BOD_X

**A software tool for Tibetan studies
which enables querying of Tibetan dictionaries,
creation of glossaries
and input of Tibetan texts
in database format.**

Mirror sites:
web.tiscali.it/bod_x
www.geocities.com/bod_x_it
spazioinwind.libero.it/gribaudo
xoomer.virgilio.it/vfassio

mail: mail@leonardo-gribaudo.it, gribaudo@inwind.it

A data base is an excellent format for storing Tibetan language texts: this idea is the basis of this project.
A digital dictionary in plain text or in document form can provide only few functions, such as looking up a word or an expression; more advanced functions (creating glossaries, running complex enquiries, reverse search from English to Tibetan, etc.), require a database environment.
Already existing dictionaries (Rangjung Yeshe Dictionary, Valby, ACIP Great Tibetan-Tibetan dictionary, Illuminator by Tony Duff ...) can be converted into database files and translators can create his own glossary files.
Tibetan texts written in a data base can be easily transformed from one form to another (various transliterations, Tibetan font, phonetic) and become bricks in the construction of a vast knowledge base.

BOD_X is based on the Wylie transliteration method (with some extensions) and displays and prints the Tibetan text using BOD_GPL Freeware True Type Font (based on Robillard L-Tibetan code). Stacked characters are built by superimposing half height characters, the graphic quality is not the best but the management of a single font set is simpler.
BOD_X can execute many functions such as searching in Tibetan or in translation, searching all entries with a certain word or string of words, printing out or copying selected items into a file.
BOD_X makes it very easy to create, use and exchange glossaries, in this way it is hoped that this software will contribute to the great task of coining and standardising the Buddhist terminology in western languages.
New glossaries can be created either by typing each entry individually or by importing from files (written in Wylie transliteration or in Tibetan font using the Robillard-encoding.
Input of Tibetan texts is done thru Wylie transliteration with a spell checker and the creation of a custom database of complex mantra syllables.

After some use by a small group of translators, in October 1997 a first public release of BOD_X was ready.
This software was created without commercial purpose and is given for free to interested institutions, translators and students. But, to avoid the orphan destiny of freeware programs and to consider feedback and suggestions, it is necessary to keep track of the users, who are kindly (but strongly), requested to "register".
All suggestions will be considered and update versions will follow, together with other tools in the field of "Tibetan word-processing".
This software runs under:

- **Windows 95/98/ME/2000/XP** (and Windows 3.1 whit 32 bits support);
- **LINUX** with **WINE** configured as "nt351" (tested under SUSE 9.1 release);
- users reported a successfull use under **MAC** with Windows emulation.

About 5 Mb are required on hard disk, good performance depends more on RAM than on processor speed.

The translator Felice Bachmann contributed many helpful ideas during the creation of this program.
The known users are from all the world (except perhaps Africa).
Dictionaries are not mine: I simply transformed in a database format the available dictionaries. So I cannot give dictionaries freely but if you buy them, a conversion to database function is included in this software.
Anyway the main problem of existing digital Tibetan dictionaries is the lack of knowledge about the source of every entry (printed dictionaries, existing glossaries, texts, etc).

RECENT VERSION HISTORY

BOD_X_ Release 7.29 february 2005
Minor changes for better appearance in LINUX / WINE

BOD_X_ Release 7.28 april 2004
Some bugs fixed

BOD_X_ Release 7.26 february 2004
Selectable font for Tibetan, visual syllable stack builder, keywords for glossaries, file name length up to 16 characters, small improvements and bug fixing.

BOD_X_ Release 7.20 december 2003
Selectable font for translation, formatted output to RTF file, other improvements and bug fixing.

BOD_X_ Release 7.16 september 2002
Minor improvements, ability to run from CD

BOD_X Release 6.14 and BOD_X_ Release 7.14 april 2002
Import of WYLie text files into Tibetan Text database

BOD_X Release 6.13 and BOD_X_ Release 7.13 march 2002
New interface

BOD_X_ Release 7.0 september 2001
Same as 6.11, compiled with Microsoft Visual Fox Pro 6

BOD_X Release 6.11 september 2001
Some minor bugs have been fixed. Improved search in dictionary and glossary from Tibetan text area.

BOD_X Release 6.5 november 2000
Creating (in the same folder where is the executable) a BOD_X.DEF text file containing the names of the default text, dictionary, glossary files, they will be opened automatically at startup. e.g.:

bardo_dx.dbf
ryd99_DZ.dbf
bardo_TX.dbf

BOD_X Release 6.4 march 2000
This release has more functions and incorporates all the features of the previous BOD_IN program.
Now you can open during the same session:
1) a text to input or to translate 2) a large (read only) dictionary 3) your own glossary, related to the current text
Queries of the dictionary are available from a selected portion of the text.
Data can be copied (from and to any of the three kind of files) using the cut and paste features (CTRL+X, CTRL+C, CTRL+V).

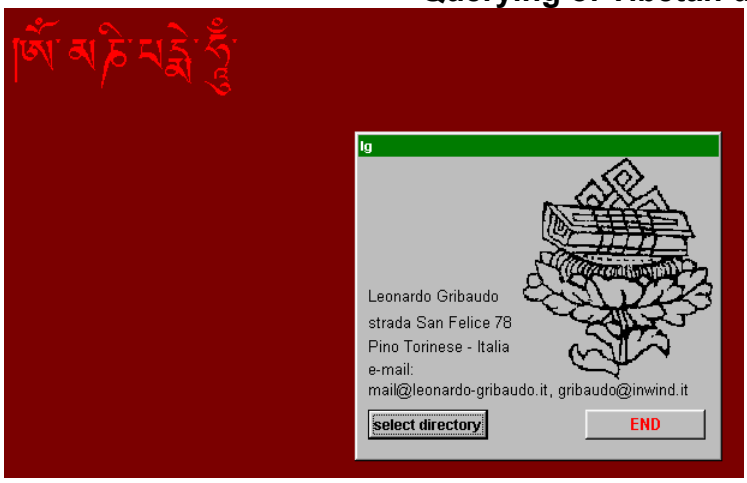
FAR VERSION HISTORY

BOD_X Release 3.4 october 1997
First public release
BOD_X Release 3.0 1995
True Type font were introduced using Microsoft Visual Fox Pro
BOD_X Release 2 1992
A true database structure was implemented in Clipper
BOD_X Release 1 1987
A Fortran program able to draw very simple Tibetan characters

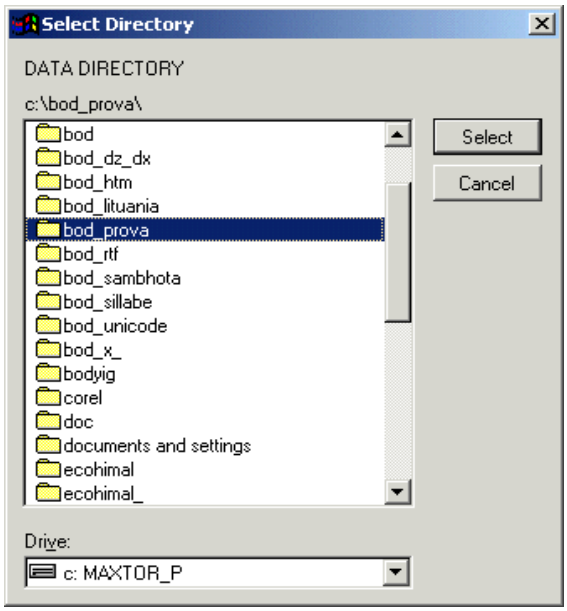
This software is free (of cost for the users, may be not free of bugs) as my personal homage to the Tibetan culture, but I have strictly the time of developing it and not yet time (and energy) of writing a true user manual, the only documentation is available on-line:

Querying of Tibetan dictionaries
Creation and querying of Tibetan glossaries
Input of Tibetan texts

