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*Dai Kan-Wa Jiten* used as the source of reference Kanji codes was written by Tetsuji Morohashi and published by Taishukan Shoten.

Cover and CD-ROM label design: Steve Mehallo, <http://www.mehallo.com>

The publisher offers discounts on this book when ordered in quantity for bulk purchases and special sales. For more information, customers in the U.S. please contact U.S. Corporate and Government Sales, (800) 382-3419, [corpsales@pearsontechgroup.com](mailto:corpsales@pearsontechgroup.com). For sales outside of the U.S., please contact International Sales, +1 317 581 3793, [international@pearsontechgroup.com](mailto:international@pearsontechgroup.com)

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*Library of Congress Cataloging-in-Publication Data*

The Unicode Standard, Version 4.0 : the Unicode Consortium /Joan Aliprand... [et al.].

p. cm.

Includes bibliographical references and index.

ISBN 0-321-18578-1 (alk. paper)

1. Unicode (Computer character set). I. Aliprand, Joan.

QA268.U545 2004

005.7'2—dc21

2003052158

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ISBN 0-321-18578-1

Text printed on recycled paper

1 2 3 4 5 6 7 8 9 10—CRW—0706050403

First printing, August 2003

## Chapter 13

# *Archaic Scripts*

The following historic scripts are encoded in Version 4.0 of the Unicode Standard:

- Ogham
- Old Italic
- Runic
- Gothic
- Ugaritic
- Linear B
- Cypriot

Unicode encodes a number of historic scripts. Although they are no longer used to write living languages, documents and inscriptions using these scripts exist, both for extinct and precursors of modern languages. Scholars interested in the study of these scripts and the languages written in them make up the primary user community for these scripts. Some of the historical scripts are related to each other and to modern alphabets.

The Ogham script is indigenous to Ireland. While its originators may have been aware of the Latin or Greek scripts, it seems clear that the sound values of Ogham letters were suited to the phonology of a form of Primitive Irish.

Old Italic was derived from Greek and was used to write Etruscan and other languages in Italy. It was borrowed by the Romans and is the immediate ancestor of the Latin script now used worldwide. Old Italic had other descendants, too: The Alpine alphabets seem to have been influential in devising the Runic script, which has a distinct angular appearance owing to its use in carving inscriptions in stone and wood. Gothic, like Cyrillic, was developed on the basis of Greek at a much later date than Old Italic.

The two historic scripts of northwestern Europe, Runic and Ogham, have a distinct appearance owing to their primary use in carving inscriptions in stone and wood. They are conventionally rendered left to right in scholarly literature, but on the original stone carvings often proceeded in an arch tracing the outline of the stone.

Although the letterforms in the Ugaritic script are not derived from the Sumero-Akkadian tradition, like cuneiform, they are made up of wedges. Ugaritic texts are about as old as the earliest extant Biblical texts.

Both Linear B and Cypriot are syllabaries that were used to write Greek. Linear B is the older of the two scripts, and there are some similarities between a few of the characters that may not be accidental. Cypriot may descend from Cypro-Minoan, which in turn may descend from Linear B.



## 13.2 Old Italic

### Old Italic: U+10300–U+1032F

The Old Italic script unifies a number of related historical alphabets located on the Italian peninsula. Some of these were used for non-Indo-European languages (Etruscan and probably North Picene), and some for various Indo-European languages belonging to the Italic branch (Faliscan and members of the Sabellian group, including Oscan, Umbrian, and South Picene). The ultimate source for the alphabets in ancient Italy is Euboean Greek used at Ischia and Cumae in the bay of Naples in the eighth century BCE. Unfortunately, no Greek abecedaries from southern Italy have survived. Faliscan, Oscan, Umbrian, North Picene, and South Picene all derive from an Etruscan form of the alphabet.

