ITS Informationstekniska standardiseringen

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ISO/IEC JTC1/SC2/WG2 N 1210

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Title: **Proposal Concerning Inclusion of the Runic Characters**
Source: **The Swedish Member Body SIS**
Status: **Member Body Contribution**
Action: **For Consideration by WG 2**

The attached proposal is produced by the ISORUNES Project. This project was initiated in 1993 by the Central Board of National Antiquities, Sweden, and has included runologists from the Scandinavian countries, Germany and the UK as well as character coding expertise.

It is the position of the Swedish Member Body that this proposal should be included into ISO/IEC 10646.

Best regards,

ITS
Information Technology Standardization

for Bo Viklund

Wera Lundström

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Central Board of National Antiquities
Sweden

The ISORUNES Project

•1995-04-26

Proposal to ISO/IEC JTC1/SC2/WG2 Concerning Inclusion into ISO/IEC 10646 of the Repertoire of Runic Characters

Abstract: This proposal is about inclusion of the Runic script in ISO/IEC 10646, the Universal Multiple-Octet Coded Character Set, and thereby in Unicode. It covers the Runic script throughout its history and over its entire area of distribution. The addition of 69 characters is proposed. Extensive background information about runes is given. The proposal has been prepared by an international team of runic scholars in the project ISORUNES, sponsored by the Nordic Cultural Fund and the Nordic Council of Ministers.

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Annexes

Annex A. Summary form

ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM
TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[3]

Please fill Sections A, B and C below. Section D will be filled by SC 2/WG 2.

A. Administrative

1. Requester's name: SIS-ITS
2. Requester type (Member body/Liaison/Individual contribution): Member body
3. Submission date: 1995-04-26
4. Requester's reference (if applicable): _____
5. (Choose one of the following:)
   This is a complete proposal: X ; or,
   More information will be provided later: _____

B. Technical - General

1. (Choose one of the following:)
   a. This proposal is for a new script (set of characters): X
      Proposed name of script: Runic
   b. The proposal is for addition of character(s) to an existing block?: _____
      Name of the existing block: _____
2. Number of characters in proposal: 69
3. Proposed category per SC 2/WG 2 N1116: C
4. Proposed Level of Implementation (1, 2, 3 or ?): 1
   Is a rationale provided for the choice? Yes
   If Yes, reference: Section III F
5. Is a repertoire including character names provided?: Yes, Section IV
   a. If YES, are the names in accordance with the 'character naming guidelines' in Annex K of ISO/IEC 10646-1? Yes
   b. Are the character shapes legible? Yes
6. Who will provide the appropriate computerized font for publishing the standard?
   SIS-ITS
   If available now, identify source(s) for the font:
   Rätt Satt Hård & Lagman HB

[3] (Form number: N-1116-F designed at the San Francisco, WG 2 meeting 26,on 1994-10-14; Revised 1995-01-27

7. References:

a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided: Yes, Section VI

b. Are published examples (such as samples from newspapers, magazines, or other sources) of use of proposed characters attached? Yes, Annex D

C. Technical - Justification

1. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included.: X
   Reference: Section III C

2. The context of use for the proposed characters (type of use; common or rare) is included. X
   Reference: Section III C

3. Are the proposed characters in current use by the user community? Yes
   If YES, where? Reference: Section VI

4. After giving due considerations to the principles in N 1116 must the proposed characters be entirely in the BMP? Yes
   If YES, is a rationale provided? Yes
   If YES, reference: Section III D

5. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? Yes

6. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? No
   If YES, is a rationale for its inclusion provided?
   If YES, reference:

7. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? Yes
   If YES, is a rationale for its inclusion provided? Yes
   If YES, reference: Section III E

8. Does the proposal include use of composite sequences? No
   If YES, is a rationale for such use provided?
   If YES, reference:
   Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided ?
   If YES, reference:

D. SC 2/WG 2 Administrative (To be completed by SC 2/WG 2)

1. Relevant SC 2/WG 2 document numbers:

2. Status (list of meeting number and corresponding action or disposition):

========== END OF PROPOSAL SUMMARY INFORMATION ==========

Annex B: List of Involved Runologists

A preliminary version of this proposal was sent to the following runologists and linguists for comments:

Sweden:

Prof. Sture Allén, Göteborg University
Prof. Benny Brodda, Stockholm University
Head of Division Helmer Gustavson, Central Board of National Antiquities
Dr. Phil. Svante Lagman
Dr. Phil. Rune Palm, Stockholm University
Prof. Lena Peterson, Uppsala University
Dr. Phil. Börje Westlund, Linköping University
Dr. Phil. Henrik Williams, Uppsala University

Denmark:

Head of Division Marie Stoklund, National Museum, Copenhagen

England:

Prof. Michael Barnes, University College London
Prof. Ray Page, Corpus Christi College, Cambridge

Norway:

Prof. Jan Ragnar Hagland, University of Trondheim
Prof. James Knirk, Runearkivet, Oslo

Germany:

Prof. Dr. Klaus Düwel, Georg-August-Universität, Göttingen

USA:

Prof. Elmer H. Antonsen, University of Illinois

Annex C. Main Runic Font

Windows 3.1
Teckenuppsättning: ANSI
Fontnamn: Futhark ISO

	0 48	@ 64	P 80	` 96	p 112	128	144	fast mellan-slag	° 176	À 192	Ð 208	à 224	ð
! 33	1 49	A 65	Q 81	a 97	q 113	129	‘ 145	¡ 161	± 177	Á 193	Ñ 209	á 225	ñ 241
" 34	2 50	B 66	R 82	b 98	r 114	, 130	’ 146	¢ 162	² 178	Â 194	Ò 210	â 226	ò 242
# 35	3 51	C 67	S 83	c 99	s 115	ƒ 131	“ 147	£ 163	³ 179	Ã 195	Ó 211	ã 227	ó 243
$ 36	4 52	D 68	T 84	d 100	t 116	„ 132	” 148	¤ 164	´ 180	Ä 196	Ô 212	ä 228	ô 244
% 37	5 53	E 69	U 85	e 101	u 117	… 133	• 149	¥ 165	µ 181	Å 197	Õ 213	å 229	õ 245
& 38	6 54	F 70	V 86	f 102	v 118	† 134	– 150	¦ 166	¶ 182	Æ 198	Ö 214	æ 230	ö 246
' 39	7 55	G 71	W 87	g 103	w 119	‡ 135	— 151	§ 167	· 183	Ç 199	× 215	ç 231	÷
(40	8 56	H 72	X 88	h 104	x 120	ˆ 136	˜ 152	¨ 168	¸ 184	È 200	Ø 216	è 232	ø 248
) 41	9 57	I 73	Y 89	i 105	y 121	‰ 137	™ 153	© 169	¹ 185	É 201	Ù 217	é 233	ù 249
* 42	: 58	J 74	Z 90	j 106	z 122	Š 138	š 154	ª 170	º 186	Ê 202	Ú 218	ê 234	ú 250
+ 43	; 59	K 75	[91	k 107	{ 123	‹ 139	› 155	« 171	» 187	Ë 203	Û 219	ë 235	û 251
, 44	< 60	L 76	\ 92	l 108	| 124	Œ 140	œ 156	¬ 172	¼ 188	Ì 204	Ü 220	ì 236	ü 252
- 45	= 61	M 77	] 93	m 109	} 125	141	157	- 173	½ 189	Í 205	Ý 221	í 237	ý 253
. 46	> 62	N 78	^ 94	n 110	~ 126	142	158	® 174	¾ 190	Î 206	Þ 222	î 238	þ 254
/ 47	? 63	O 79	_ 95	o 111	127	143	Ÿ 159	¯ 175	¿ 191	Ï 207	ß 223	ï 239	ÿ

I. Summary of the Proposal

The historic Runic script is of great importance to the study of the early and Medieval societies in the German, scandinavian and Anglo-saxon area. The runic inscriptions form an indispensable source for the knowledge of the development of the Germanic languages.

Since 1993 runologists have studied the problem of how to best encode the Runic script in ISO/IEC 10646. This proposal is produced by the ISORUNES project, which includes runologists from Sweden, Norway, Denmark, the UK, and Germany. Experts in the fields of runology, linguistics, and character set technology have given comments on an earlier draft of the proposal, which have influenced the final proposal.

Some 6000 runic inscriptions are known. They cover a period from the first century A.D. to the nineteenth century and were used in geographically separated societies.

The original old futhark (runic alphabet) contained 24 runes:

ᚠᚢᚦᚨᚱᚲᚷᚹ ᚺᚾᛁᛃᛇᛈᛉᛊ ᛏᛒᛖᛗᛚᛜᛞᛟ

They are usually transliterated in this way:

f u þ a r k g w h n i j ï p ʀ s t b e m l ŋ d o

In England and Friesland seven additional runes were added in the period 5th century – 9th century.

In the Scandinavian countries the *futhark* changed in a different way and in the 9th century the simplified younger futhark appears. It consists of only 16 runes, some of which, however, are used in two different forms. The long-branch form is shown here:

ᚠᚢᚦᚬᚱᚴ ᚼᚾᛁᛅᛋ ᛏᛒᛘᛚᛦ
f u þ o r k h n i a s t b m l ʀ

The use of runes continued in Scandinavia during the MiddleAges. The *futhark* now was influenced by the Latin alphabet and new runes were invented so there was full correspondence with the Latin letters.

A total of 69 runic characters are proposed to be included in the BMP of ISO/IEC 10646, on implementation level 1. 63 of these are runic letters, 3 are interpunctuation marks, and 3 are runic symbols. The proposed order of the runic characters follows more or less the alphabetical order of the common transliterations of the runes.

The proposed code table is included in Section IV. The special problems with encoding of historic scripts and how they have been solved in this proposal is explained in Section V.

II. Background

A. Introduction

This proposal has been prepared by the ISORUNES project. The project originates in the fact that the interest in runes steadily has grown. That goes both for specialists in

different professions (linguists, archeologists, historians) and for non-professional persons. Runology is now a growing subject for studies at many universities in Scandinavia, in the United Kingdom and on the Continent. Another reason to start the ISORUNES project is that runology and runes now have entered the computer age. It is possible to write runes with the help of the computer and runic texts are digitally stored for use in databases.

Most people occupied in runology need to write runic text. The usual procedure is to transliterate the runes, which means that every rune is replaced by a corresponding Latin letter. But the method of transliteration brings about a lot of disadvantages which cannot be successfully mastered. Such a disadvantage is for instance the discrepancies between the transliteration and transcription of runes by Latin letters of runic inscriptions from the Viking Age. This is due to the fact that there were only 16 runic characters in the runic alphabet of the Viking Age while there were about 25 phonemes in the Scandinavian language during the same period. The runic character ᛁ could, for instance, correspond to the phonemes *i*, *e* or *ä*. Therefore there is a need to represent the runes by idealized runic glyphs in both professional and non-professional kinds of texts.

Among the scholars taking part in a runic symposium in Norway 1991 there was unanimous opinion that it was desirable to get rid of the transliteration and replace it by real graphic symbols of the runes.

An application in 1992 to the Nordic Cultural Fund and the Nordic Council of Ministers for a project to produce a repertoire of runic characters was granted. The project started in 1993 and the participants met the first time in Norway in March 1993.

The goal of the ISORUNES project is to produce a proposal for a standardized repertoire of runic characters for inclusion of the Runic script into the standard ISO/IEC 10646.

This proposal is a result of the work within the project. The project group consisted of Helmer Gustavson (project leader), Olle Järnefors and Svante Lagman from Sweden, James Knirk from Norway, Marie Stoklund from Denmark, Ray Page from the United Kingdom and Klaus Düwel from Germany.

A preliminary version of this proposal was sent out by SIS-ITS to other runologists in Sweden and internationally (a list is included in Annex B) and to character set experts in Sweden for comments. It was also made available to international experts by publication on the <iso10646@jhuvm.hcf.jhu.edu> mailing list and some other electronic discussion groups. The proposal was then revised by the project group, taking the comments received into consideration.

Two earlier attempts have been made in connection with standardisation activities—but without participation from the runological community—to provide for computer encoding of runic text. These can be found in the ISO/IEC Technical Report on Techniques for using SGML [1] and in the Unicode Technical Report #3 [2].