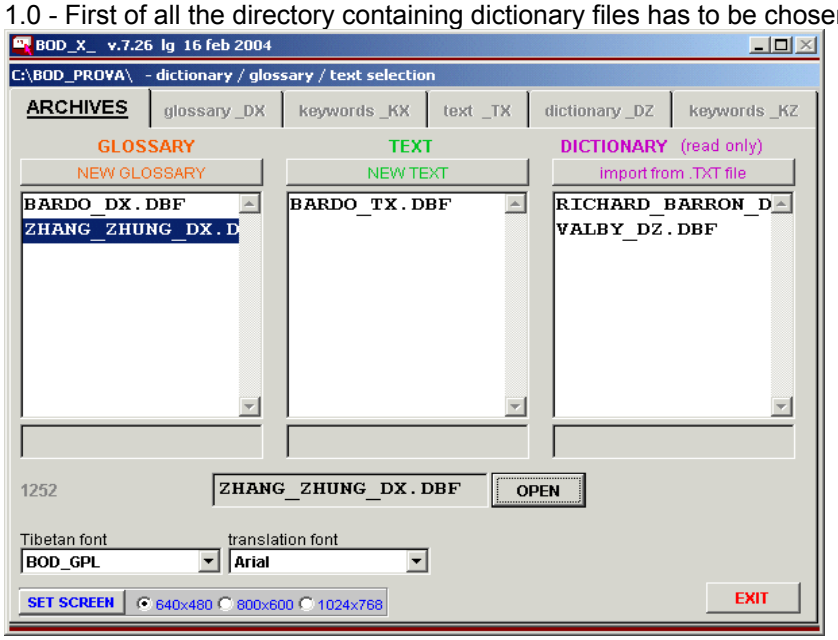
Querying of Tibetan dictionaries



The main window reminds you of the addresses where users of this software can register and send reports of bugs or requests for improvements.

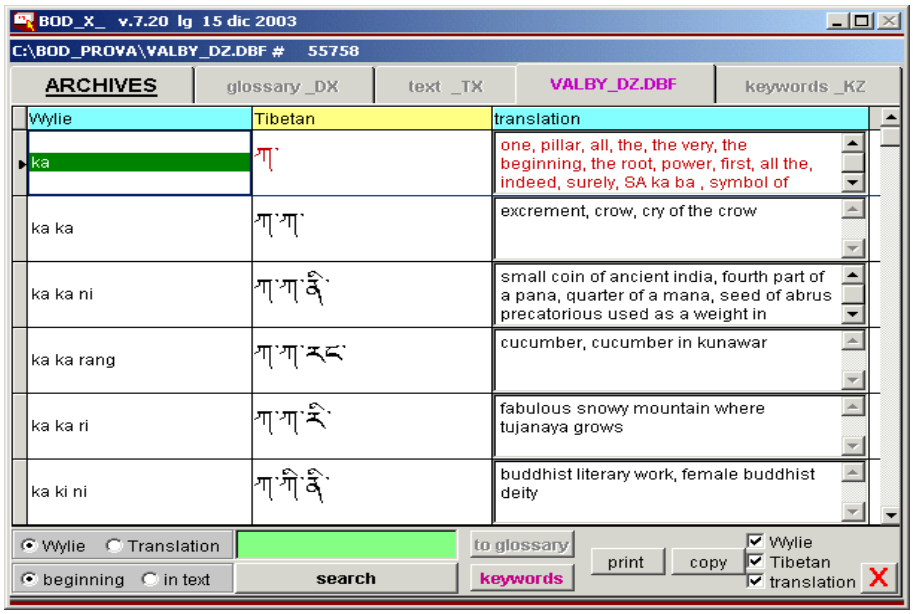


1.0 - First of all the directory containing dictionary files has to be chosen: click on the "Select" button.

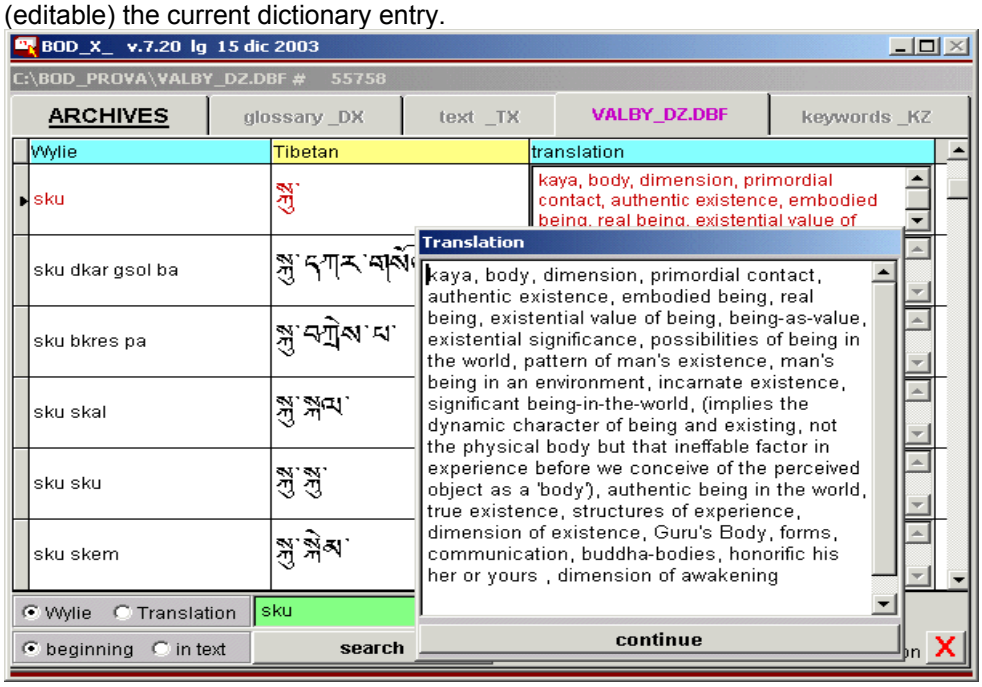


1.1 - Filenames ending with _DZ are a structured form of available dictionaries (e.g. Rangjung Yeshe Dictionary of Buddhist Culture or Jim Valby), therefore they are read-only files;
those ending with _DX are glossaries created and updated by BOD_X program,
those ending with _TX are databases of Tibetan texts created by BOD_X, select one.
The fonts to be used for Tibetan and translation fields is selectable by the user. The Tibetan font must use the Robilard / Tibetan for Windows code.
First, let's follow the path of read-only dictionary files.

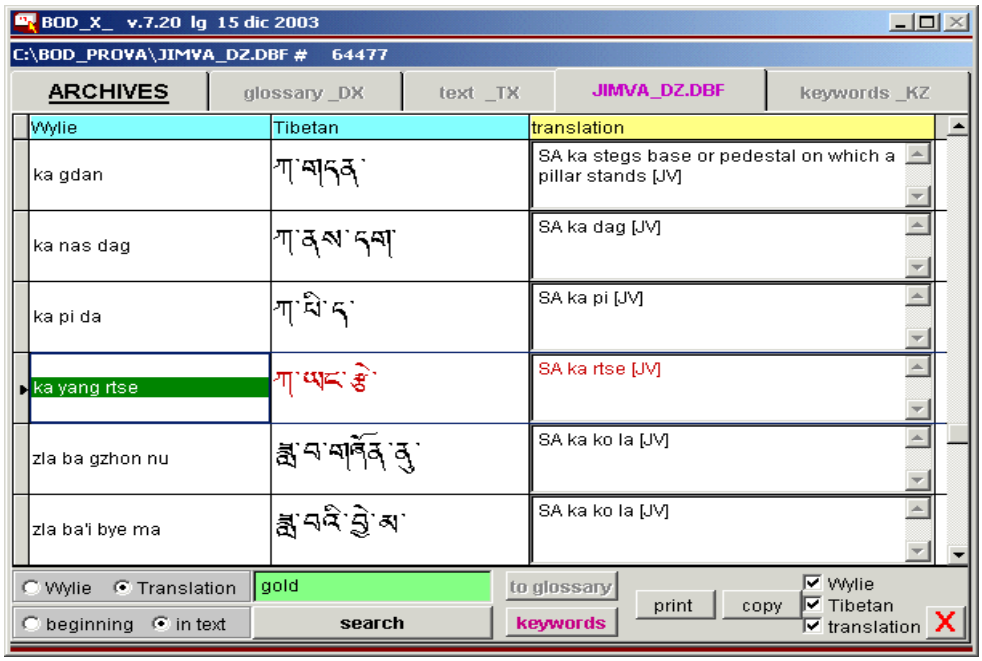
2.0 - Dictionaries are structured in two databases: the Tibetan dictionary itself and a database of keywords selected from English translations text, choose one of the two databases.



