Berlin Text System 3.0 User Manual (V 1.1)

Contents

Introduction

Welcome to Berlin Text System V 3.0 - a new version of the software, specially designed for editing Ancient Egyptian texts! Its three major components - Text Editor, Lemma List and Thesaurus - complement each other to guarantee the extensive word processing of Ancient Egyptian. The back-end (technical side) and the user interface of the software have been completely redesigned, now including the new database structure (Couch DB), the data format (JSON) and search engine (Elastic search).

Text Editor provides tools for transliteration, translation, lemmatization (assigning a lemma to a word), annotation and hieroglyphic transcription.

Lemma List contains an up-to-date list of Ancient Egyptian and Demotic lemmata, accessible for any BTS user. The ability to modify the lemma list depends on the individual user rights. Each lemma has passport data, transliteration and translation, as well as annotations and comments attributed to it.

Thesaurus compiles the formalized vocabulary (also called "controlled vocabulary"), which is used for the metadata of the database objects. Thesaurus entries are offered in the Passport Editor section of the Text Corpus and Lemma views.

User Manual offers the overview of the features now available in BTS V.3.0.

- **Introduction** chapter provides the description of the system requirements as well as step-by-step instructions for BTS installation and initial configuration. It also includes the description of the user roles.
- **User guide** allows a prompt and easy start into using BTS.
- **Administrator guide** dwells on BTS features available for the user with administrator privileges.
- **BTS User Interface** is a detailed explanation of all elements available in the BTS user interface. This chapter serves as a reference for "User guide" and "Administrator guide".
- **BTS Grammar Rules** is a compilation of the rules BTS uses for transliteration and transcription.

System requirements

Supported Operation Systems: Windows 7 SP1 64-bit

BTS has been tested on Windows 7 SP1 64-bit and Windows 8.1 64-bit. We do not guarantee the full functionality on other Windows OS (XP, Windows 10 or Windows Server).

Required RAM: 4 GB

Your local BTS installation will constantly communicate with the server, updating the data. BTS will synchronize and download all available database files, which are now about 2 GB large. Check your internet-connection and make sure it's working, otherwise BTS will be in offline-mode and will not be able to synchronize with the server.

Attention Mac and Linux users

BTS does not support Mac or Linux OS. As a "workaround" we suggest using a virtual machine with Windows such as WINE and running BTS there. Popular VM solutions for Mac include VM Ware Fusion and Parallels (both commercial) and Virtual Box (free of charge) . You will still need Windows license to install Windows on your VM.

Required Java Version: Java V 7

BTS is a Java application, which requires JAVA Runtime Environment from Version 7 up. To check if Java is installed on your PC, go to https://www.java.com/en/download/installed.jsp. If the required version is not installed, the update will be automatically offered.

Port sharing

The port number used by the Couch DB to communicate with the server should be shared in the firewall of your PC. For the port number see "Install BTS / Database Installation Setting".

Install BTS

Preparing the installation

Extract the BTS program package you received into the directory of your choice. It should contain the following files:

- Installer (.exe file)

- Readme (.txt file)

- Manual (.pdf file)

- Keyman Keyboard (aaew.kmx)

- BBAW Libertine Font (BBAWLibertine_ah.ttf)

NOTE: We recommend to create and use the "standard" directory on "C" drive: "c:\bts".

Installing BTS

Double-click "bts.exe". The "BTS Installation Wizard" will start. Fill out the required fields in the following windows:

1. Database Installation Settings

    • *Database Installation Directory*: A standard location is automatically entered here referring to: "C:\bts\dbdir". In case you have extracted your bts program package, change the path to "*your directory*\bts\dbdir".
    • *Http Port of your CouchDB on Localhost*: The default port number is **9089**.

2. Welcome to the Berlin Text System Installation

    • *Do you have a BTS Server URL?*: Click "Yes" if you want your data to be shared and synchronized with the BTS server. Click "No" if you don't have access to the BTS server and are going to work in the "standalone" mode. The button "Next" will be activated only if you select one of the options.

      NOTE: The software is not yet optimized for working without BTS Server URL. Please always select "Yes" here.

3. Server Connection

    • *Server URL*: Enter the URL of the server that you have access to. Standard BTS Server address (including the port number) is: http://aaew64.bbaw.de:**9589**.
    • *Your User Name*: Enter the user name you received from BTS team.
    • *Your Password for Authentication*: Enter your password.