B. Short History of the Runes

There are known some 6000 runic inscriptions. Chronologically they cover a period from the first century A.D. to the nineteenth century. The oldest runes are known from the first century A.D. They are probably all devised on the pattern of the Latin alphabet. There were many close contacts between the Roman empire and Germanic tribes at the beginning of our era and in the first centuries of it. The coming into being of the runes and the use of them are probably a result of these contacts.

Almost every rune can, so far as their shapes concern, be derived from the Roman capitals, but their sound systems are not always in accordance. The most conspicious difference between the Latin and the runic alphabets is the order of the letters. The runic alphabet is usually known as the *futhark* from the name of its first six letters. The order of the runes is, for instance, displayed on the Kylver-stone from Gotland, but we do not know the reason for this order. The *futhark* is divided into three parts, each consisting of eight runes. Another important difference is that every rune has its proper name. The rune has the same property of sound as the property of the initial sound of the name of the rune. The **f**-rune (ᚠ), for instance, is called *fehu*, 'cattle, richies', and has the phonological value *f*.

The oldest, Proto-Germanic *futhark* contained 24 runes:

ᚠᚢᚦᚨᚱᚲᚷᚹ ᚺᚾᛁᛃᛇᛈᛉᛊ ᛏᛒᛖᛗᛚᛜᛞᛟ
f u þ a r k g w h n i j ï p ʀ s t b e m l ŋ d o

Like other primitive writing systems the runes could be written either from left to right or from right to left, or moving first in one direction, then the other (*boustrophedon*). The direction and the position of the branches has no graphematical signification.

The Proto-Germanic *futhark* was used all over the Germanic part of Europe for many centuries in the beginning of our era.

In England and Friesland additions were made to the *futhark*. Anglo-Saxon inscriptions from the period 5th century – 9th century include 31 runic characters:

ᚠᚢᚦᚠᚱᚳᚷᚹ ᚻᚾᛁᛄᛇᛈᛉᛋ ᛏᛒᛖᛗᛚᛝᛞᛟᚪᚫᚣᛡᛠ
f u þ o r c g w h n i j ï p x s t b e m l ŋ d œ ɑ æ y ēa ḡ k k̄

In this system some of the runes had their phonological values altered. The invention of new runes was made necessary because of sound changes in Old English.

In the Scandinavian countries the *futhark* changed in a different way and in the 9th century the Viking Age *futhark* appears. It consists of only 16 runes:

ᚠᚢᚦᚬᚱᚴ ᚼᚾᛁᛅᛋ ᛏᛒᛘᛚᛦ
f u þ o r k h n i ɑ s t b m l ʀ

The language had changed so much that the old *futhark* was no longer an efficient writing system, because a lot of new sounds had appeared in the language. But instead of inventing more runic characters, as in the Anglo-Saxon and Frisian *futhark*, the number was reduced. This was done in a well thought-out way. It was now easier to write with runes because you had not to distinguish between fricatives and stops such as *g* and *k*, and voiced and voiceless consonants, such as *d* and *t*, *b* and *p*. And the vowel runes could stand for several sounds, for instance could the **u**-rune (ᚢ) stand for *u*, *o*, *y* and *ø*. But the new system made it a bit more difficult to read runic inscriptions.

After a while the users of the *futhark* wanted to have the possibility to specify the sound value a bit more exactly and therefore developed a system with a diacritical sign, a dot, which could be added to some of the runes. The dot indicated the sound value was not the usual one of the rune, that is: the dotted **i**-rune (ᛁ) did not mean *i* but rather *æ* or *e*, dotted **u**-rune (ᚤ) did not mean *o* or *u* but rather *ø* or *y*, and dotted **k**-rune (ᚵ) did not mean *k* but rather *ʒ* or *g*. The dotted runes did not count as independent runes

and never appear in inscriptions presenting the *futhark*. The direction and position of the branches were no longer free: there is a difference between the **n**-rune (ᚾ) and the **ɑ**-rune (ᚨ), the **m**-rune (ᛘ) and the **ʀ**-rune (ᛦ).

The orthophonic principle that the initial sound of the name of the rune is equal to its sound value makes some runes shift sound value. The **o**-rune (ᚯ) originates from the primitive **ɑ**-rune (ᚫ). The shape differs a bit but also the phonological value has changed, namely from *a* to *o*. This is because of changes in the language. The name of the primitive **ɑ**-rune was *ansuʀ*. This word later became *āss* and then *oss*, and, as the phonological value of the rune was dependent of its name, the **o**-rune got its value *o*.

The new rune for *a* (ᚭ) is developed from the *jara*-rune (ᛃ). The initial *j* was lost and the name was instead pronounced *ar* and the phonological value became *a*.

During the Viking Age there were three parallel forms of the *futhark*: the long-branch form, the short-twig form and the staveless form. The long-branch form is the one showed above.

In the short-twig form the branches are shortened and appear in most cases on one side of the main stave only:

ᚠᚢᚦᚬᚱᚴ ᚼᚾᛁᛅᛋ ᛏᛒᛚᛦ
f u þ o r k h n i ɑ s t b m l ʀ

The *staveless* runes were probably a variant chiefly used to write messages on wood, but there are some stone inscriptions where this type if runes is used. In these runes the main staves are missing and only the distinctive features of the branches are used.

The use of the runes did not come to an end with the Viking Age. Quite the reverse, they were used even more in Scandinavia during the Middle Ages. Common people continued to write with runes, while the Latin alphabet was used only by the clergy and the laity. And the clergy had to know runes to be able to communicate with common people. The *futhark* now was influenced by the Latin alphabet and new runes were invented so there was full correspondence with the Latin letters. This was achieved by using the dot added to still more runes and by using both long-branch and short-twig variants for different sound values.

For instance *a* was written with the short-twig **ɑ**-rune (ᛅ) and *æ* with the long-branch variant (ᚭ). There are very many variants of the medieval runes but perhaps we could make up a runic alphabet like this:

ᛅᛒᛏᚦᛁᚠᚴ᛫ᛁᚴᛚᛘᚾᚮᛋᛒᚱᛋᛏᚢᚡᛦᚮᚦᚭᚯ
ɑ b d ð e f g h i k l m n o p r s t u v y þ æ ø

The runes were used throughout the Middle Ages. In some parts of Sweden they changed further and were still used in the 19th century.