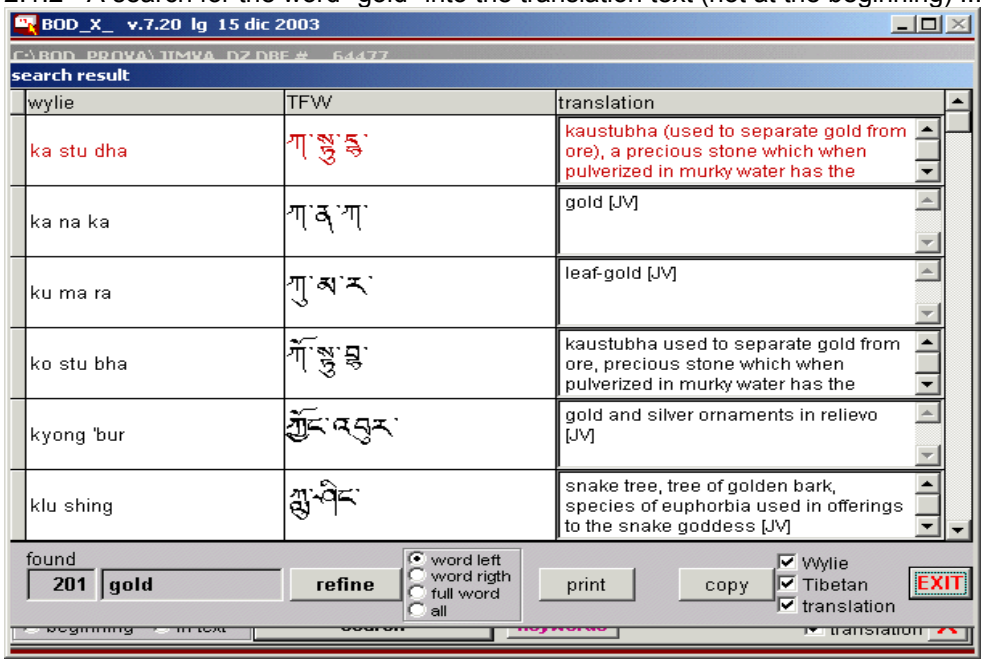
2.1.0 - This is the main form of the dictionary. The order of entries is the natural Tibetan order, the **SEARCH** for a string (of one or more syllables, in the Wylie or in the translation field) can be set to either check only at the beginning or in the entire text field. Fields can be transferred to other programs with the Copy and Paste technique. The **COPY** buttons (with the three checkbox) write the corresponding fields to a .RTF file with the same dictionary filename; this is useful for further word processing. The **PRINT** button queues the current entry to a report list that will be printed when the dictionary is closed. The browsing order (Wylie, Tibetan or Translation is choosen by clicking with the mouse on the column headers, the current order has a yellow background colour. The **KEYWORDS** button creates the database containing all the words from the Translation fields. The **TO GLOSSARY** button (active only when a glossary file is open) copies into the glossary file (editable) the current dictionary entry.



2.1.1 - In this search example the first entry beginning with "sku" in the Wylie field will be set as the current entry. By clicking on the translation, the full content of this field (with has an unlimited length) is shown in a scrolling window.

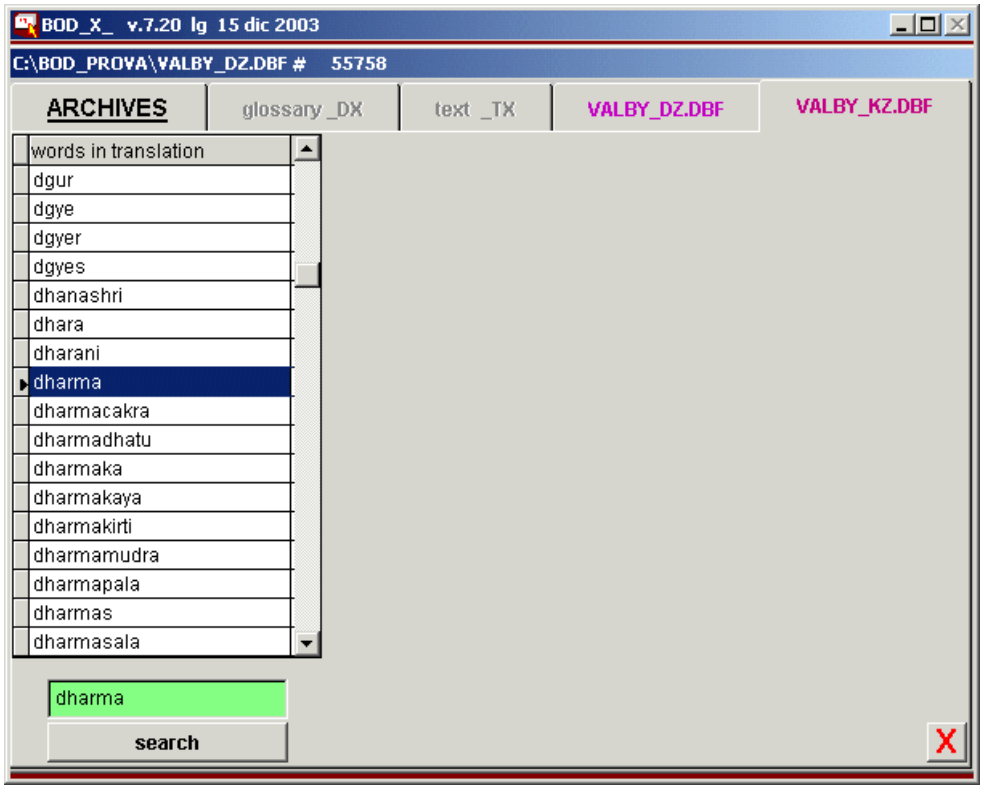


2.1.2 - A search for the word "gold" into the translation text (not at the beginning) ...