      After entering the information required, click "Connect to server". In the upper part of the window the status information will appear "The connection you have entered is OK". Note that the button "Finish" is only activated if the connection was successful.

4. Select Projects to Load

    • *Select your main working project*: The default option is "Altägyptisches Wörterbuch BBAW". Another option is "Demotic".
    • *Further projects from which you want to load and read data*: Select a project from "Available Projects" (left text box) and click "Add" to add a project. The project should then appear in the right text box.

5. Finish Installation of BTS

    Click "Finish" to finalize the installation. After the installation the program will automatically start and the "Database Manager" window will open. If Windows-Firewall (or any other Firewall) asks you to grant "bts.exe" access to the system, confirm it.

    NOTE: Although the "Database Manager" window automatically opens after the installation is finished, BTS is still importing the data from the server. This process will take another 20 minutes and is not visible to the user. Close the "Database manager" window and reopen it in approximately 20 minutes. As soon as the "aaew_wlist" displays the number 48500 in "DB Doc Count" column, the process is completed.

NOTE: Sometimes the automatic log-in does not work after the installation and restart. As the result "No user logged in" and "No role" will be initially displayed in the BTS toolbar. In this case, start the program again and log in with your user name and password.

6. Index data

Last but not least. All data imported from the server, should be indexed. Indexing speeds up the search, as the query is not done in the database (which would take time), but in the document indexes.

In the upper left corner of the "Database manager" window click on "Re-index all" . The indexing process will start and may take up to 20 minutes. If indexing has been completed correctly, the corpus color will change from red to green. The databases which are currently being indexed are marked yellow. If indexing was not successful for some corpora try re-indexing them by clicking on the button "Re-index all non-OK".

Update / Uninstall BTS

1. Update BTS

BTS automatically checks for updates every time you start the application. In case an update is found, you will be offered a choice to install it or to postpone it. The update can be installed via program UI of BTS as well. In order to do so click "Help / Update Application" in the top menu bar.

2. Uninstall BTS

BTS is not listed in the "Control Panel / Programs / Programs and Features" section of your operating system. Thus it is not possible to uninstall it in the regular way. To uninstall the application, close the program window and delete all files from the installation folder.

NOTE: You might have to restart your system before deleting the folder. The reason for this is that the DB services of the program might be still running in background after closing the application and therefore might block the deletion.

NOTE: Using "Help / Uninstall software" entry in the upper menu bar of BTS will not uninstall the application completely. It only uninstalls individual components, and sometimes this may not be possible because Database service was started and is still running. You will have to close the program window and delete the files again.

Initial configuration of BTS

BTS installer currently does not create BTS entries in the windows "Start" menu or on the desktop. You can manually create a file shortcut of the "bts.exe" and drag-&-drop it into the start menu and desktop. Double click this icon to start the program.

Configure your BTS

After the initial BTS start, a few settings have to be made. In the Menu bar click on "Preferences / Preferences" and expand the "Berlin Text System General" entry by clicking on the triangle symbol on the left.

1. Active Corpora

Choose the "Corpus Settings" option from the expanded menu and add the available corpora to the list of the "Active Corpora", selecting all corpora you are going to work with.

2. Main working corpus

The check box "Activate to select main working text corpus" is deactivated by default. After selecting this option all new database objects you create (ex. texts) will be saved in the "Main working corpus". For instance, if you mark "bbawbriefe" as the main working corpus, all new objects or texts will be physically located in it, even if you are currently working with e.g. "bbawtotenlit". So pay attention to the location of your new entry and activate this feature only if you feel confident that you need it.

3. Sort by sort key

Expand "Corpus Settings". Click "Corpus Navigator Settings" and activate the check box "Corpus Navigator sort by sort key" if it is not activated (It should be by default). Press "Apply" to save the setting. Repeat the same for "Lemma Navigator Settings" and "Thesaurus Navigator Settings".

NOTE: By default all objects on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a "SortKey" in the Passport data of the object will change its position relevant to other objects, "0" being on top.

4. Text Editor settings

Expand the "Text Editor" entry and select the "Sign Text Editor". Activating "Show Hieroglyphs", "Show Lemma ID", "Show Flexion=Inflection" and "Show Translation" are recommended as the initial settings. This is, however, not required and you can change your preferences any time.

5. Applying the changes

Press "Apply" after each change in order to save it and close the "Preferences" window by clicking "OK".

To be able to use BTS one final step has to be made: the installation of the special keyboard layout which will be used for text transliteration.