There are some 10,000 inscriptions in Etruscan. By the time of the earliest Etruscan inscriptions, circa 700 BCE, local distinctions are already found in the use of the alphabet. Three major stylistic divisions are identified: the Northern, Southern, and Caere/Veii. Use of Etruscan can be divided into two stages, owing largely to the phonological changes that occurred: the “archaic Etruscan alphabet,” used from the seventh to the fifth centuries BCE, and the “neo-Etruscan alphabet,” used from the fourth to the first centuries BCE. Glyphs for eight of the letters differ between the two periods; additionally, neo-Etruscan abandoned the letters KA, KU, and EKS.

The unification of these alphabets into a single Old Italic script requires language-specific fonts because the glyphs most commonly used may differ somewhat depending on the language being represented.

Most of the languages have added characters to the common repertoire: Etruscan and Faliscan add LETTER EF; Oscan adds LETTER EF, LETTER II, and LETTER UU; Umbrian adds LETTER EF, LETTER ERS, and LETTER CHE; North Picene adds LETTER UU; and Adriatic adds LETTER II and LETTER UU.

The Latin script itself derives from a south Etruscan model, probably from Caere or Veii, around the mid-seventh century BCE or a bit earlier. However, because there are significant differences between Latin and Faliscan of the seventh and sixth centuries BCE in terms of formal differences (glyph shapes, directionality) and differences in the repertoire of letters used, this warrants a distinctive character block. Fonts for early Latin should use the *uppercase* code positions U+0041..U+005A. The unified Alpine script, which includes the Venetic, Rhaetic, Lepontic, and Gallic alphabets, has not yet been proposed for addition to the Unicode Standard but is considered to differ enough from both Old Italic and Latin to warrant independent encoding. The Alpine script is thought to be the source for Runic, which is encoded at U+16A0..U+16FF. (See *Section 13.3, Runic.*)

Character names assigned to the Old Italic block are unattested but have been reconstructed according to the analysis made by Sampson (1985). While the Greek character names (ALPHA, BETA, GAMMA, and so on) were borrowed directly from the Phoenician names (modified to Greek phonology), the Etruscans are thought to have abandoned the Greek names in favor of a phonetically based nomenclature, where stops were pronounced with a following -e sound, and liquids and sibilants (which can be pronounced more or less on their own) were pronounced with a leading e- sound (so [k], [d] became [ke:], [de:] but [l:], [m:] became [el], [em]). It is these names, according to Sampson, which were borrowed by the Romans when they took their script from the Etruscans.

**Directionality.** Most early Etruscan texts have right-to-left directionality. From the third century BCE, left-to-right texts appear, showing the influence of Latin. Oscan, Umbrian,

and Faliscan also generally have right-to-left directionality. Boustrophedon appears rarely, and not especially early (for instance, the Forum inscription dates to 550–500 BCE). Despite this, for reasons of implementation simplicity, many scholars prefer left-to-right presentation of texts, as this is also their practice when transcribing the texts into Latin script. Accordingly, the Old Italic script has a default directionality of strong left-to-right in this standard. If the default directionality of the script is overridden to produce a right-to-left presentation, the glyphs in Old Italic fonts should also be mirrored from the representative glyphs shown in the code charts. This kind of behavior is not uncommon in archaic scripts; for example, archaic Greek letters may be mirrored when written right to left in boustrophedon.

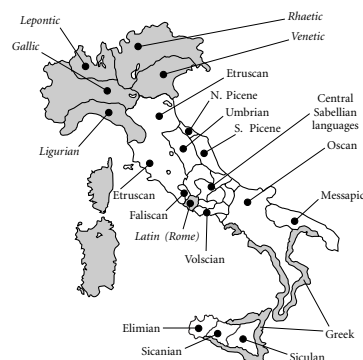
**Punctuation.** The earliest inscriptions are written with no space between words in what is called *scriptio continua*. There are numerous Etruscan inscriptions with dots separating word forms, attested as early as the second quarter of the seventh century BCE. This punctuation is sometimes, but rarely, used to separate syllables rather than words. From the sixth century BCE, words were often separated by one, two, or three dots spaced vertically above each other.