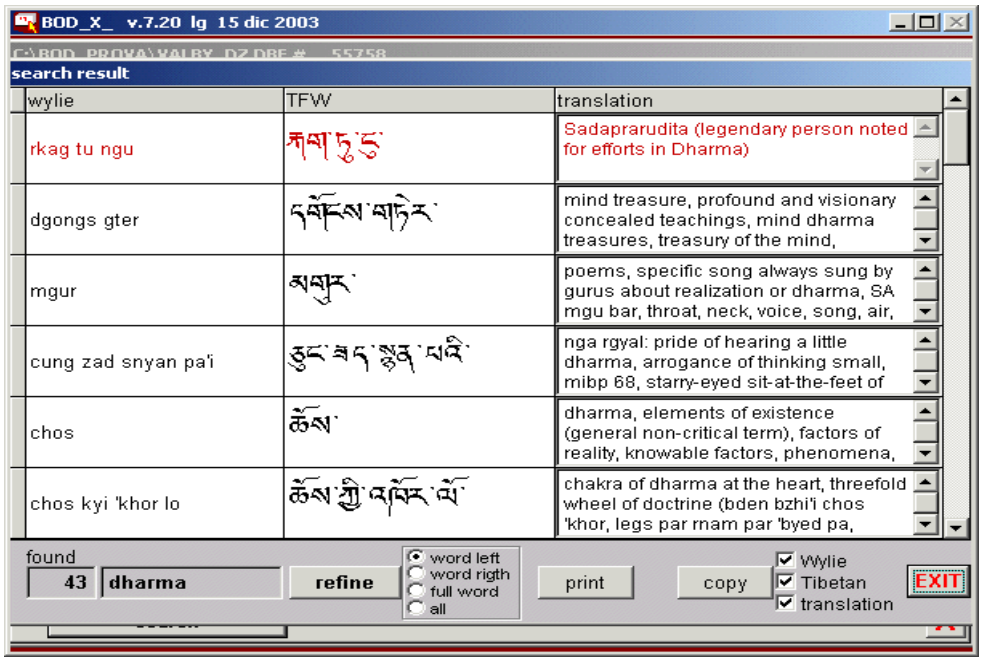


2.1.3 - ... returns 201 entries. In the first search all the words containing "gold" such as "golden", "goldsmith" etc. are found. The search can be refined choosing an option of the REFINE button.

2.1.4 - Most of the buttons show a help text when you move the mouse on them.



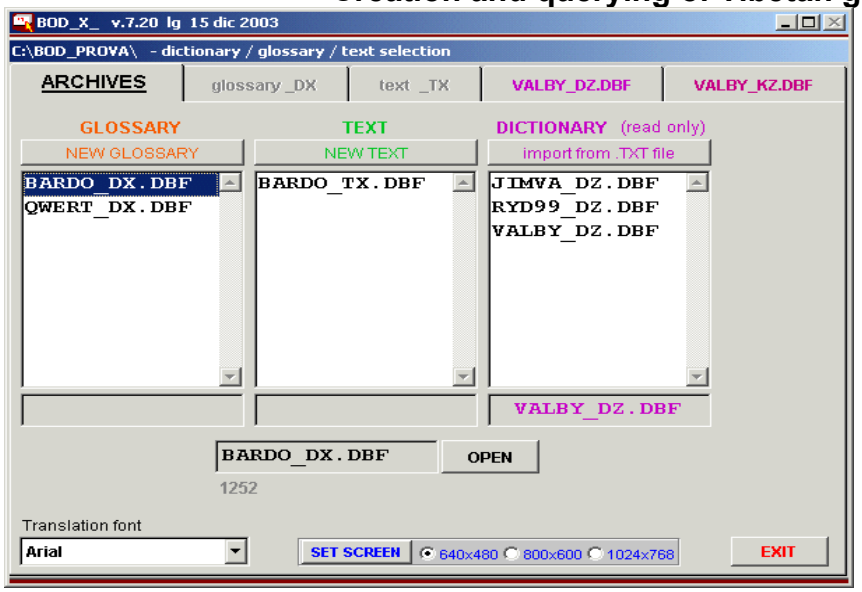
2.2.0 – The keywords database associated with the dictionary was already created the corresponding browsing page is opened, a list of all the words appearing in all translation fields is shown in alphabetical order



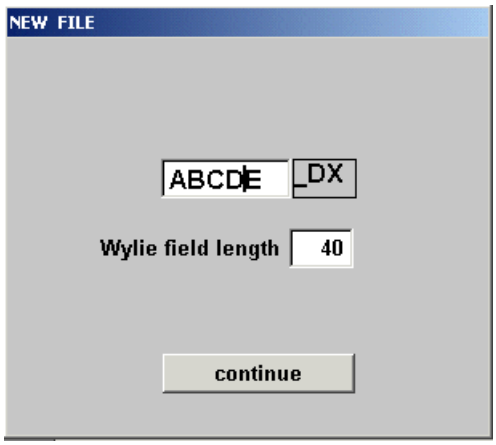
2.2.1 - A search for the keyword "dharma" returns a dictionary subset of 43 entries.

2.3.0 - The  button closes the current dictionary.

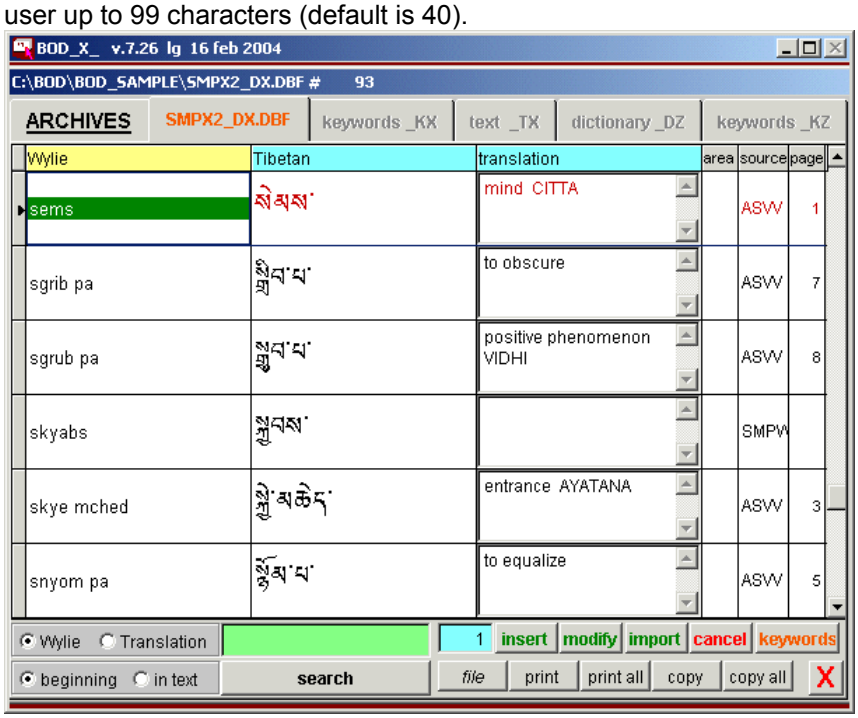
Creation and querying of Tibetan glossaries



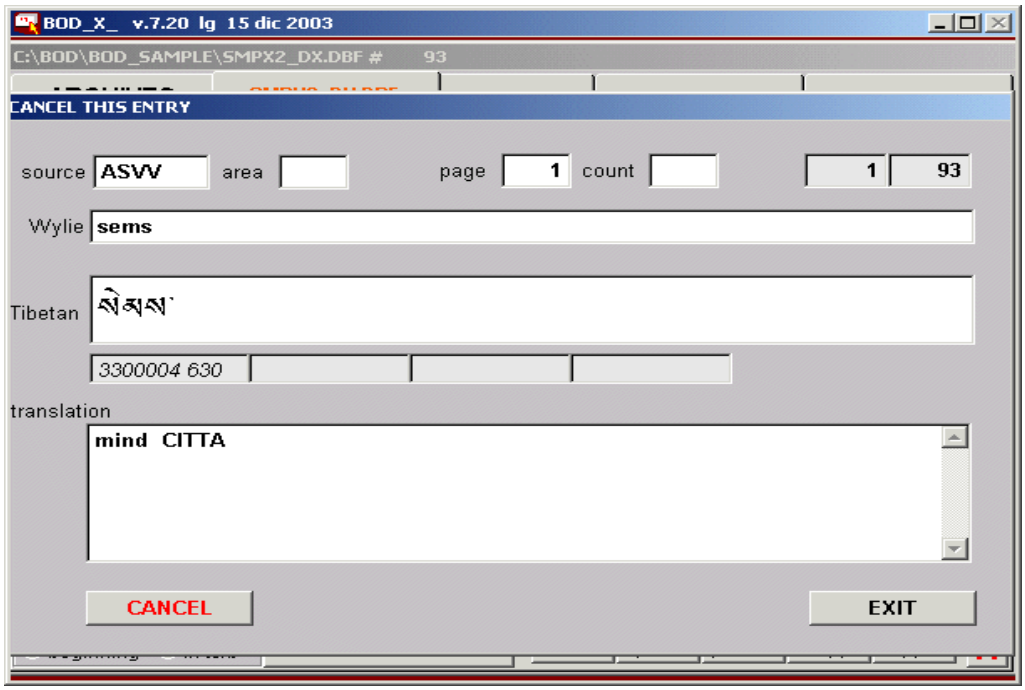
3.1 - After locating the working directory (as seen previously), one of the existing glossaries (file names ending with _DX) is chosen or a new one can be created.