Installing and configuring the keyboard

Proceed with the following steps:

1. Install Tavultesoft Keyman Desktop

Keyman Desktop is a free software which manages the keyboard. To download it go to http://keyman.com/desktop/download.php, scroll down to "Download Keyman Desktop 9.0 without any keyboards" and click "Download now". Follow the instructions on the screen for the correct Installation of the program.

2. Install "BBAW Libertine" Font

BTS works with "BBAW Libertine" font which has to be installed into your system (if you haven't done this before). For this, right-click the "BBAWLibertine_ah.ttf" you received with the program package and select "install". Check if the font has been installed in C:\Windows\Fonts.

3. Install the AAeW Keyboard

Now the AAeW Keyboard can be installed in Keyman Desktop. This keyboard layout includes all necessary characters, including brackets, verse points and cartouches.

In the task bar click "Tavultesoft Keyman Desktop" icon and select "Configuration". Click "Install keyboard..." and select file "aaew.kmx" available in your program package. Click "OK" to finish the installation.

NOTE: The "Onscreen Keyboard" function is not available yet. See *Keyboard layout* section of this manual for the position of the characters.

4. AAeW Keyboard characters

(see "Keyboard layout" on the next page)

The lower left characters are entered by simply pressing the key.

The upper characters are entered by pressing **Shift + Key**.

The lower right characters are entered by pressing **Ctrl + Alt + Key**. Ex.: "Ctrl" + "Alt" + "8" = "["

Characters such as "ḫ" are generated by "deadkeys". You type them in by combining the elements "_" and "h" respectively. For example to type "ḫ" press the deadkey (always first) for "_" and then "h".

NOTE: Keyboard only works for characters necessary in the egyptological transliteration, which for example uses "h with dot" (ḥ) but not "s with dot" (ṣ). This means that the deadkey "dot below the character" only works with "h", "k", "t" and "č" but not with "s" (for ṣ) or with "d" (for ḏ).

Keyboard layout

BTS uses the following AAeW keyboard layout.

Keyboard layout diagram (rotated).

Example:

§ ← Shift+"3"

{ ← Ctrl+Alt+"3"

3 → "3"

1. ś Ś
   ḥ Ḥ

2. ı̈
   ḥ Ḥ ḳ Ḳ ṭ Ṭ č̣ Č̣
   č̣ = 2 + c
   Č̣ = 2 + C

3. i̯ u̯
   ḥ̂ Ṱ d̪ Ḏ Ḥ

4. č Č š Š
   ṱ Ṱ

User roles description

User rights in BTS are defined by interplay of the following factors:

- *user role* with respect to particular corpora

- *user status* with respect to particular database objects

- *visibility status* of particular database objects

Independent of the role or status, every BTS user can:

- Access all entries in the drop-down menu "Window".
- Access "Preferences / Database Manager" .
- Adjust personal Preferences (see *Preferences* section for more detail).
- Change his/her own passwords. (Preferences / Change password)
- Access all options in the drop-down menu "Help".

User roles

Users can have one of five different user roles, which apply only to particular corpora: *Admin*, *Editor*, *Researcher*, *Transcriber* or *Guest*. One user can have varying user roles in different corpora (but just one user role per corpus). E.g. a user can be an *Editor* in the corpus *"bbawamarna"*, but only a *Transcriber* in the corpus *"bbawbriefe"*.

NOTE: Unless specifically set by BTS administrator, the default user role with respect to all corpora as well as Thesaurus and Lemma-list is *Guest*.

User status

Additionally to user role, a status of a *Reader* or an *Updater* can be assigned to a particular user with respect to specific database objects. For that right-click on an item and select "Edit Updaters / Readers"

For instance a Researcher with status of an Updater can edit all items in a given corpus. If his / her status is changed to Reader, they will only be able to view the items. Updater and Reader status of specific database objects of a corpus can be assigned to a user by *Admin*,*Editor* or *Researcher* (the latter should have an Updater status) of a given corpus. This is done by right-clicking on a database object, selecting an option "Edit Updaters/Readers" and assigning a user to a user role through the menu on the right.

NOTE: A Reader/Updater status for an entire corpus is not effective for individual items within a corpus. I.e. such a status has to be assigned for users for every database object where a user should have editing rights.