Runes could be written as ligatures, so called bind-runes. For instance ᛏ and ᚱ could be combined to ᛉ, ᚾ and ᚴ to ᛝ.

Bind-runes were used especially in Proto-Germanic and in Medieval inscriptions, but they appear now and then also in Viking Age inscriptions.

The use of interpunctuation differs a lot, as does the shape of the interpunctuation marks. In the oldest inscriptions interpunctuation marks are often missing and there no space between the words. In the Viking Age the use of interpunctuation is much more common. Mostly it is used between words, but it can also be used in compounds,

for instance ᚼᛅᛚᛘᛋᛏᛅᛁᚾ *Holmsteinn*, or between groups of words, ᛋᛁᛒᛒᛁ᛫ᛅᚴ᛫ᛁᚢᚱᚢᚾᛅ᛫ᚦᚢᚱᚴᚢᚾ *Sibbi ok Jórunn ok Þórgunn*. In the oldest inscriptions the interpunctuation marks often consists of many dots like ⁝ and ⁞. In the Viking Age the mostly used variants are ·, ⁚, ×, ⁘ and ∴. In the Medieval inscriptions the variants with many dots reappear.

The shapes of the runes differ a lot. We can clearly see different handwriting styles, so to say, in the inscriptions, for instance the **r**-rune (ᚱ) and **b**-rune (ᛒ) are often very individually shaped. But even in the inscriptions of one carver, there can be quite large variations. Therefore the forms of the runes appearing in runic fonts are of course idealized.

Runic texts are being digitally stored for use in databases. At the Department of Scandinavian Languages, Uppsala University, all the Swedish, Norwegian and Danish Viking Age inscriptions are already available and in a couple of years all known runic inscriptions should have been digitized [8, 9].

III. General Aspects

A. Category

The Runic script is one of the scripts expected to be included in a future edition of ISO/IEC 10646, when sufficient input and review has been provided, according to Annex N of the standard.

In the preliminary allocation of the remaining coding space of the Basic Multilingual Plane (BMP) of ISO/IEC 10646 adopted by ISO/IEC JTC1/SC2/WG2 [3], the Runic script has been assigned to Category C, Major Extinct Scripts (Small Collections).

The runic letters form a relatively small set of around 60 characters. The runic inscriptions are a relatively large body of literature of great importance to the study of the early and Medieval societies in the German, Scandinavian and Anglo-Saxon areas. They form an indispensable source for our knowledge of the development of the Germanic languages. The runological scholarly community, distributed mainly over Sweden, Denmark, Norway, Germany and the UK, is devoted to the study of this literature. There exists an extensive runological literature. For these reasons, the criteria for a Category C script, "Major Extinct (Small Collection)", are met as regards the runes.

B. Script name

The name *Runic* is proposed for this script. The word *rune* is known from many Germanic languages and denotes any letter of an old alphabet used by Germanic tribes in Northern Europe, especially of the Scandinavians and the Anglo-Saxons. The etymology of the word *rune* is unknown or at least unclear. Probably it belongs to a semantic group of words, related to anomatopoeia or sound symbolism. To the same group belongs, for instance, Latin *rumor*, 'murmur, hearsay', Old English *runian* and German *raunen*, 'whisper, tell secretly'. An old meaning of the word is 'secret, mystery'. In the oldest runic inscriptions the word denotes the message written in the inscription.

The proposed set of characters includes not only runic letters, which form the main part, but also some runic punctuation and symbols used together with runes.

C. User community

The primary user community for this script is scholars in the fields of runology, the history of Germanic languages, and the general history of the Germanic peoples, who would be well served if these characters could be freely used intermixed with other scripts in word processing, text databases, publishing, and text communication such as electronic mail. For this to become a fact, a secondary user community of font providers, text processing software suppliers, and publishing houses will be involved. A tertiary user community consist of the general education system in the countries concerned and of historically interested laymen.

D. Proposed coding in ISO/IEC 10646

The Runic script should be included in the Basic Multilingual Plane of ISO/IEC 10646, so that it can be used in programs implementing the two octet form of UCS. In a simple implementation of a text processing program it can be treated exactly like other left-to-right scripts, such as the Latin and Greek scripts.

E. Similarities to characters already existing in ISO/IEC 10646

The runic characters form an independent system of writing, clearly distinct from the surrounding Latin script. Shape similarities, such as for the i rune and the Latin letter I, are incidental.

During the Middle Ages, the runes **þ** and **ᚹ** (ᚦ and ᚹ) were incorporated into English writing in the Latin script as the letters *thorn* and *wynn*. The former is included ir ISO/IEC 10646. This proposal does not take a stand on whether a new LATINLETTER WYNN should be added or not.

F. Composite sequences

This proposal does not contain any combining characters or composite sequences. Only the seven dotted runes younger, **d** (ᛏ), **ð** (ᚦ), **e** (ᛁ), **g** (ᚵ), **b** with dot (ᛒ), **v** (ᚠ), and **y** (ᚣ), might be treated in this way. This is, however, not an appropriate treatment.

The dot in these runes does not, as typical diacritical marks in the Latin script, have approximately the same shape and position, irrespective of the base character. Instead, its depiction is strongly dependent on the form of the base rune; for the rune **b** with dot (ᛒ), it is even transformed into two dots. Another reason is that the dotted runes are used as independent letters quite distinct from the corresponding undotted rune in the Medieval Nordic writing system. Furthermore, only a negligible amount of coding space would be saved by introducing a combining runic dot, at the price of much unnecessary implementation complexity.

G. Computerized Font

The computerized font displayed in Annex C is provided by Rätt Satt Hård & Lagman HB, Bjärka Säby, S-590 54 STUREFORS, Sweden, and will be offered to ISO for th production of the final standard.

IV. Proposed Code Table

The following code table contains this information about the proposed characters:

P: A proposed code position (in an unspecified row of the BMP)
G: A representative glyph image for the character
N: A suggested ISO character name in English
TP: Transliteration used for primitive runic inscriptions
TA: Transliteration used for Anglo-Frisian runic inscriptions
TV: Transliteration used for Viking-Age Nordic runic inscriptions
TM: Transliteration used for Medieval Nordic runic inscriptions
R: Reference to an enlarged glyph image in Annex C.