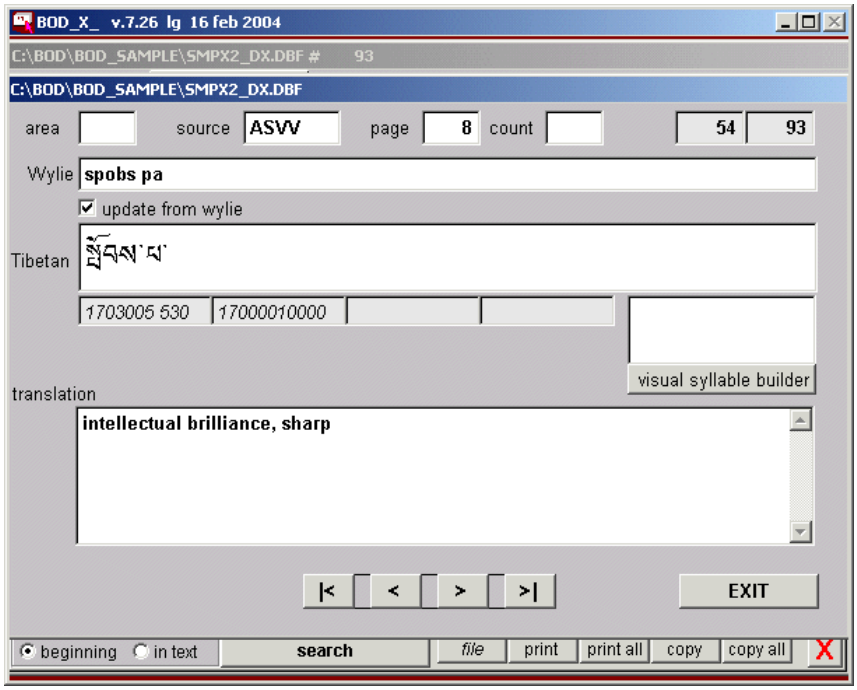
3.2 - In case of a new file, a name of one to 16 character is requested, the length of Wylie field is defined by the user up to 99 characters (default is 40).



3.3 - Each entry in the glossary contains
Wylie transliteration field (up to 99 characters), automatically converted into Tibetan font field (with Tibetan alphabetical order assigned),
an unlimited length field for translation,
additional data in the fields: area (four character code), source (five characters code), page number of text in which the entry occurs, # of occurrences.
A browse form is created for the open glossary. A single click over a translation field opens a scroll window where the whole of this variable-length field can be seen, another click closes the window. You can choose the browsing order by clicking on the coloured header of the three columns: Wylie transliteration; Tibetan dictionary order; Translation for roman alphabetical order; the current order has a yellow coloured background.
The **SEARCH** button works as seen in Dictionary type files. The **KEYWORDS** button creates the database containing all the words from the Translation fields. A set of buttons activate editing functions:

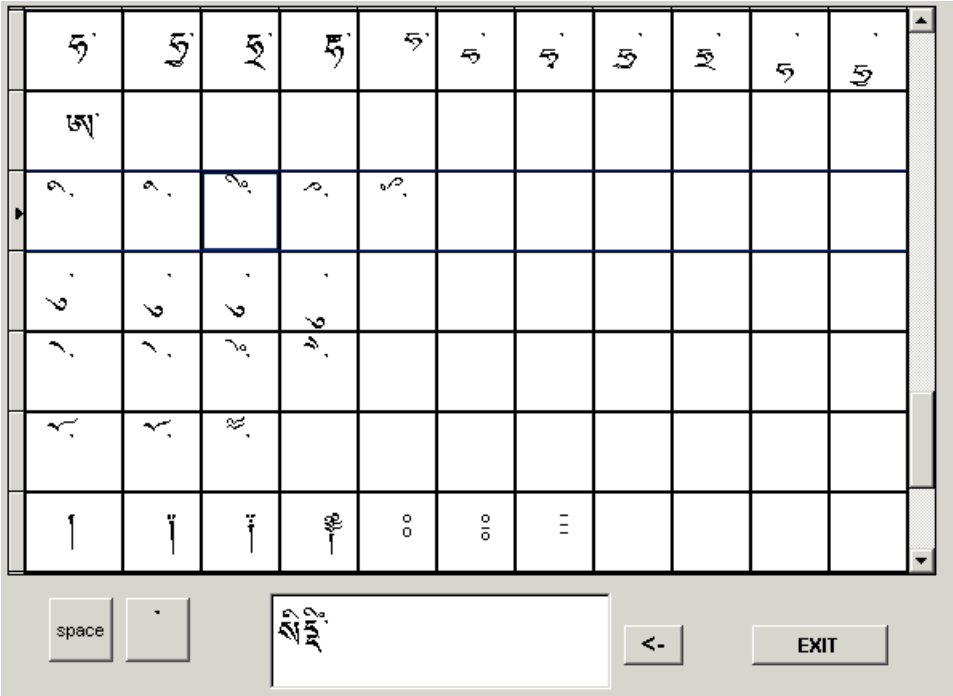


3.4 - **CANCEL** button: a form appears, asking for a confirmation for current entry deletion, a short way to cancel entries is a mouse click in the white rectangle at the left of each line, it turns to black when a line is marked for deletion. Lines can be restored with the **RECALL** function under the **FILE** menu (until the **PACK** function is used: this function finally deletes the marked records).

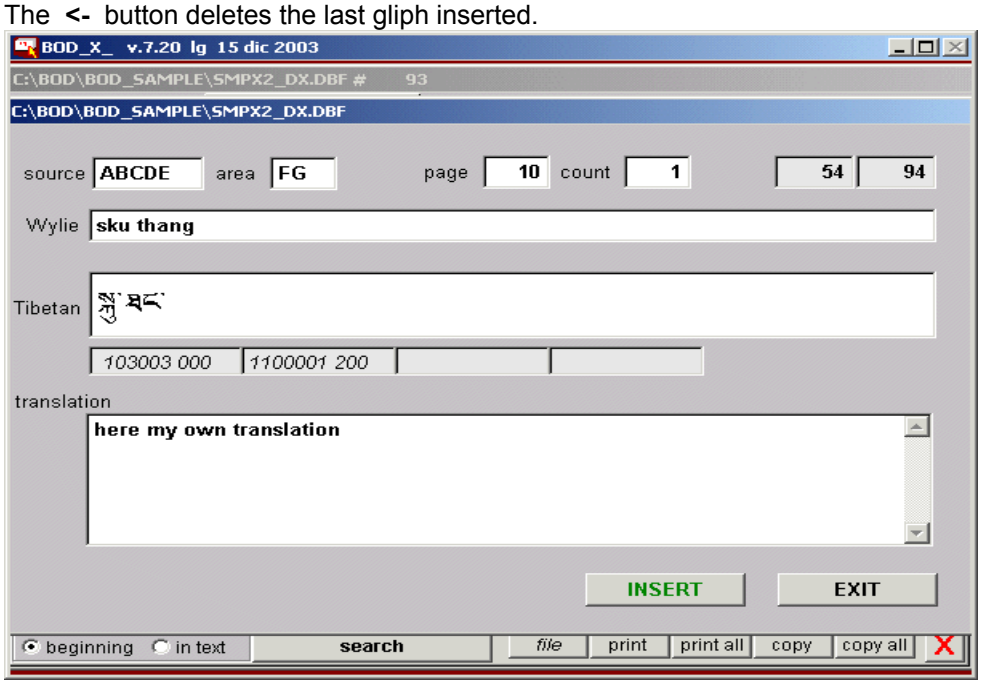


3.5 - Double click on Wylie or Tibetan columns or click the **MODIFY** button to perform changes in any field of the

