continuously changing scripts in use over thousands of years. The twenty-two letters in the Phoenician block may be used, with appropriate font changes, to express Early Phoenician, Moabite, Early Hebrew, Later Phoenician, and Punic, and possibly some Early Aramaic. It is especially intended for use with Phoenician and Punic. The historical cut that has been made here considers the line from Phoenician to Punic to represent a single continuous branch of script evolution.

Processing

Phoenician is generally written from right to left horizontally. Phoenician language inscriptions usually have no space between words; there are sometimes dots between words in later inscriptions (*e.g.* in Moabite inscriptions). Typical fonts for the Phoenician and especially Punic have very exaggerated descenders. These descenders help distinguish the main line of Phoenician evolution toward Punic from the other (*e.g.* Hebrew) branches of the script, where the descenders instead grew shorter over time.

Numerals

Phoenician numerals are imperfectly known. Faulmann 1880 is the only source found to date with a complete chart (see annex A), giving a large number of glyph variants. Peignot 1982:22 gives an example showing that they are related to Aramaic numerals; he writes the example 𐤙𐤙𐤚𐤚𐤛 which means 143 (100 + 20 + 20 + 1 + 1 + 1). Note that the numbers go from right to left.

Unicode Character Properties

Spacing letters, category “Lo”, bidi category “R” (strong right to left)

xx00-xx15

Spacing numbers, category “No”, bidi category “R” (strong right to left)

xx16-xx19

Symbols, category “Po”, bidi category “ON” (other neutral)

xx1F

Bibliography

Daniels, Peter T., and William Bright, eds. 1996. *The world’s writing systems*. New York; Oxford: Oxford University Press. ISBN 0-19-507993-0

Faulmann, Carl. 1990 (1880). *Das Buch der Schrift.* Frankfurt am Main: Eichborn. ISBN 3-8218-1720-8

Gaur, Albertine. 1992. *A history of writing*. London: The British Museum. ISBN 0-7123-0270-0

Haarmann, Harald. 1990. *Die Universalgeschichte der Schrift.* Frankfurt: Campus. ISBN 3-593-34346-0

Healey, John F. 1990. *The early alphabet.* (Reading the past). London: British Museum. ISBN 0-7141-8073-4

Imprimerie Nationale. 1990. *Les caractères de l'Imprimerie Nationale*. Paris: Imprimerie Nationale Éditions. ISBN 2-11-081085-8

Nakanishi, Akira. 1990. *Writing systems of the world: alphabets, syllabaries, pictograms.* Rutland, VT: Charles E. Tuttle. ISBN 0-8048-1654-9

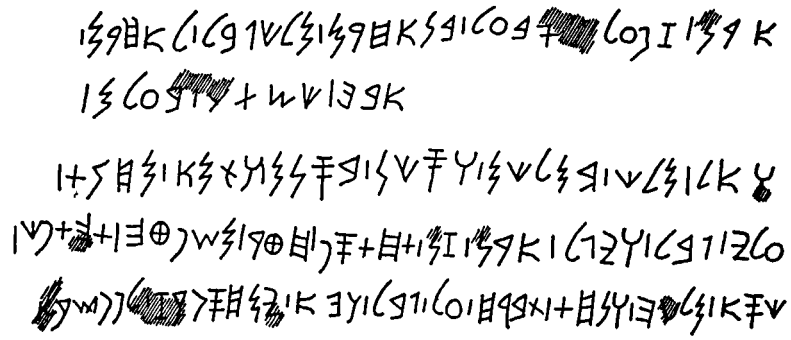
Peignot, Jérôme. 1982. *Du chiffre*. Paris: Jacque Damase, Éditeur.

Robinson, Andrew. 1995. *The story of writing*. London: Thames & Hudson. ISBN 0-500-01665-8

Unicode Consortium. 1992. *Unicode Technical Report #3: exploratory proposals.*

Annex A

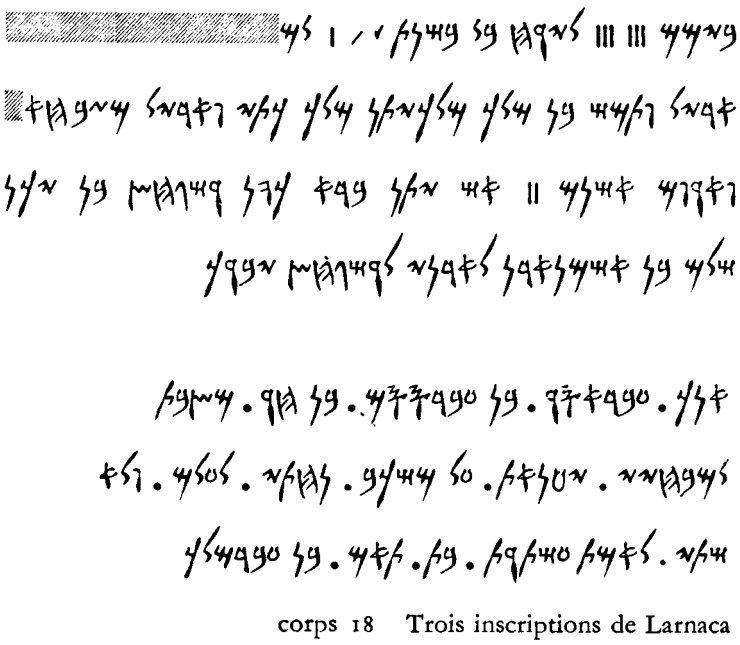
Sample from Healey 1990:27.