P	G	N	TP	TA	TV	TM	R
xx00		(This position shall not be used)					
xx01	ᚨ	RUNIC LETTER PRIMITIVE A	a	æ			65
xx02	ᚪ	RUNIC LETTER ANGLO-FRISIAN A		a			193
xx03	ᛅ	RUNIC LETTER LONG-BRANCH A			a	æ	97
xx04	ᛆ	RUNIC LETTER SHORT-TWIG A			a	a	225
xx05	ᛒ	RUNIC LETTER B	b	b	b	b	98
xx06	ᛓ	RUNIC LETTER SHORT-TWIG B			b		99
xx07	ᛌ	RUNIC LETTER ANGLO-FRISIAN C		c			67
xx08	ᛞ	RUNIC LETTER PRIMITIVE D	d	d			68
xx09	ᛏ	RUNIC LETTER YOUNGER D				d	100
xx0A	ᚦ	RUNIC LETTER YOUNGER EDH				ð	240
xx0B	ᛖ	RUNIC LETTER PRIMITIVE E	e	e			69
xx0C	ᛁ	RUNIC LETTER YOUNGER E			e	e	101
xx0D	ᛠ	RUNIC LETTER ANGLO-FRISIAN EA		ea͡			201
xx0E	ᚠ	RUNIC LETTER F	f	f	f	f	102
xx0F	ᚷ	RUNIC LETTER PRIMITIVE G	g	g			71
xx10	ᚵ	RUNIC LETTER YOUNGER G			g	g	103
xx11	ᚸ	RUNIC LETTER ANGLO-FRISIAN GAR		ḡ			145
xx12	ᚺ	RUNIC LETTER PRIMITIVE H	h				72
xx13	ᚻ	RUNIC LETTER ANGLO-FRISIAN H		h			73
xx14	ᚼ	RUNIC LETTER LONG-BRANCH H			h	h	104
xx15	ᛁ	RUNIC LETTER SHORT-TWIG H			h		161
xx16	ᛁ	RUNIC LETTER I	i	i	i	i	105
xx17	ᛇ	RUNIC LETTER PRIMITIVE EOH	ï	ï			207
xx18	ᛃ	RUNIC LETTER PRIMITIVE J	j				74
xx19	ᛡ	RUNIC LETTER ANGLO-FRISIAN J		j			146
xx1A	ᚲ	RUNIC LETTER PRIMITIVE K	k				75
xx1B	ᛣ	RUNIC LETTER ANGLO-FRISIAN CALC		k			147
xx1C	ᛦ	RUNIC LETTER YOUNGER K			k	k	107
xx1D	ᛤ	RUNIC LETTER ANGLO-FRISIAN KI		k̄			148
xx1E	ᛚ	RUNIC LETTER L	l	l	l	l	108
xx1F	ᛗ	RUNIC LETTER PRIMITIVE M	m	m			77

xx20	ᛘ	RUNIC LETTER LONG-BRANCH M			m	m	109
xx21	ᛙ	RUNIC LETTER SHORT-TWIG M			m		162
xx22	ᚾ	RUNIC LETTER LONG-BRANCH N	n	n	n		110
xx23	ᚿ	RUNIC LETTER SHORT-TWIG N			n	n	241
xx24	ᛜ	RUNIC LETTER PRIMITIVE NG	ŋ				78
xx25	ᛝ	RUNIC LETTER ANGLO-FRISIAN NG		ŋ			209
xx26	ᛟ	RUNIC LETTER PRIMITIVE O	o	œ			79
xx27	ᛠ	RUNIC LETTER ANGLO-FRISIAN O		o			211
xx28	ᚮ	RUNIC LETTER LONG-BRANCH O			o		111
xx29	ᛯ	RUNIC LETTER SHORT-TWIG O			o	o	243
xx2A	ᛰ	RUNIC LETTER YOUNGER O				o	242
xx2B	ᚯ	RUNIC LETTER YOUNGER OE				ø	248
xx2C	ᚱ	RUNIC LETTER YOUNGER O WITH OGONEK				ǫ	244
xx2D	ᛈ	RUNIC LETTER PRIMITIVE P	p	p			80
xx2E	ᛒ	RUNIC LETTER YOUNGER B WITH DOT (P)				p	112
xx2F	ᛕ	RUNIC LETTER YOUNGER P				p	113
xx30	ᚱ	RUNIC LETTER R	r	r	r	r	114
xx31	ᛉ	RUNIC LETTER PRIMITIVE YR	ʀ	x			90
xx32	ᛦ	RUNIC LETTER LONG-BRANCH YR			ʀ	y	122
xx33	ᛧ	RUNIC LETTER SHORT-TWIG YR			ʀ		255
xx34	ᛋ	RUNIC LETTER PRIMITIVE S	s				83
xx35	ᛊ	RUNIC LETTER LONG-BRANCH S		s	s	s	115
xx36	ᛨ	RUNIC LETTER SHORT-TWIG S			s		163
xx37	ᛏ	RUNIC LETTER LONG-BRANCH T	t	t	t		116
xx38	ᛐ	RUNIC LETTER SHORT-TWIG T			t	t	164
xx39	ᚢ	RUNIC LETTER U	u	u	u	u	117
xx3A	ᚡ	RUNIC LETTER YOUNGER V				v	118
xx3B	ᚹ	RUNIC LETTER PRIMITIVE W	w	w			87
xx3C	ᛶ	RUNIC LETTER ANGLO-FRISIAN Y		y			89
xx3D	ᚣ	RUNIC LETTER YOUNGER Y			y	y	121
xx3E	ᛸ	RUNIC LETTER ICELANDIC Y				y	253
xx3F	ᚦ	RUNIC LETTER THORN	þ	þ	þ	þ	254
xx40	᛫	RUNIC SINGLE PUNCTUATION	·	·	·	·	42
xx41	᛬	RUNIC MULTIPLE PUNCTUATION	:	:	:	:	58
xx42	᛭	RUNIC CROSS		+	+	+	43
xx43	ᛮ	RUNIC ARLAUG SYMBOL					165
xx44	ᛯ	RUNIC TVIMADUR SYMBOL					166
xx45	ᛰ	RUNIC BELGTHOR SYMBOL					167

V. Comments on the Code Table

A. Technical Problems with Character Coding of Runic Text

The Runic script is one of the first "historical" or "extinct" or "dead" scripts to be incorporated into ISO/IEC 10646. The only important use of runes today is in scholarly and popular works about the old runic inscriptions and their interpretation. The Runic script illustrates many technical problems that are typical for this kind of scipts.