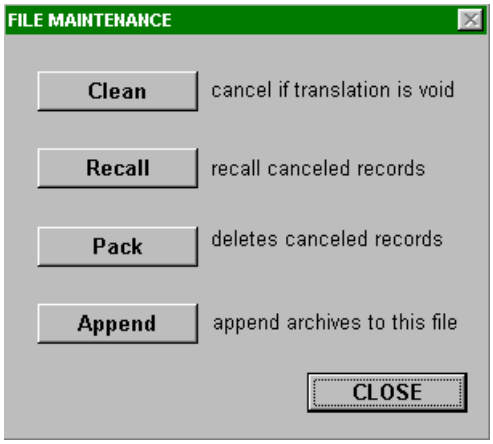
current entry. In the top line two shadowed read-only fields show the current record number and the total record number. At the bottom buttons with arrows allow movement through the file.
The TFW field can be automatically updated from changes in the Wylie field. In case of changes of complex syllables not fully following the basic Wylie transliteration (e.g. mantra), it is possible to avoid this function by keeping blank the "update from Wylie" control box.
If the automatic Tibetan font composer fails (e.g. for complex mantra), it is possible to build the syllable using the “visual syllable builder” and copy into the Tibetan box.



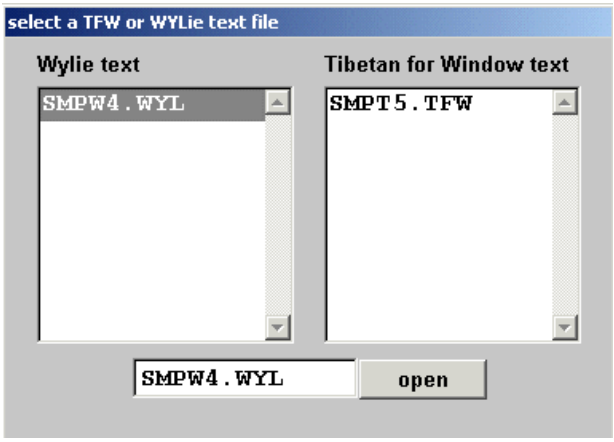
3.6 The various gliphs of the font are composed by clicking on them in the grid.
The **<-** button deletes the last gliph inserted.



3. 7 - The **INSERT** button creates an input form; when you leave the Wylie field (with the "tab" key or by clicking with the mouse on another field) the Tibetan field is automatically filled with the words written in Tibetan font. On top at the right, in a shadowed read-only field, the current number of entries in the glossary is visible.
The **INSERT** button confirms that the new entry has been added, **EXIT** simply return to the main form.



3.8 - FILE button calls a form of file utility commands.

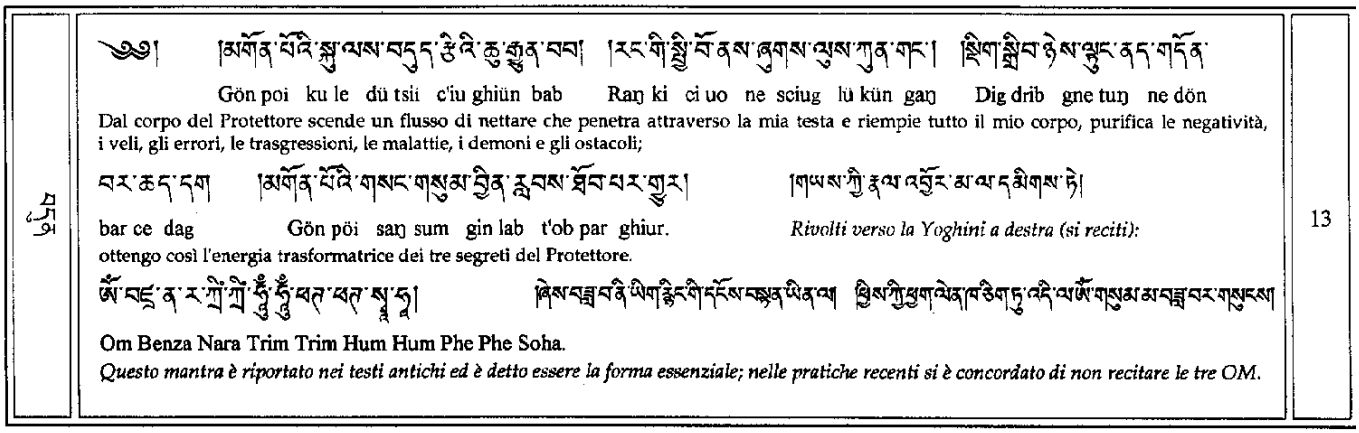


3.9 - The IMPORT button asks for a text file containing a Tibetan text
- in Wylie transliteration format where syllables are joined in words by the hyphen character "-";
- in TibetanForWindows format, where syllables or groups of syllables forming a single glossary entry are separated by the dot character "." ;
This function allows the input of the Wylie and TFW fields from previously written texts.
EXPORT button writes all the glossary on a plain text file, readable by word processors for any user defined layout.

3.10 - The  button closes the current glossary.

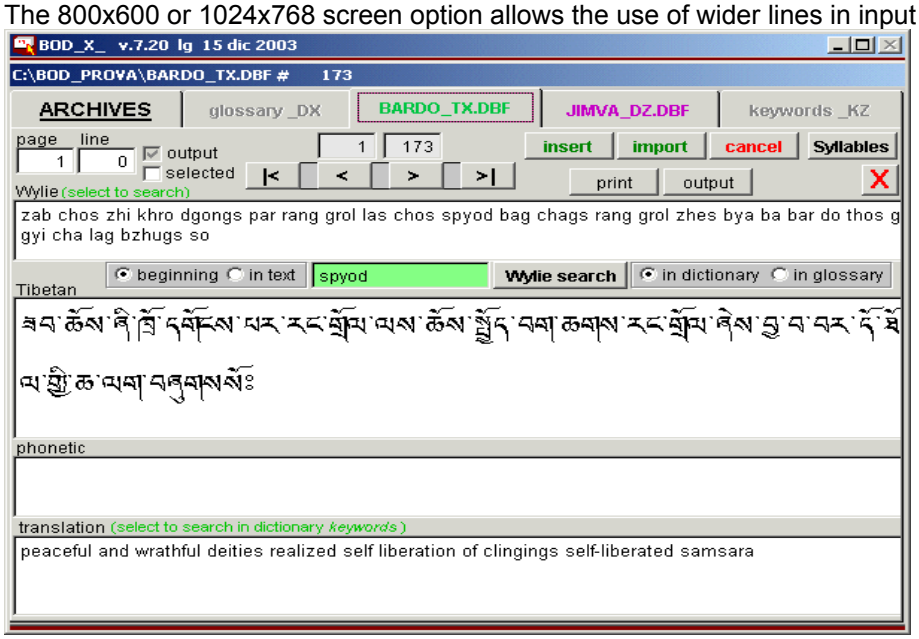
Input of Tibetan texts
with spell checker
and the creation of a database of complex syllables.

An efficient input tool was the first necessity for a western Dharma Centre, where many texts are published in a form suitable for students and followers. Our experience in developing the texts published at the Centro Milarepa (Torino, Italia) brought us to define pages containing sequences of three rows: the first is the Tibetan text in U-chen, the second shows phonetics "as Italian people would read it", useful for those who are not able to read Tibetan characters, and the third contains the translation.
A French version Phonetic is available thanks to Thierry Billon.