12 Phoenician inscription of Ahiram. From Byblos, late 11th century BC.

Note the use of the PHOENICIAN WORD SEPARATOR with a short vertical glyph here.

Sample from Imprimerie Nationale 1990:161.



corps 18 Trois inscriptions de Larnaca

Note the use of digits (6, 1, 2) and of the PHOENICIAN WORD SEPARATOR with dot glyph in the second passage.

Sample from Faulmann 1880.

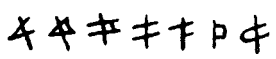
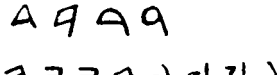
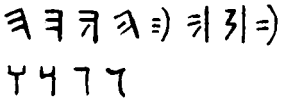
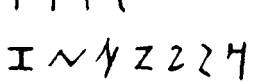
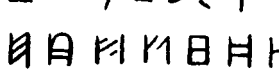
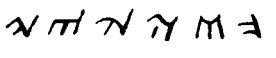
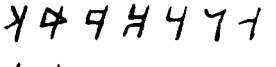
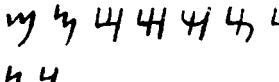
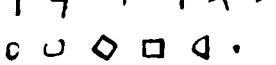
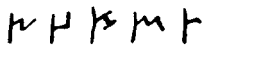
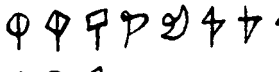
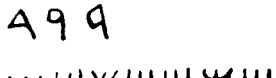
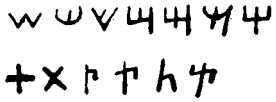
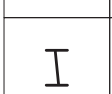
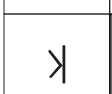
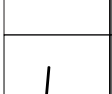
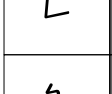
Phönikische Zeichen	Phönikische Zahlen	Wert	
		1	1
		2	1 + 1
		3	1 + 1 + 1
		4	1 + 1 + 1 + 1
		5	3 + 2
		6	3 + 3
		7	3 + 3 + 1
		8	3 + 3 + 2
		9	3 + 3 + 3
		10	10
		11	10 + 1
		20	20
		21	20 + 1
		30	20 + 10
		40	20 + 20
		70	20 + 20 + 20 + 10
		80	20 + 20 + 20 + 20
		100	100
		200	2 + 100
		300	2 + 100

TABLE XX - Row 07: PHOENICIAN

	xx0	xx1
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E		
F		

G = 00
P = 00

TABLE XX - Row xx: PHOENICIAN

dec	hex	Name
000	00	PHOENICIAN LETTER ALEPH
001	01	PHOENICIAN LETTER BETH
002	02	PHOENICIAN LETTER GIMEL
003	03	PHOENICIAN LETTER DALETH
004	04	PHOENICIAN LETTER HE
005	05	PHOENICIAN LETTER WAW
006	06	PHOENICIAN LETTER ZAIN
007	07	PHOENICIAN LETTER HETH
008	08	PHOENICIAN LETTER THETH
009	09	PHOENICIAN LETTER YODH
010	0A	PHOENICIAN LETTER KAPH
011	0B	PHOENICIAN LETTER LAMED
012	0C	PHOENICIAN LETTER MEM
013	0D	PHOENICIAN LETTER NUN
014	0E	PHOENICIAN LETTER SAMEKH
015	0F	PHOENICIAN LETTER AIN
016	10	PHOENICIAN LETTER PE
017	11	PHOENICIAN LETTER SAN
018	12	PHOENICIAN LETTER QOPPA
019	13	PHOENICIAN LETTER RESH
020	14	PHOENICIAN LETTER SHIN
021	15	PHOENICIAN LETTER TAU
022	16	PHOENICIAN NUMERAL ONE
023	17	PHOENICIAN NUMERAL TEN
024	18	PHOENICIAN NUMERAL TWENTY
025	19	PHOENICIAN NUMERAL ONE HUNDRED
026	1A	(This position shall not be used)
027	1B	(This position shall not be used)
028	1C	(This position shall not be used)
029	1D	(This position shall not be used)
030	1E	(This position shall not be used)
031	1F	PHOENICIAN WORD SEPARATOR

dec	hex	Name