**Numerals.** Etruscan numerals are not well attested in the available materials, but are employed in the same fashion as Roman numerals. Several additional numerals are attested, but as their use is at present uncertain, they are not yet encoded in the Unicode Standard.

**Glyphs.** The default glyphs in the code charts are based on the most common shapes found for each letter. Most of these are similar to the Marsiliana abecedary (mid-seventh century BCE). Note that the phonetic values for U+10317 OLD ITALIC LETTER EKS [ks] and U+10319 OLD ITALIC LETTER KHE [kh] show the influence of western, Euboean Greek; eastern Greek has U+03A7 GREEK CAPITAL LETTER CHI [x] and U+03A8 GREEK CAPITAL LETTER PSI [ps], instead.

The geographic distribution of the Old Italic script is shown in *Figure 13-1*. In the figure, the approximate distribution of the ancient languages that used Old Italic alphabets is shown in white. Areas for the ancient languages that used other scripts are shown in gray, and the labels for those languages are shown in oblique type. In particular, note that the ancient Greek colonies of the southern Italian and Sicilian coasts used the Greek script proper. Also, languages such as Ligurian, Venetic, and so on, of the far north of Italy made use of alphabets of the Alpine script. Rome, of course, is shown in gray, because Latin was written with the Latin alphabet, now encoded in the Latin script.

**Figure 13-1. Distribution of Old Italic**



## 13.3 Runic

### Runic: U+16A0–U+16F0

The Runic script was historically used to write the languages of the early and medieval societies in the German, Scandinavian, and Anglo-Saxon areas. Use of the Runic script in various forms covers a period from the first century to the nineteenth century. Some 6,000 Runic inscriptions are known. They form an indispensable source of information about the development of the Germanic languages.

**Historical Script.** The Runic script is one of the first “historical” or “extinct” scripts to be incorporated into the Unicode Standard. 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 script. Unlike other scripts in the Unicode Standard, which predominantly serve the needs of the modern user community—with occasional extensions for historic forms—the encoding of the Runic script attempts to suit the needs of texts from different periods of time and from distinct societies that had little contact with one another.

**Direction.** Like other early writing systems, runes could be written either from left to right or from right to left, or moving first in one direction and then the other (*boustrophedon*), or following the outlines of the inscribed object. At times, characters appear in mirror image, or upside down, or both. In modern scholarly literature, Runic is written from left to right. Therefore, the letters of the Runic script have a default directionality of strong left-to-right in this standard.

**The Runic Alphabet.** Present-day knowledge about runes is incomplete. The set of graphemically distinct units shows greater variation in its graphical shapes than most modern scripts. The Runic alphabet changed several times during its history, both in the number and the shapes of the letters contained in it. The shapes of most runes can be related to some Latin capital letter, but not necessarily with a letter representing the same sound. The most conspicuous difference between the Latin and the Runic alphabets is the order of the letters.

The Runic alphabet is known as the *futhark* from the name of its first six letters. The original *old futhark* contained 24 runes:

ƿ ᚋ ᚔ ᚕ ᚖ ᚗ ᚘ ᚙ ᚛ ᚜ ᚝ ᚞ ᚟ ᚠ ᚡ ᚢ ᚣ ᚤ ᚥ ᚦ ᚧ ᚨ ᚩ ᚪ ᚫ

They are usually transliterated in this way:

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

In England and Friesland, seven more runes were added from the fifth century to the ninth century.

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

ƿ ᚋ ᚔ ᚕ ᚖ ᚗ ᚘ ᚙ ᚛ ᚜ ᚝ ᚞ ᚟ ᚠ ᚡ ᚢ ᚣ ᚤ ᚥ ᚦ ᚧ ᚨ ᚩ ᚪ ᚫ

f u þ o r k h n i a s t b m l r

The use of runes continued in Scandinavia during the Middle Ages. During that time, the *futhark* was influenced by the Latin alphabet and new runes were invented so that there was full correspondence with the Latin letters.