This proposal for character coding of runes is based on a graphematic analysis. *Graphemes* are the smallest units in a writing system capable of causing a contrast in meaning. Graphemes are abstract units, which may adopt a variety of forms. Those that are analysed as variants of the same grapheme are known as *allographs*. [10]

The knowledge about runes is incomplete and partially conjectural, and still growing slowly. As an example, the two primitive runes **ï** and **þ** (ᛇ and ᛈ) are not known from any word in ancient Scandinavian inscriptions, only from inscriptions of the futhark, the full alphabet itself, in its conventional order.

For obvious reasons, the degree of uniformity of the set of graphemically distincts units and of the graphical shapes used to represent them is considerably lower in a relatively primitive society with no printing technology, than for the scripts used today.

The character encoding of the Runic script is not confined to the needs of a tightly interconnected community of script users under a historically short period of time, as is the case for modern scripts as presently encoded in ISO/IEC 10646. Instead the runic encoding should, ideally, be equally well suited to the needs of different texts from a period of time longer than 1000 years and geographically separated societies with little contact between each other.

Specifically, the following phenomena in the historical and geographical evolution of the runes can be observed:

1) *Homologous evolution*: The introduction of new graphemes evolved from earlier allographs of the same grapheme. An example is the Anglo-Frisian runes **o**, **ɑ** and **æ** (ᚩ, ᚭ, ᚪ), which evolved from the primitive **ɑ**-rune (ᚫ).
2) *Analogous evolution*: The independent evolution at different places and times of runes with similar typical shapes but different meaning, such as the Anglo-Frisian **k**-rune (ᚳ) and the Scandinavian **ʀ**-rune (ᚴ).
3) The *geographical differentiation* of the shape of a rune, e.g. the different typical shapes that the primitive **h**-rune (ᚺ) evolved into in the Anglo-Frisian area (ᚻ) and in the Scandinavian area (ᚼ).
4) The radical *change of typical form* of a rune over time, examplified by the primitive **k**-rune, Anglo-Frisian **c**-rune, and Scandinavian **k**-rune (ᚲ, ᚳ, ᚴ).
5) The simultaneous radical *change of form and phoneme value* of a rune over time. The primitive **j**-rune (ᛃ) evolved into the Viking-Age **ɑ**-rune (ᛅ), changing from a consonant to a vowel.
6) The continuing degeneration of the graphemic system of the original 24-type runic alphabet, in so far as runes for kindred phonemes were no longer clearly distinguished. In parallel with the phonetic evolution of the spoken language, this led to the *radical simplification* of the runes in the 16-type alphabet of the Scandinavian vikings, where e.g. the three primitive runes **u**, **o** and **w** (ᚢ, ᚩ and ᚹ) where replaced by the single Viking-Age rune **u** (ᚢ), which in different contexts could stand for the phonemes *u*, *o*, *y*, *ø*, *v* and *w*.

B. General Treatment of the Runic Script

The Runic script evolved during about 1500 years and also became geographically differrentiated. It went through one phase of radical reduction of the set of graphemes (the Viking-Age 16-type futhark), and then again in Medieval times new graphemes were added under the strong influence of the Latin script used by the Christian Church. The script should not be regarded as one uniform writing system. Instead it is useful to distinguish between four fairly distinct runic writing systems:

1) the primitive runes (c. 100–700 A.D., whole Germanic area)
2) the Anglo-Frisian runes (c. 400–800 A.D., Friesland and England)
3) the Viking Age Nordic runes (c. 700–1100 A.D., Scandinavia, England, Ireland, Isle of Man)
4) the Medieval Nordic runes (c. 1100–1500 A.D., Scandinavia)

For each system there is a stable repertoire of distinct runic letters. For the primitive, Anglo-Frisian, and Viking Age Nordic runes a well-established order between the runes exists (the futhark). The three orders are compatible, with the exception that the **ʀ**-rune (ᛦ) is at the end of the Viking Age futhark, instead of before the **s**-rune (ᛋ).

The wide variety of runic punctuation marks have been reduced to three distinct characters according only to simple aspects of their graphical form, since very little is known about any difference in intended meaning between differently-looking marks.

On calender staves used in Scandinavia during the Middle Ages runes were used as symbols for Sunday letters and golden numbers. To complete the number series 1–19, three additional calendar runes were added. These have been included after the punctuation marks.

This proposal is based on the 24 runes of the old futhark. Runes that appear later in the development of the Runic script have been added. This means that for each of the runic writing systems all graphemes are represented by a distinct runic character. Simultaneously, the coding of "cloned" runes, i.e. runes with the same representative glyph image and the same phonemic value from different runic writing systems, has been avoided.

A total of 69 runic characters are proposed to be included in the BMP of ISO/IEC 10646. The proposed order of the runic characters follows more or less the alphabetical order of the common transliterations of the runes used in runology. This means that the order in the code table reflects the sound values of the runes, rather than their original futhark order, and this is expected to be the most practical order for runological use.

C. The Finer Distinctions between Runic Characters

When a rune in an earlier writing system has evolved into several different runes in a later system, the unification of the earlier rune with one of the later runes has been based on similarity in graphic form rather than similarity in sound value, as shown by character xx01 (ᚫ), which is used for the primitive rune **ɑ** and the Anglo-Frisian rune **æ**, while the Anglo-Frisian rune **ɑ** is represented by the character xx02 (ᚪ).

In cases where a substantial change in the typical graphical form has occured, though the historical continuity is undisputed, unification has not been attempted. This is the reason for keeping e.g. the Anglo-Frisian **j**-rune (ᚸ) distinct from the primitive **j**-rune (ᛃ).

When runes from different writing systems have the same graphic form but different origin and denote different sounds, they have been coded as separate characters, e.g. the primitive **ʀ**-rune and the long-branch **m**-rune (ᛘ).