Visibility status

Another factor restricting user rights is a *Visibility status* of a database object, which can be set in the Main Tab of the Passport Editor. The visibility status options are: Public, Reader, Group, Project and All Authenticated. Depending on the visibility status of an item, it may only be available for viewing or editing for users with particular rights. More on visibility status of database objects will be outlined in the description of particular user roles below.

Admin

The administrator role applies only to a specific corpus (not the entire BTS!). Administrator can edit or delete all objects in a given corpus, even if no Updater status for specific objects was assigned to him/her.

Rights

- Can manage and control any user role within a corpus where she or he is assigned. (Not available at the moment.)
- Can edit all items in a given corpus, regardless of their visibility status.
- Can add or remove database objects within a corpus. Deleted items can be found in the "Bin" tab, from where they can be deleted permanently.
- Can assign the status of Updater or Reader to other users who have access to a given corpus.

- The Updater/Reader status is irrelevant for the Admin, since the user role takes precedence and automatically gives the Admin rights to edit database items.
- Can alter the visibility of individual database objects in the Passport Editor (Main Tab).

Limitations

- Admin user role applies to particular corpora only.
- Admin cannot edit the passport data or name of an entire corpus if the corpus was created by someone else. Even if the entire corpus has a visibility status "Public", Admin user will still have a guest status when selecting the corpus. Admin has rights only for individual items within the corpus.
- Admin cannot create new corpora within a project.
- Lemma view: can view Lemma entries but not edit them or add new ones.
- Thesaurus view: can view the Thesaurus entries but not edit them or add new ones.

Editor

Editors may review and correct objects owned by other users even if no special rights for the object were granted to them. Thus they can review and improve the quality of the data.

Rights

- Can edit all items in a corpus where he or she has the editor rights.
- Can add or remove texts/objects within a corpus.
- Can assign a Updater or Reader status to other users, but only for individual database objects.
- Can, technically, change his or her own status as a Reader or an Updater. This is irrelevant though, because the user role "Editor" takes precedence (as in the case of the Admin).

Limitations

- In case the corpus was created by someone else, Editor can modify individual texts/objects, but is attributed a guest role for the corpus itself (cannot edit the corpus passport data, or edit updaters/readers for an entire corpus).
- Cannot create new corpora within a project.
- Lemma view: can view Lemma entries but not edit them or add new ones.
- Thesaurus view: can view the Thesaurus entries but not edit them or add new ones.

Researcher

Researcher may create new objects within a corpus. He/she can also edit or delete their own database objects only, or objects for which they were granted editing rights (Updater status).

Rights

- Can add own database objects within a corpus.
- Can edit own database objects within a corpus, when given an Updater status in that corpus.
- Can assign reader/updater status for other users, but only for his or her own database objects.
- Researcher can change his/her own status from an Updater to a Reader for a database object and thus lose his/her editing rights. He/She will not be able to upgrade the status again, i.e. to change back to the Updater.

Limitations

- Cannot edit the already existing database objects within a corpus (created by other users) when a Reader or no status is assigned to him/her.
- If a text or an object within a corpus has a visibility status <u>Reader, Group or Project</u>, the Researcher will not be able to see the item unless he / she get obtains an Updater/Reader user status.
- Lemma view: can view Lemma entries but not edit them or add new ones.
- Thesaurus view: can view the Thesaurus entries but not edit them or add new ones.

Transcriber

Users who are allowed to transcribe a text. They may not create new objects and may not change anything except adding transcription to text for which they are granted the "Updater" status.

Rights

• Can edit hieroglyphs for items within a particular corpus (only with the "Updater" status).

Limitations

• Cannot edit transliteration, lemma or passport data of the corpus items.
• Without a Reader status in a given corpus, database object or text: can only view the corpus items, but is not allowed to edit them in any way, which also includes hieroglyph input.
• Database objects with a visibility status *Reader, Group or Project* will not be visible when no status is assigned to the Transcriber.
• Cannot edit the Thesaurus and Lemma entries.

Guest

Guests can read data but are not allowed to create new database objects, edit or delete anything.

If a guest is given no status (Reader/Updater), he or she will not be able to see the database objects in the corpus with a visibility status: Reader, Group, or Project. However the entire corpora with one of the statuses will still be displayed for her/him and the database objects within it will be viewable.

Even if a guest has not been given such status for a particular corpus, they will still be able to view its content.

A guest may view the lemma and the thesaurus views.