**Representative Glyphs.** The known inscriptions can include considerable variations of shape for a given rune, sometimes to the point where the nonspecialist will mistake the shape for a different rune. There is no dominant main form for some runes, particularly for many runes added in the Anglo-Frisian and medieval Nordic systems. When transcribing a Runic inscription into its Unicode-encoded form, one cannot rely on the idealized *representative glyph* shape in the character charts alone. One must take into account to which of the four Runic systems an inscription belongs, and be knowledgeable about the permitted form variations within each system. The representative glyphs were chosen to provide an image that distinguishes each rune visually from all other runes in the same system. For actual use, it might be advisable to use a separate font for each Runic system. Of particular note is the fact that the glyph for U+16C4 ᚠ RUNIC LETTER GER is actually a rare form, as the more common form is already used for U+16E1 ᚦ RUNIC LETTER IOR.

**Unifications.** When a rune in an earlier writing system evolved into several different runes in a later system, the unification of the earlier rune with one of the later runes was based on similarity in graphic form rather than similarity in sound value. In cases where a substantial change in the typical graphical form has occurred, though the historical continuity is undisputed, unification has not been attempted. When runes from different writing systems have the same graphic form but different origins and denote different sounds, they have been coded as separate characters.

**Long-Branch and Short-Twig.** Two sharply different graphic forms, the *long-branch* and the *short-twig* form, were used for 9 of the 16 Viking Age Nordic runes. Although only one form is used in a given inscription, there are runologically important exceptions. In some cases, the two forms were used to convey different meanings in later use in the medieval system. Therefore the two forms have been separated in the Unicode Standard.

**Staveless Runes.** Staveless runes are a third form of the Viking Age Nordic runes, a kind of runic shorthand. The number of known inscriptions is small and the graphic forms of many of the runes show great variability between inscriptions. For this reason, staveless runes have been unified with the corresponding Viking Age Nordic runes. The corresponding Viking Age Nordic runes must be used to encode these characters—specifically the short-twig characters, where both short-twig and long-branch characters exist.

**Punctuation Marks.** The wide variety of Runic punctuation marks has been reduced to three distinct characters based on simple aspects of their graphical form, as very little is known about any difference in intended meaning between marks that look different. Any other punctuation marks have been unified with shared punctuation marks elsewhere in the Unicode Standard.

**Golden Numbers.** Runes were used as symbols for Sunday letters and golden numbers on calendar staves used in Scandinavia during the Middle Ages. To complete the number series 1–19, three more calendar runes were added. They are included after the punctuation marks.

**Encoding.** A total of 81 characters of the Runic script are included in the Unicode Standard. Of these, 75 are Runic letters, 3 are punctuation marks, and 3 are Runic symbols. The order of the Runic characters follows the traditional *futhark* order, with variants and derived runes being inserted directly after the corresponding ancestor.

Runic character names are based as much as possible on the sometimes several traditional names for each rune, often with the Latin transliteration at the end of the name.

## 13.4 Gothic

### Gothic: U+10330–U+1034F

The Gothic script was devised in the fourth century by the Gothic bishop, Wulfila (311–383 CE), to provide his people with a written language and a means of reading his translation of the Bible. Written Gothic materials are largely restricted to fragments of Wulfila’s translation of the Bible; these fragments are of considerable importance in New Testament textual studies. The chief manuscript, kept at Uppsala, is the Codex Argenteus or “the Silver Book,” which is partly written in gold on purple parchment. Gothic is an East Germanic language; this branch of Germanic has died out and thus the Gothic texts are of great importance in historical and comparative linguistics. Wulfila appears to have used the Greek script as a source for the Gothic, as can be seen from the basic alphabetical order. Some of the character shapes suggest Runic or Latin influence, but this is apparently coincidental.