For 9 of the 16 Viking-Age runes two sharply different graphic forms were used, the *long-branch* and the *short-twig* form. These have been separated as different characters in this proposal, for the following reasons:

- Within each form there are also smaller shape differences, which are insignificant compared to the difference between the two forms.
- Within a certain inscription normally only one of the forms is used. The exceptions from this rule are runologically important.
- When later used in the Medieval writing system, the two forms were used to convey different meanings in a couple of cases.
- In some cases one of the forms has the same graphic shape as a historically unrelated rune in another runic writing system.

There were also a third form of the Viking-Age Nordic runes, the *staveless* runes, a kind of runic short-hand. They have not been included as separate characters in this proposal, since the number of known inscriptions is small and the graphic form of many of the runes show great variability between inscriptions. When encoding these runes, the short-twig character should be used, if both a short-twig and a long-branch character exist.

As an example of form variations within and between the long-branch and the short-twig form, some of the form variants of the Viking-Age **s**-rune is displayed here:

Long-branch **s**, ᛋ: ᛋ, ᛌ, ᛎ, ᛏ
Short-twig **s**, ᛁ: ᛁ, ᛊ, ᛍ

D. Character Naming Principles

This section describes how the character naming guidelines in Annex K of ISO/IEC 10646 have been applied to the runic characters. About the structure of character names it says in essence that a character name can consist of the following parts in this order:

Script Case Type Language Attribute Designation Marks Qualifier

Many of these parts may be empty. An example from ISO/IEC 10646:

LATIN CAPITAL LETTER A WITH ACUTE

where

Script = LATIN
Case = CAPITAL
Type = LETTER
Designation = A
Marks = WITH ACUTE

The following principles have been used to construct the proposed character names.

The Script part of the character names is RUNIC.
The Case part is not used.

The Type part is LETTER except for the punctuation characters and symbols.
The Language part is not used.
The Attribute part shows to which writing system and, for some Viking Age runes, which main form the character belongs:

- PRIMITIVE: Used in the primitive and possibly Anglo-Frisian systems.
- ANGLO-FRISIAN: Used only in the Anglo-Frisian system.
- LONG-BRANCH: Used in the long-branch but not the short-twig form of the Viking-Age system. In many cases also used in the Medieval system. In a few cases also used in one or both of the primitive and the Anglo-Frisian systems.
- SHORT-TWIG: Used in the short-twig form but not the long-branch form of the Viking-Age system. In some cases also used in the Medieval system.
- YOUNGER: Used in the Medieval system and in four cases (YOUNGER E, YOUNGER G, YOUNGER K, YOUNGER Y) also in the Viking-Age system.
- ICELANDIC: Used for one Icelandic addition to the Medieval system.
- No attribute: Used in all four systems.

The Designation is in most cases equal to the commonly used Latin transliteration of the rune. Some names are based on the original name of the rune. The main reason for prefering the transliteration over the original name is that using the transliteration is the most common way of mentioning runes among runologists.

The Marks part is WITH DOT for one dotted rune. The character name for the ᚹ-rune (ᚿ), with Marks part WITH OGONEK, is based on the common Latin transliteration in runic scholarship.

The Qualifier part is not used for runic letters.

E. Some Special Aspects

The majority of runic inscriptions use the left-to-right writing direction. In a few the right-to-left direction, or both directions, is used. The same facilities used for the Arabic and Hebrew scripts should be usable to encode this aspect of runic text.

Conjunct runes, *bind-runes*, occur in some runic inscriptions, often by merging the stems of two adjacent runes. The introduction into ISO/IEC 10646 of a general format character indicating an unconditional merging between the preceding and the following character would also meet this need of the Runic script. When analyzing a conjunct rune into its constituents, two different orders between them are possible in principle, though a lingusitic interpretation of the context normally makes it possible to determine which order was intended.

Another aspect of runic text could be encoded in plain text if a few script-independent format characters were added to ISO/IEC 10646:

- A format character that, if possible, causes the preceding character to be displayed upside-down.
- A format character that, if possible, causes the preceding character to be displayed by its mirror image.
- A format character that, if possible, causes the preceding character to be displayed by the upside-down form of its mirror image.

Although these characters are not needed for runes, it might also be useful to include format characters that rotates the preceding character 90 degrees clockwise or counter-clockwise, and characters that combine this operation with mirroring..

VI. References

[1] ISO/IEC TR 9573:1988
Information Processing—SGML Support Facilites—Techniques for Using SGML
Clause 12

[2] The Unicode Consortium:
Unicode Technical Report #3
1992

[3] Mark Davis, Sten G. Lindberg
Proposed categorization and allocation of characters
ISO/IEC JTC 1/SC 2/WG 2 N 947, 1993-11-03

[4] Sven B. F. Jansson
Runes in Sweden
Gidlunds, Stockholm, 1987
ISBN 91 7844 067 X
187 pp. [English]

[5] Einar Haugen
The Scandinavian Languages. An Introduction to Their History
Faber and Faber, London, 1976
ISBN 0 571 10423 1
P. 118–131, 142–150, 191–194 [English]

[6] Lucien Musset
Introduction à la runologie
Aubier-Montaigne, Paris, 1965
489 pp. [French]

[7] Otto von Friesen
Nordisk kultur VI: Runorna
Bonniers, Stockholm, 1933
264 pp. [Swedish]

[8] Svante Lagman, Henrik Williams
Beskrivning av datorlagringen av det vikingatida runmaterialet
[A Description of a Computerized System for Storing Viking-Age Runic Texts]
In:
Runrön 1.
Uppsala universitet, Uppsala

[9] Lena Peterson
Scandinavian Runic-Text Data Base: a Presentation
In:
Proceedings of the Twelfth Viking Congress, Runrön 9.

[10] David Crystal
The Cambridge Encyclopedia of Language
Cambridge University Press, 1987, p. 194

(Michael P. Barnes: The Runic Inscriptions of
Maeshowe, Orkney. Runrök 8. Uppsala universitet, 1994)

in twelfth-century West Scandinavian inscriptions is **æi** (less often **ai** or **ei**), and in eight occurrences in Maeshowe of the past tense singular of *rísta*, **æi** is what we find (plus one example of **æe** in No. 2). There is, however, a clear example of **rist** in this function in No. 20 and another probable one in No. 8 (on possible reasons for the monophthongal spelling, see p. 153). All in all, therefore, I am inclined to believe that in what I have designated rr. 1–4 we do have just four characters, that these were **rist**, and that they were meant to represent the past tense singular of *rísta*.

