

# The Old Persian font\*

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## Abstract

The `oldprsn` bundle provides a set of fonts for the Old Persian cuneiform script which was used between about 500 and 350 BC in Persia. This is one in a series for archaic scripts.

## Contents

<b>1 Introduction</b>	<b>1</b>
1.1 An alphabetic tree . . . . .	1
<b>2 The <code>oldprsn</code> package</b>	<b>2</b>

## 1 Introduction

The Phoenician alphabet and characters is a direct ancestor of our modern day Latin alphabet and fonts. The font presented here is one of a series of fonts intended to show how the modern Latin alphabet has evolved from its original Phoenician form to its present day appearance.

This manual is typeset according to the conventions of the  $\text{\LaTeX}$  `DOCSTRIP` utility which enables the automatic extraction of the  $\text{\LaTeX}$  macro source files [GMS94].

Section 2 describes the usage of the package. Commented code for the fonts and source code for the package is in later sections.

### 1.1 An alphabetic tree

Scholars are reasonably agreed that all the world's alphabets are descended from a Semitic alphabet invented about 1600 BC in the Middle East [Dru95]. The word 'Semitic' refers to the family of languages used in the geographical area from Sinai

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in the south, up the Mediterranean coast to Asia Minor in the north and west to the valley of the Euphrates.

The Phoenician alphabet was stable by about 1100 BC and the script was written right to left. In earlier times the writing direction was variable, and so were the shapes and orientation of the characters. The alphabet consisted of 22 letters and they were named after things. For example, their first two letters were called *aleph* (ox), and *beth* (house). The Phoenician script had only one case — unlike our modern fonts which have both upper- and lower-cases. In modern terms the Phoenician abecedy was:

A B G D E Y Z H Θ I K L M N X O P ts Q R S T

where the ‘Y’ (*vau*) character was sometimes written as ‘F’, and ‘ts’ stands for the *tsade* character.

The Greek alphabet is one of the descendants of the Phoenician alphabet; another was Aramaic which is the ancestor of the Arabic, Persian and Indian scripts. Initially Greek was written right to left but around the 6th C BC became *boustrophedron*, meaning that the lines alternated in direction. At about 500 BC the writing direction stabilised as left to right. The Greeks modified the Phoenician alphabet to match the vocalisation of their language. They kept the Phoenician names of the letters, suitably ‘greekified’, so *aleph* became the familiar *alpha* and *beth* became *beta*. At this point the names of the letters had no meaning. Their were several variants of the Greek character glyphs until they were finally fixed in Athens in 403 BC. The Greeks did not develop a lower-case script until about 600–700 AD.

The Etruscans based their alphabet on the Greek one, and again modified it. However, the Etruscans wrote right to left, so their borrowed characters are mirror images of the original Greek ones. Like the Phoenicians, the Etruscan script consisted of only one case; they died out before ever needing a lower-case script. The Etruscan script was used up until the first century AD, even though the Etruscans themselves had disappeared by that time.

In turn, the Romans based their alphabet on the Etruscan one, but as they wrote left to right, the characters were again mirrored (although the early Roman inscriptions are *boustrophedron*).

As the English alphabet is descended from the Roman alphabet it has a pedigree of some three and a half thousand years.

## 2 The oldprsn package

The earliest cuneiform writing, about 2800 BC, was used by the Sumerians in the Middle East [Wal87, Hea90]. Other cuneiform scripts were used for Akkadian (2300 BC) and Babylonian (2000 BC). These were partly ideographic and partly syllabic scripts. The last dated use of a cuneiform script was in 75 AD.

It is claimed that the Old Persian cuneiform script was invented by order of the Achaemenid Persian king Darius I (521–486 BC) for inscriptions on royal monuments. In everyday use the Persian scribes used the Elamite cuneiform or Aramaic scripts. Old Persian was abandoned after Ataxerxes III (358–338 BC).

The script is a syllabary, with 3 vowels and 33 syllabic glyphs. There are also 5 ideograms, some in multiple forms, for *king*, *country*, *earth*, *god*, and *Ahuramazda*. The last of these is the name of the Persian god. There are also glyphs for numbers and a word divider. Walker [Wal87] gives general information on how cuneiform numerals were used to form numbers; for detailed information consult Ifrah's magnificent work [Ifr00]. Basically, the writers used a system like the Romans where large numbers were formed by adding smaller numbers.

Table 1 lists the transliterated values of the script and Table 2 lists the ideographs, numerals, and the word divider.