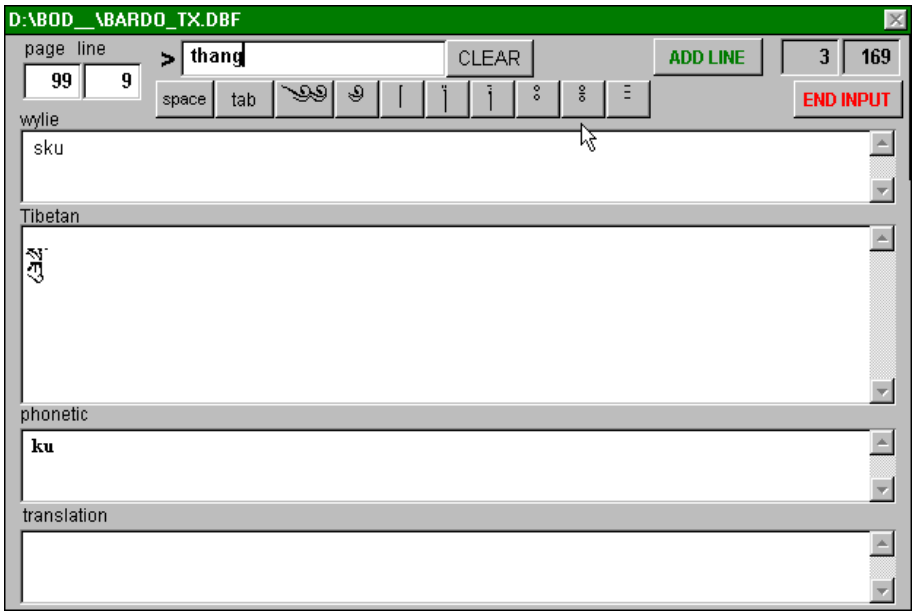
The publishing process follows many steps and can involve different people with different abilities: writing the Tibetan text, proofreading, preparing the phonetics, translating, and assembling everything with a word processor, printing and making copies.
The first and second steps are very time consuming.
The text input functions were developed to improve speed and security in the input phase:
- a database of about four thousand Tibetan valid syllables helps avoid many typing errors;
- the input of every syllable in Wylie transliteration form produces the output of the Tibetan characters on one line and of the phonetic on the other. The automatic phonetic is not always right: often the sequence of syllables requires adjustments, but the program creates a good trace and avoids typing;
- for complex Sanskrit syllables (that escape from the basic Wylie transliteration) every user can build his own database containing a "Wylie-like shortcut", the corresponding Tibetan characters (adding glyphs from the True Type font with the ALT+number technique), and the suitable phonetics.
Other functions are the printing of selected lines and the output to a text file, which is easily imported and formatted with a word processor for the final layout.

4.1 - Filenames ending with _TX are text database created and updated by the BOD_X program; select one or select the NEW TEXT button to create a new one.
The 800x600 or 1024x768 screen option allows the use of wider lines in input text if you have a larger screen.

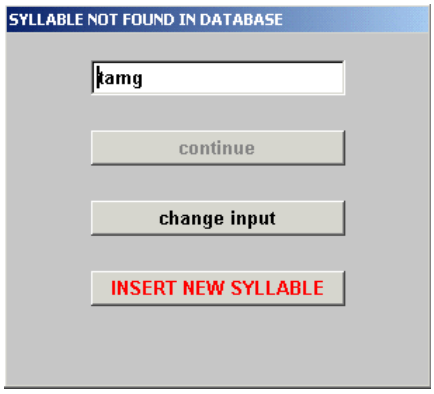


4.2 - The main window shows the page and the line number assigned to the current line of text: they follow the original Tibetan book, and define the browsing order. They can be modified anytime. The physical number of the current record and the total number of records are shown in the top middle of the window and are, of course, read-only.
The "output" mark is set when this line has already been outputted to a text file.
The SELECTED checkbox marks the current line for selection for output or print command.
The CANCEL button deletes the current line. Buttons with arrows move through the file.
The INPUT button activates the input window.
The IMPORT button activates the import (line by line) from a text file containing Wylie strings, the file type must be .WYL
The OUTPUT writes selected lines to a RTF file.
The PRINT button produces a printed report of selected lines.
Wylie box contains the input data; Tibetan, Phonetic and Translation box contain the corresponding syllables in Tibetan font and their phonetics, these boxes are all editable.
The "X" button closes the current text file.

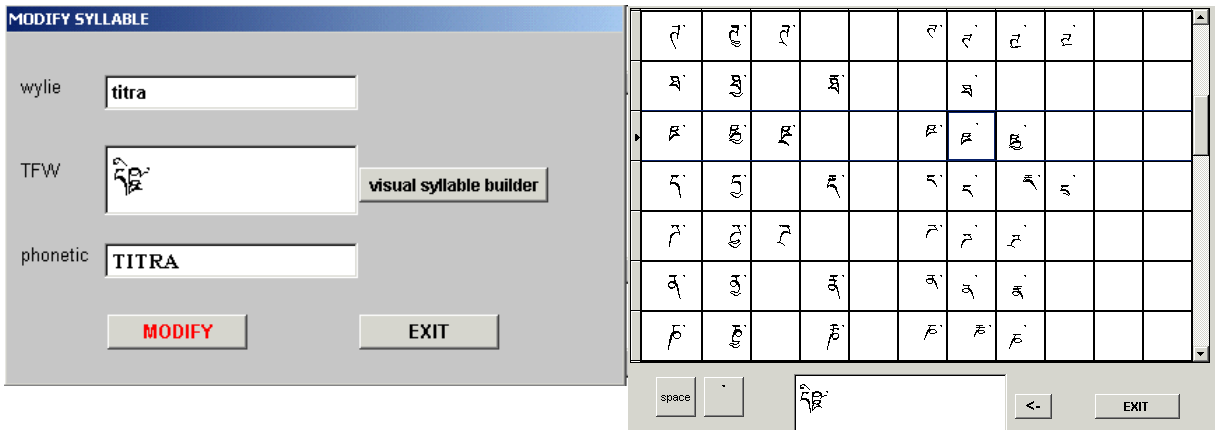
4.3 - If Dictionary and / or Glossary files are open the Wylie Search command is visible and it is possible from here to search for the selected Wylie syllables.



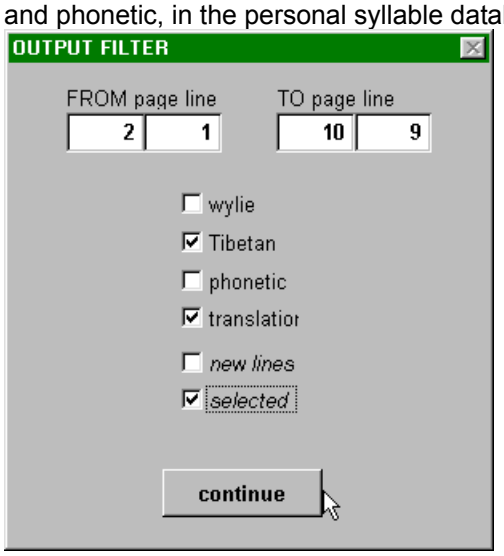
4.4 - In this input form the user sets, first of all, the page and line number, then writes sequences of Wylie syllables in the input box: at the end of every syllable, the pressing the space bar starts the input control process and the conversion in Tibetan font. The CLEAR button is used to clean the input area after typing errors.
The insertion of main punctuation marks is done using the corresponding buttons.
ADD LINE writes the current fields in the text database and makes the window ready for the next line.
END INPUT returns to the main window.