Liestøl in his 1968 paper (p. 60) offers two suggestions about the meaning of **yri**: first, that it might be the comparative of the adjective *ungr* (cf. ON *œri* or *yngri* 'younger'), and second, that it could be "a weak form" (i.e., weak nom. masc. sg.) of the adjective *œrr* 'mad', 'wild'. In connection with the latter possibility, he draws attention to the report in *Orkneyinga saga* that when Earl Haraldr Maddaðarsonr and his men took shelter in "Orkahaugr" early in 1153 (1152 according to Liestøl, but this is probably a slip), two of them *œrðusk* 'went mad' (Finnbogi Guðmundsson 1965, 247; cf. pp. 40–41). In his notes on the Maeshowe inscriptions, Liestøl has as many as four suggestions regarding the interpretation of **yri**: (1) that it is the comparative of *ungr* (either—if I have understood him correctly—[y:rɪ], a reflex of pre-syncope **junhiza*, or [ỹ:rɪ], a reflex of ON *yngri* with loss of [ŋg] and nasalisation and lengthening of [y]); (2) that ᛦ denotes /ø:/; (3) that, if (2) is true, ᛦᚱᛁ may be the weak nominative masculine singular of *œrr* (cf. above); (4) that the word could be an early example of the adjective *yr* 'crazy', 'wild', 'frisky' which occurs in Modern Norwegian and is considered to be a variant form of *œrr*. I know of no reason why ᛦ should denote /ø:/, least of all in Maeshowe, where ᚽ was available for this phoneme (cf. pp. 53–5), and I therefore discount that suggestion entirely. The only acceptable phonemic renderings of ᛦᚱᛁ are /yrɪ/, /y:rɪ/ or /ỹ:rɪ/. The first does not, as far as I know, convert into a plausible Norse word; the second is a possible representation of **ýri* 'wild' or **ýri* 'younger', and the third of **ýri* 'younger' (the last either for the reason advanced by Liestøl, or, more straightforwardly, because the root vowel was nasalised by the /n/ in **junhiza*). Such evidence as there is weighs heavily in favour of the comparative interpretation. Old Danish possesses a comparative *yri* 'younger' (Brøndum-Nielsen 1950, 116–17, 167, 180, 395), which could either have developed according to normal processes of sound change or (less plausibly) on analogy with the superlative *yngstær* (Brøndum-Nielsen 1950, 167; Noreen 1923, 103–4). Modern *yr*, on the other hand, appears originally to have been an eastern Norwegian form (Aasen 1918, 960; Ross 1895, 929), and there must be a suspicion that it spread into Norwegian from Swedish at a comparatively late date (common

Annex D. Samples of Published Runic Text
(From: Proceedings of the Third International
Symposium on Runes and Runic Inscriptions.
Runrök 9. Uppsala Universitet, 1994)

THOMAS BIRKMANN

Zum Namen **uifrþuʀ** auf dem Runenstein von Malt

Der Runenstein von Malt

Im Jahre 1987 wurde auf der Nordseite des Flusses Kongeå zwischen den Orten Maltbæk, Askov und Københoved, südwestlich von Vejen in Mitteljütland, ein neuer Runenstein gefunden, der in verschiedener Hinsicht einen sensationellen Fund darstellt. Die Fundumstände, erste archäologische Untersuchungen sowie eine vorläufige Interpretation der Inschrift des Malt-Steins, wie er genannt wird, wurden von Svend Aage Knudsen und Karen Thuesen 1988 veröffentlicht. Die Lesung der Inschrift kann bis auf wenige fragliche Runen als etabliert gelten, problematisch ist dagegen die Interpretation und Einordnung der umfangreichen Inschrift, vgl. dazu die Beiträge von Stoklund 1989, Thuesen 1990, Grønvik 1991 und 1992, Samplonius 1992 sowie Stoklund 1994a in diesem Tagungsband. In zwei senkrechten und sechs waagrechten Zeilen findet sich folgender Text (eine Abbildung der Inschrift bietet Marie Stoklund in ihrem Beitrag, siehe oben S. 180):

A1: ᛋᚢᚫᛁ:ᛏᛁᛏᚢᛚᛏᛁᛏᚢᛚ = **suaai:titultitul**
A2: ᚠᚢᚦᚴᚱᚴ*ᚼᛁᚾᛋᛏᛒᚹᚴᚬ = **fuþqrkhniastbmlʀ**
B1: *ᚢᚾᚬᛁᛋᛁ:ᚾᚴᛁᛋᛏᛁᚴᛋᚾ:*ᚢᚾᚬᛁᛋᛁ = **huaʀisi:alistiqsa:huaʀisi**
B2: ᚢᛁᚠᚱᚦᚢᚬ:ᚴᚾᚱᚦᛁ:ᚾᚠᚱᚾᚠᛏᚾᛋᛁᚾᚠᚢᚦᚱ = **uifrþuʀ:karþi:**
afraftasinifauþr
B3: ᚴᚢᚴ:ᚠᛁᚾᚬ:ᚠᚾᚴᛋ:ᛏᚾᛁᛏᛁᚱᚢᚾᛖᚬ:ᚢ = **kul:finʀ:falṣ:taitirunqʀ:u**
B4: ᚴᛁᚢᛁᚾᚱᚢᚾᛖᚬ:ᛋᚢᚴᛁᚾᛚᛏᚾ:*ᚢᚾᚬᛋ = **ḳiuinrunqʀ:sulialta:huaʀ** (oder:
qiuin...)
B5: ᚢᛏᚢ:ᛏᚢᚢᚢᛏᛒᛁᚴᛁᚴᚬ:ᛏᚢᚬᚱᚾᚴᛁ = **utu:tuuutbilikikr:tuʀraki**
B6: ᛏᚢᚴᛁ = **tuli**

Die Lesung zeigt auf den ersten Blick, daß große Partien des Textes dunkel, jedenfalls nicht auf Anhieb verständlich sind. Klar sind eigentlich nur die Zeilen A2, B2 und z. T. B3; A1 hat vermutlich rein magische Funktion. Mein Ziel im folgenden ist nicht, eine neue Interpretation zu geben,

Annex E. Picture of a Runic Inscription