**Diacritics.** The tenth letter U+10339 GOTHIC LETTER EIS is used with U+0308 COMBINING DIAERESIS when word-initial, when syllable-initial after a vowel, and in compounds with a verb as second member as shown below:

**SYE ƆAMELIƆ İST İN ESÄİIN ƆRANƆETAN**  
*swe gameliþ ist in esaiin praufetau*  
 “as is written in Isaiah the prophet”

To indicate contractions or omitted letters, U+0305 COMBINING OVERLINE is used.

**Numerals.** Gothic letters, like those of other early Western alphabets, can be used as numbers; two of the characters have only a numeric value and are not used alphabetically. To indicate numeric use of a letter, it is either flanked on either side by U+00B7 MIDDLE DOT, or it is followed by both U+0304 COMBINING MACRON and U+0331 COMBINING MACRON BELOW, as shown in the following example:

•G• or Ḡ̄ means “5”

**Punctuation.** Gothic manuscripts are written with no space between words in what is called *scriptio continua*. Sentences and major phrases are often separated by U+0020 SPACE, U+00B7 MIDDLE DOT, or U+003A COLON.



## 13.5 Ugaritic

### Ugaritic: U+10380–U+1039F

The city state of Ugarit was an important seaport on the Phoenician coast (directly east of Cyprus, north of the modern town of Minet el-Beida) from about 1400 BCE until it was completely destroyed in the twelfth century BCE. The site of Ugarit, now called Ras Shamra (south of Latakia on the Syrian coast), was apparently continuously occupied from Neolithic times (circa 5000 BCE). It was first uncovered by a local inhabitant while plowing a field in 1928, and subsequently excavated by Claude Schaeffer and Georges Chenet beginning in 1929, in which year the first of many tablets written in the Ugaritic script were discovered. They later proved to contain extensive portions of an important Canaanite mythological and religious literature that had long been sought and that revolutionized Biblical studies. The script was first deciphered in a remarkably short time jointly by Hans Bauer, Edouard Dhorme, and Charles Virolleaud.

The Ugaritic language is Semitic, variously regarded by scholars as being a distinct language related to Akkadian and Canaanite, or a Canaanite dialect. Ugaritic is generally written from left to right horizontally, sometimes using U+1039F ◊ UGARITIC WORD DIVIDER. In the city of Ugarit, this script was also used to write the Hurrian language. The letters U+1039B ⚡ UGARITIC LETTER I, U+1039C ⚡ UGARITIC LETTER U, and U+1039D ⚡ UGARITIC LETTER SSU were added to the end of the alphabet to support Hurrian.

**Variant Glyphs.** There is substantial variation in glyph representation for Ugaritic. Glyphs for U+10398 ⚡ UGARITIC LETTER THANNA, U+10399 ⚡ UGARITIC LETTER GHAIN, and U+1038F ⚡ UGARITIC LETTER DHAL differ somewhat between modern reference sources, as do some transliterations. U+10398 ⚡ UGARITIC LETTER THANNA is most often displayed with a glyph that looks like an occurrence of U+10393 ⚡ UGARITIC LETTER AIN overlaid with U+10382 † UGARITIC LETTER GAMLA.

**Ordering.** The ancient Ugaritic canonical order, which differs somewhat from the modern Hebrew order for similar characters, has been used to encode Ugaritic in the Unicode Standard.

**Character Names.** Some of the Ugaritic character names have been reconstructed; others are attested in an early fragmentary document.

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## 13.6 Linear B

### Linear B Syllabary: U+10000–U+1007F

The Linear B script is a syllabic writing system, which was used on the island of Crete and parts of the nearby mainland to write the oldest recorded variety of the Greek language. Linear B clay tablets predate Homeric Greek by some 700 years; the latest tablets date from the mid- to late thirteenth century BCE. Major archaeological sites include Knossos, first uncovered about 1900 by Sir Arthur Evans, and a major site near Pylos. The majority of currently known inscriptions are inventories of commodities and accounting records.

Early attempts to decipher the script failed until Michael Ventris, an architect and amateur decipherer, came to the realization that the language might be Greek and not, as previously thought, a completely unknown language. Ventris worked together with John Chadwick, and decipherment proceeded quickly. The two published a joint paper in 1953.

