Xäwtää Dörböljin, or The Mongolian Horizontal Square Alphabet for LaTeX 2ε, Release 0.4 alpha

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November. 5th, 2001

Abstract

The Mongolian Xäwtää Dörböljin, or Horizontal Square Alphabet was created in the 17th century. It is closely modelled after Tibetan and was intended to revive the ideas behind the Phagsba script. The script is rarely used today and can be mainly found in religious inscriptions.

This software is still in its alpha state and released as a preview.

Contents

1 Introduction

Xäwtää Dörböljin for LaTeX is a package providing the Xäwtää Dörböljin script for LaTeX users. The Xäwtää Dörböljin script was developed in 1686 by the famous Mongolian monk and scholar Zanabazar. Modelled after the Tibetan script, the Xäwtää Dörböljin script combines the phonemic repertoire of Mongolian, Sanskrit, and Tibetan. The script is not in wide use today; its usage is basically limited to religious texts, inscriptions on temples, etc.

The logical construction of the script is two-dimensional, not linear. Basic consonants are combined with vowels and final consonants in a way similar to Tibetan; in fact, most of the letter shapes as well as the arrangement of the alphabet was heavily influenced by Tibetan.

The basic consonant fills the major area of the symbol; if no vowel sign is added, the basic vowel *a* is assumed; if a vowel is added, then it is either placed on top of the character (in case of *i, ä, o, ö*) or in the lower third of the character box (in the cases of *ü, u*). Long vowels are marked by a protruding tip of the right-side beam.

2 How to use the Xäwtää Dörböljin package

This section describes which commands are needed for invoking the characters, and how special symbols are entered.

2.1 Declarations and Commands

In order to use the Xäwtää Dörböljin script, the preamble of your document must contain the declaration `\usepackage{mxd}`. This is the only necessary step. The command `\mxd` switches to the Xäwtää Dörböljin character set and text input commands.

2.2 Input Method

Within a group declared by `\mxd`, entering most of the basic characters is straightforward. Initial consonants are entered as such. Vowels are entered by using lowercase letters for back vowels and uppercase letters for front vowels: *o ö u ü* are entered as `o O u U`.

The following example shows how the words *xamuγ sädgil-tü* written in Xäwtää Dörböljin translate into a sequence of transliteration and input characters: `xamug sedgiltU`.

In order to show the construction of the Xäwtää Dörböljin characters (for writing text books, etc.) one blind or dummy character was created which does not appear in the original alphabet.

The symbols used for spelling Sanskrit and Tibetan are accessed by control sequences in the form of `\sXX` where `\s` stands for Xäwtää Dörböljin and `XX` has to be replaced by a one-, two- or three-letter combination found in the encoding table.

2.3 Script Styles

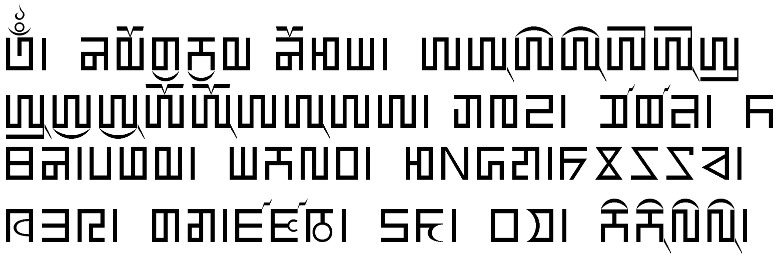
The following sequence shows how the Xäwtää Dörböljin alphabet is arranged as shown in Mongolian block prints of the 17th century:

```
{\mxd \Large \noindent%
\sA. namo\sg{}uruma no\$aya. 'a'a-'i'i-'e'e-'U\\
'U-'u'u-'o'o-'O'O-'a'a.~gakanga. zacanya. da\\
tana.bapama. yaralawa. shasa{}ha\sks{}.T\sth\sdd\sdh\sdn.\\
Xq@. \sg{}).j\sjh\sds. \sD\sDH. \sB\sBH. \sri\sri-\sli\sli-.}
```

There is a total of four script styles available: a normal and a boldface variant which are accompanied by a *wood block* script style which introduces tiny irregularities in lengths and angles.

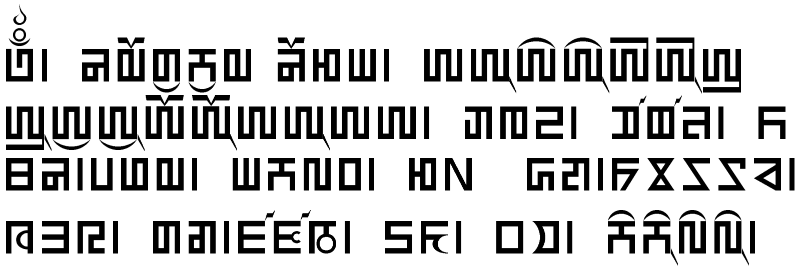
2.3.1 *Normal* Script Example

The normal script is selected by default when switching to Xäwtää Dörböljin. No additional font command is necessary.