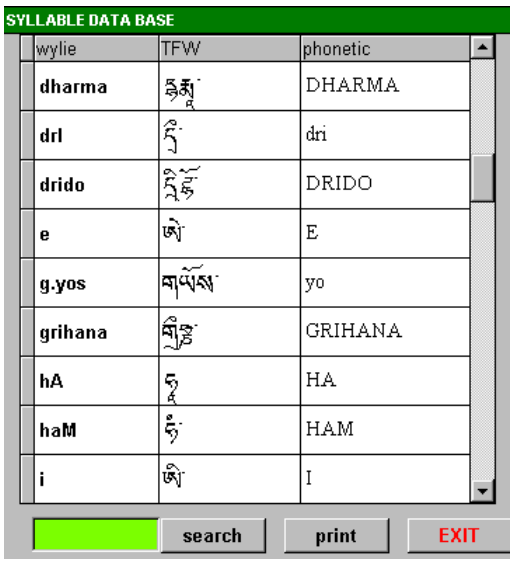
4.5 - A Wylie syllable not present in the valid syllable database activates this window.
CONTINUE takes the syllable as it is (Tibetan and Phonetic field will be wrong: a manual adjustment will be compulsory).
CHANGE returns to the input form for correction.
INSERT adds the new entry in the personal syllable database.



4.6 - New syllables can be added to the personal syllable database, this is useful mainly for complex Sanskrit stacks, when are not recognised by the Wylie interpreter.
Using the “visual syllable builder”, the composed syllable is automatically transferred into the TFW field.
An example of "shortcut": a non-Wylie syllable has been added, along with its Tibetan character representation and phonetic, in the personal syllable database.



4.7 - The OUPUT button activates this window containing many selection choices for the output.



4.8 - Pressing the SYLLABLES button, this grid is activated showing the personal syllable database. Here it is possible to search, to print and to modify entries.

Creation of a dictionary in BOD_X format from .TXT files distributed in Rangjung Yeshe dictionary CD.

1999 version 2: RY-DIC99.TXT
2003 version 3: ry-dic2003.txt, ry-dic2003-prop.txt, IvesWaldo.txt, JimValby2002.txt, RichardBarron.txt.

Just like the Rangjung Yeshe Dictionary CD version 2, also the new version 3 has something wrong in the distribution of BOD_X program: in the "\ry-dictionary2003\SearchPrograms\Leonardo BOD_X", folder a couple of ZIP files are corrupted
The file distribution list, as sent to Erik/Earthlink in february 2003, was as follows with a total of 11 file 4,92 Mb

bod_x_.exe 467 Kb main program
bod_si.DBF 4 Kb personal Wylie input "shortcuts"
bod_si.CDX 3 Kb index
BOD_GPL_.TTF 90 Kb Tibetan font
* BOD_X.pdf 196 Kb Documentation
* VFP6RENU.DLL 3295 Kb Microsoft Visual Fox Pro Runtime library
* VFP6R.DLL 856 Kb Microsoft Visual Fox Pro Runtime library
* bodsample.zip 55 Kb dictionary, glossary, Tibetan text samples
crea_dz_.exe 50 Kb convert from RY txt file to BOD_X database
crea_kz_.exe 30 Kb create database of english words in dictionary

The files marked with * are downloadable from the BOD_X web sites in ZIP format.

From BOD_X_ version 7.20 the import function is included in the main program under the button "import DICTIONARY from .TXT file". Unresolved Wylie syllables are reported in the .ERR file and result as -!!!!- in Tibetan font column.
The creation of the database of translation words (file xxxxx_KZ) is done with the "keywords" button on the DICTIONARY page.
The programs crea_dz.exe and crea_kz.exe are therefore obsolete.

The current version of program and font files is sent by email to requesting users.

Runtime library must be copied in the same folder of .EXE and .TXT
See "Download and Installation" page for the use of runtime libraries

Installation and Download

The current version is compiled with Microsoft Visual Fox Pro version 6, and is named BOD_X_ followed by the version number (e.g. BOD_X_7_29.EXE).
It has been tested under:

- **Windows 98, 2000 and XP**.
- **LINUX** with **WINE** configured as "**nt351**" (I personally tested the SUSE 9.1 release), output document files in RTF format with OpenOffice need the BOD_GPL font in Type1 format (also available on request)
- users reported a successfull use under **MAC** with Windows emulation.

Download

- **VFP6R.ZIP containing VFP6R.DLL and**
- **VFP6RENU.ZIP containing VFP6RENU.DLL runtime library.**

The BOD_GPL_ True Type Font and BOD_X_ executable file will be sent by email (in ZIP form) to the registered users.

To register send

your name,
address,
e-mail
PC and system configuration
few words about your activities and your needs in the field of Tibetan studies

to Leonardo Gribaudo

Create a \BOD_X directory in your hard disk (or use a directory name of your choice but avoid spaces and strange characters in name).
Unzip the downloaded sample files, the libraries downloaded and the files received by email into \BOD_X directory: no installation is required, the register file is not affected, just add the BOD_GPL font to your system.

BOD_GPL FONT.
The Tibetan OCR Project, conducted by Don Stilwell, created Tibetan typefaces (in the form of True Type Fonts) that are released freely and at no cost on the Internet. The fonts and the outlines are released under the GNU General Public License (GPL) for everyone's use.
The font used by BOD_X uses the same glyphs arranged in the "Robillard / Tibetan for Windows" code.

RUNTIME LIBRARIES for BOD_X_ (VFP 6)
Download vfp6r.zip 1994Kb
Download vfp6renu.zip 195Kb
Unzip into your directory, the VFP6R.DLL and VFP6RENU.DLL runtime library files will be created.
From now you can run all the .EXE from this directory.

The table of the ALT+number input codes for all the Tibetan characters and signs, in Robillard / Tibetan for Windows encoding, is contained in the bod_gpl.pdf
Download bod_gpl.pdf 247 Kb

Sample dictionary, glossary, Tibetan text files are contained in bodsamp.zip
Download bodsamp.zip 55Kb

Sample layout for Tibetan style publications are contained in bodxpecia.zip
Download bodxpecia.zip 385Kb

"An electronic grammar of the Tibetan syllables", document of the Tibetan OCR Working Group presented to the Electronic Buddhist Text Initiative Conference, january 2000
Download EBTI2000.pdf 1360Kb

Sample folder using VFP 6

Nome	Dimens...	T
BARDO_DX.CDX	63 KB	F
BARDO_DX.DBF	171 KB	F
BARDO_DX.FPT	76 KB	F
BARDO_TX.cdx	4 KB	F
BARDO_TX.dbf	5 KB	F
BARDO_TX.fpt	92 KB	F
bod_si.CDX	3 KB	F
bod_si.DBF	4 KB	F
bod_x_7_20.exe	525 KB	A
Copying	18 KB	F
FOXUSER.DBF	1 KB	F
FOXUSER.FPT	4 KB	F
smpt5.TFW	1 KB	F
smpw4.WYL	1 KB	F
VALBY_DZ.CDX	770 KB	F
valby_dz.DBF	3.540 KB	F
valby_dz.err	1 KB	F
valby_dz.FPT	4.106 KB	F
VALBY_KZ.CDX	2.032 KB	F
VALBY_KZ.DBF	6.601 KB	F
VFP6R.DLL	3.292 KB	E
VFP6RENU.DLL	855 KB	E

OLD VERSION FROZEN IN JULY 2002

The BOD_X software (built with Microsoft Visual Fox Pro version 3) has been tested under Windows 3.1, 95, 98, NT, 2000.
A known problem occurs with the Microsoft Visual Fox Pro version 3 compiler: when running on a PC with large amount of RAM (more than 256Mb) says "not enough memory available"! Ask Bill Gates for explanations.
If you will use BOD_X.exe, download VFPLIB.ZIP containing VFP300.ESL runtime library.

VFP300.ESL RUNTIME LIBRARY for BOD_X (VFP 3)
Download vfplib.zip 1892Kb
Unzip the vfplib.zip file into your directory, the VFP300.ESL runtime library will be created.
From now you can run the .EXE files BOD_X from this directory.