Linear B was written from left to right with no nonspacing marks. The script mainly consists of phonetic signs representing the combination of a consonant and a vowel. There are about 60 known phonetic signs, in addition to a few signs that seem to be mainly free variants (also known as Chadwick’s optional signs), a few unidentified signs, numerals, and a number of ideographic signs, which were used mainly as counters for commodities. Some ligatures formed from combinations of syllables were apparently used as well. Chadwick gives several examples of these ligatures, the most common of which are included in the Unicode Standard. Other ligatures are the responsibility of the rendering system.

**Standards.** The catalog numbers used in the Unicode character names for Linear B syllables are based on the Wingspread Convention, as documented in Bennett (1964). The letter “B” is prepended arbitrarily, so that name parts will not start with a digit, thus conforming to ISO/IEC 10646 naming rules. The same naming conventions, using catalog numbers based on the Wingspread Convention, are used for Linear B ideograms.

### Linear B Ideograms: U+10080–U+108FF

The Linear B Ideograms block contains the list of Linear B signs known to constitute ideograms (logographs), rather than syllables. When generally agreed upon, the names include the meaning associated with them—for example, U+10080 ṽ LINEAR B IDEOGRAM B100 MAN. In other instances, the names of the ideograms simply carry their catalog number.

### Aegean Numbers: U+10100–U+1013F

The signs used to denote Aegean whole numbers (U+ 10107–U+10133) derive from the non-Greek Linear A script. The signs are used in Linear B. The Cypriot syllabary appears to use the same system, as evidenced by the fact that the lower digits appear in extant texts. For measurements of agricultural and industrial products, Linear B uses three series of signs: liquid measures, dry measures, and weights. No set of signs for linear measurement has been found yet. Liquid and dry measures share the same symbols for the two smaller subunits; the system of weights retains its own unique subunits. Though several of the signs originate in Linear A, the measuring system of Linear B differs from that of Linear A. Linear B relies on units and subunits, much like the imperial “quart,” “pint,” and “cup,” whereas Linear A uses whole numbers and fractions. The absolute values of the measurements have not yet been completely agreed upon.

## 13.7 Cypriot Syllabary

### Cypriot Syllabary: U+10800–U+1083F

The Cypriot syllabary was used to write the Cypriot dialect of Greek from about 800 to 200 BCE. It is related to both Linear B and Cypro-Minoan, a script used for a language that has not yet been identified. Interpretation has been aided by the fact that, as use of the Cypriot syllabary died out, inscriptions were carved using both the Greek alphabet and the Cypriot syllabary. Unlike Linear B and Cypro-Minoan, the Cypriot syllabary was usually written from right to left, and accordingly the characters in this script have strong right-to-left directionality.

Word breaks can be indicated by spaces or by separating punctuation, although separating punctuation is also used between larger word groups.

Although both Linear B and the Cypriot syllabary were used to write Greek dialects, Linear B has a more highly abbreviated spelling. Structurally, the Cypriot syllabary consists of combinations of up to 12 initial consonants and 5 different vowels. Long and short vowels are not distinguished. The Cypriot syllabary distinguishes among a different set of initial consonants than Linear B; for example, unlike Linear B, Cypriot maintained a distinction between [l] and [r], though not between [d] and [t], as shown in *Table 13-1*. Not all of the 60 possible consonant-vowel combinations are represented. As is the case for Linear B, the Cypriot syllabary is well understood and documented.

**Table 13-1. Similar Characters in Linear B and Cypriot**

Linear B	Cypriot
da    𐀄	ta    𐀄
na    𐀅	na    𐀅
pa    𐀆	pa    𐀆
ro    𐀇	lo    𐀇
se    𐀈	se    𐀈
ti    𐀉	ti    𐀉
to    𐀊	to    𐀊

For Aegean numbers, see the subsection, “Aegean Numbers: U+10100–U+1013F” in *Section 13.6, Linear B*.