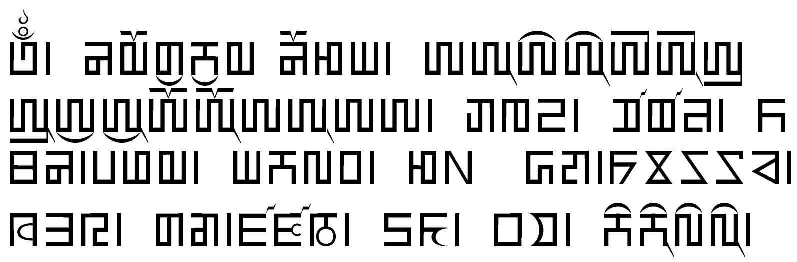
2.3.2 *Bold* Script Example

Bold script is selected via `\bfseries`:



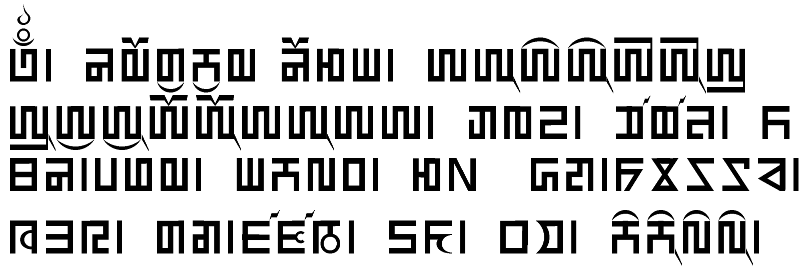
2.3.3 *Wood* Script Example

The *Wood* scripts simulate the small irregularities of old block prints; in LaTeX 2ε terms, they are considered as an `\itshape`, hence *Wood* script is selected via `\itshape`:



2.3.4 *Wood Bold* Script Example

Wood Bold script is selected via `\bfseries\itshape`:



3 LMX Encoding

The characters in the Xäwtää Dörböljin package are arranged according to the LMX encoding (Local Mongolian Xewtee) as shown in table 1. Please note that some the code positions used for Sanskrit transliterations have been defined, but a glyph is not yet provided.

4 Desiderata

The package in its present stage is not complete. Some of the letter shapes still need a bit of refinement, and some of the rarer letters are currently not yet available. Furthermore, the unification process of Tibetan, Soyombo and Xäwtää Dörböljin hasn't begun yet—please be aware the the LMX encoding used here is not frozen yet.

The input method works but is a bit clumsy to use; an input preprocessor translating properly spelled Mongolian into the Xäwtää Dörböljin equivalent waits to be developed and implemented. This will happen in a similar manner as has been done in the Tibetan package by the same author.

Comments and suggestions are highly appreciated and should be directed to the author of these lines at `corff@zedat.fu-berlin.de`.

	00	01	02	03	04	05	06	07
0	(000)	(016:')	(032:g)	(048:\$)	(064:\sri)	(080:\sDH)	(096:ssk)	(112)
1	(001:`)	(017:`-)	(033:k)	(049:s)	(065:\sri-)	(081:\sB)	(097:\srk)	(113)
2	(002:\sA)	(018:`i)	(034:x)	(050:h)	(066:\sli)	(082:\sBH)	(098:Z)	(114)
3	(003:.)	(019:`i-)	(035:z)	(051:\sks)	(067:\sli-)	(083:\sds)	(099:C)	(115)
4	(004:..)	(020:`e)	(036:c)	(052:`G)	(068:`O)	(084:\sky)	(100:J)	(116)
5	(005:\sO)	(021:`e-)	(037:=)	(053:`K)	(069:`H)	(085:\skr)	(101:X)	(117)
6	(006)	(022:`U)	(038:d)	(054:`*)	(070:\sg)	(086:\skl)	(102:q)	(118)
7	(007)	(023:`U-)	(039:t)	(055:`D)	(071:\sgh)	(087:\skm)	(103:@)	(119)
8	(008)	(024:`u)	(040:n)	(056:`N)	(072:j)	(088:\skk)	(104)	(120)
9	(009)	(025:`u-)	(041:b)	(057:`B)	(073:\sjh)	(089:\snk)	(105)	(121)
A	(010)	(026:`o)	(042:p)	(058:`M)	(074:T)	(090:\snc)	(106)	(122)
B	(011)	(027:`o-)	(043:m)	(059:`R)	(075:\sth)	(091:\snt)	(107)	(123)
C	(012)	(028:`O)	(044:y)	(060:`L)	(076:\sdd)	(092:\snd)	(108)	(124)
D	(013)	(029:`O-)	(045:r)	(061:`Q)	(077:\sdh)	(093:P)	(109)	(125)
E	(014)	(030:`W)	(046:w)	(062:`S)	(078:\sdn)	(094:\slk)	(110)	(126)
F	(015)	(031:`I)	(047:l)	(063:`-a)	(079:\sD)	(095:\sSk)	(111)	(127)

Figure 1: Xäwtää Dörböljin Character Input Table