`\copsnfamily` This command selects the Old Persian font family. The family name is `copsn`.  
`\textcopsn` The command `\textcopsn{⟨ASCII/commands⟩}` typesets `⟨ASCII/commands⟩` in the Old Persian font.

I have provided two means of accessing the Old Persian glyphs: (a) by ASCII characters, and (b) via commands. These are shown in Tables 1 and 2.

`\translitcopsn` The command `\translitcopsn{⟨commands⟩}` will typeset the transliteration of the Old Persian character commands (those in the third column of the Tables).

`\translitcopsnfont` The font used for the transliteration is defined by this macro, which is initialised to an italic font (i.e., `\itshape`).

## References

- [Dav97] W. V. Davies. *Reading the Past: Egyptian Hieroglyphs*. University of California Press/British Museum, 1997. (ISBN 0-520-06287-6)
- [Dru95] Johanna Drucker. *The Alphabetic Labyrinth*. Thames and Hudson, 1995.
- [Fir93] Richard A. Firmage. *The Alphabet Abecedarium*. David R. Goodine, 1993.
- [GMS94] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The LaTeX Companion*. Addison-Wesley Publishing Company, 1994.
- [Hea90] John F. Healey. *Reading the Past: The Early Alphabet*. University of California Press/British Museum, 1990. (ISBN 0-520-07309-6)
- [Ifr00] Georges Ifrah. *The Universal History of Numbers*. John Wiley & Sons, 2000 (ISBN 0-471-37568-3). (Originally published as *Histoire universelle des chiffres*. Robert Laffort, Paris, 1994.)
- [Wal87] C. B. F. Walker. *Reading the Past: Cuneiform*. University of California Press/British Museum, 1987. (ISBN 0-520-06115-2)

Table 1: The Old Persian syllabary

Old Persian	ASCII	Command
<i>a</i>	a	\0a
<i>i</i>	i	\0i
<i>u</i>	u	\0u
<i>ka</i>	k	\0ka
<i>ku</i>	K	\0ku
<i>xa</i>	x	\0xa
<i>ga</i>	g	\0ga
<i>gu</i>	G	\0gu
<i>ca</i>	c	\0ca
<i>ja</i>	j	\0ja
<i>ji</i>	J	\0ji
<i>ta</i>	t	\0ta
<i>tu</i>	T	\0tu
<i>tha</i>	o	\0tha
<i>ça</i>	C	\0cca
<i>da</i>	d	\0da
<i>di</i>	P	\0di
<i>du</i>	D	\0du
<i>na</i>	n	\0na
<i>nu</i>	N	\0nu
<i>pa</i>	p	\0pa
<i>fa</i>	f	\0fa
<i>ba</i>	b	\0ba
<i>ma</i>	m	\0ma
<i>mi</i>	w	\0mi
<i>mu</i>	M	\0mu
<i>ya</i>	y	\0ya
<i>ra</i>	r	\0ra
<i>ru</i>	R	\0ru
<i>la</i>	l	\0la
<i>va</i>	v	\0va
<i>vi</i>	V	\0vi
<i>sa</i>	s	\0sa
<i>ša</i>	S	\0sva
<i>za</i>	z	\0za
<i>ha</i>	h	\0ha

Table 2: The Old Persian ideographs

Old Persian	ASCII	Command
<i>xšāyathiya</i>	X	<code>\Oking</code>
<i>dahyāuš</i>	q	<code>\Ocountrya</code>
<i>dahyāuš</i>	Q	<code>\Ocountryb</code>
<i>būmiš</i>	L	<code>\Oearth</code>
<i>baga</i>	B	<code>\Ogod</code>
<i>Auramazdā</i>	e	<code>\OAura</code>
<i>Ahuramazda</i>	E	<code>\OAurb</code>
<i>Ahuramazda</i>	F	<code>\OAurc</code>
<i>1</i>	1	<code>\Oone</code>
<i>2</i>	2	<code>\Otwo</code>
<i>10</i>	3	<code>\Oten</code>
<i>20</i>	4	<code>\Otwenty</code>
<i>100</i>	5	<code>\Ohundred</code>
	:	<code>\Owd</code>

## Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

<b>C</b>	<b>T</b>	<code>\translitcopsn</code> . . . . . 3
<code>\copsnfamily</code> . . . . . 3	<code>\textcopsn</code> . . . . . 3	<code>\translitcopsnfont</code> . . 3