User roles sum-up

ADMIN				
DB Object Visibility	**User status**			
	No status	*Reader*	*Updater*	*C*
Public	Can edit all	Can edit all	Can edit all	
Reader	Can edit all	Can edit all	Can edit all	
Group	Can edit all	Can edit all	Can edit all	
Project	Can edit all	Can edit all	Can edit all	
All Authenticated	Can edit all	Can edit all	Can edit all	
EDITOR				
	No status	*Reader*	*Updater*	*C*
Public	Can edit all	Can edit all	Can edit all	
Reader	Can edit all	Can edit all	Can edit all	
Group	Can edit all	Can edit all	Can edit all	
Project	Can edit all	Can edit all	Can edit all	
All Authenticated	Can edit all	Can edit all	Can edit all	
RESEARCHER				
	No Status	*Reader*	*Updater*	*C*

	No Status	*Reader*	*Updater*	
Public	Can view, not edit	Can view, not edit	Can edit all	
Reader	Cannot view	Can view, not edit	Can edit all	
Group	Cannot view	Can view, not edit	Can edit all	
Project	Cannot view	Can view, not edit	Can edit all	
All Authenticated	Can view, not edit	Can view, not edit	Can edit all	
TRANSCRIBER				
	No Status	*Reader*	*Updater*	C
Public	Can view, not edit	Can view, not edit	Can only edit Hieroglyphs	
Reader	Cannot view	Can view, not edit	Can only edit Hieroglyphs	
Group	Cannot view	Can view, not edit	Can only edit Hieroglyphs	
Project	Cannot view	Can view, not edit	Can only edit Hieroglyphs	
All Authenticated	Can view, not edit	Can view, not edit	Can only edit Hieroglyphs	
GUEST				
	No Status	*Reader*	*Updater*	C
Public	Can view, not edit	Can view, not edit	Can view, not edit	
Reader	Cannot view	Can view, not edit	Can view, not edit	
Group	Cannot view	Can view, not edit	Can view, not edit	
Project	Cannot view	Can view, not edit	Can view, not edit	
All Authenticated	Can view, not edit	Can view, not edit	Can view, not edit	

Glossary

This manual used the following terms to for the description of the user interface:

- Menu bar
- Drop-down menu
- Drop-down menu entry
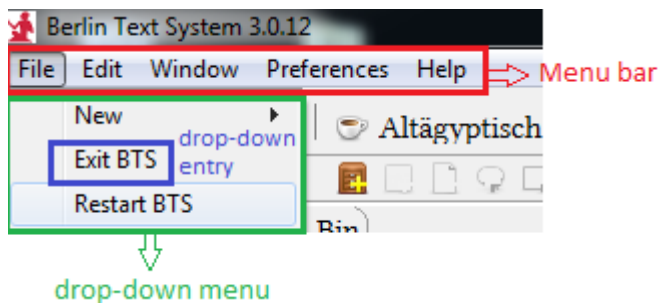
- Toolbar
- Toolbar entry
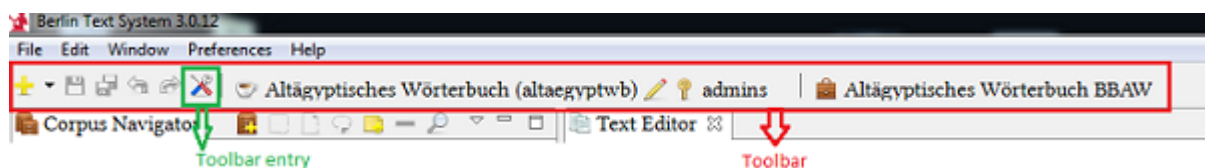
- Icon
- ToolTip
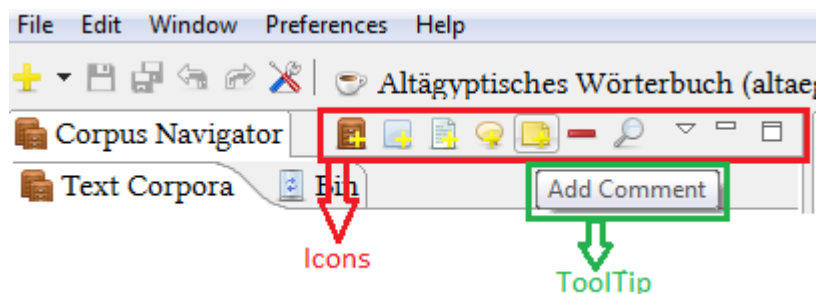
- Workspace / Workspace mode
- Viewing mode
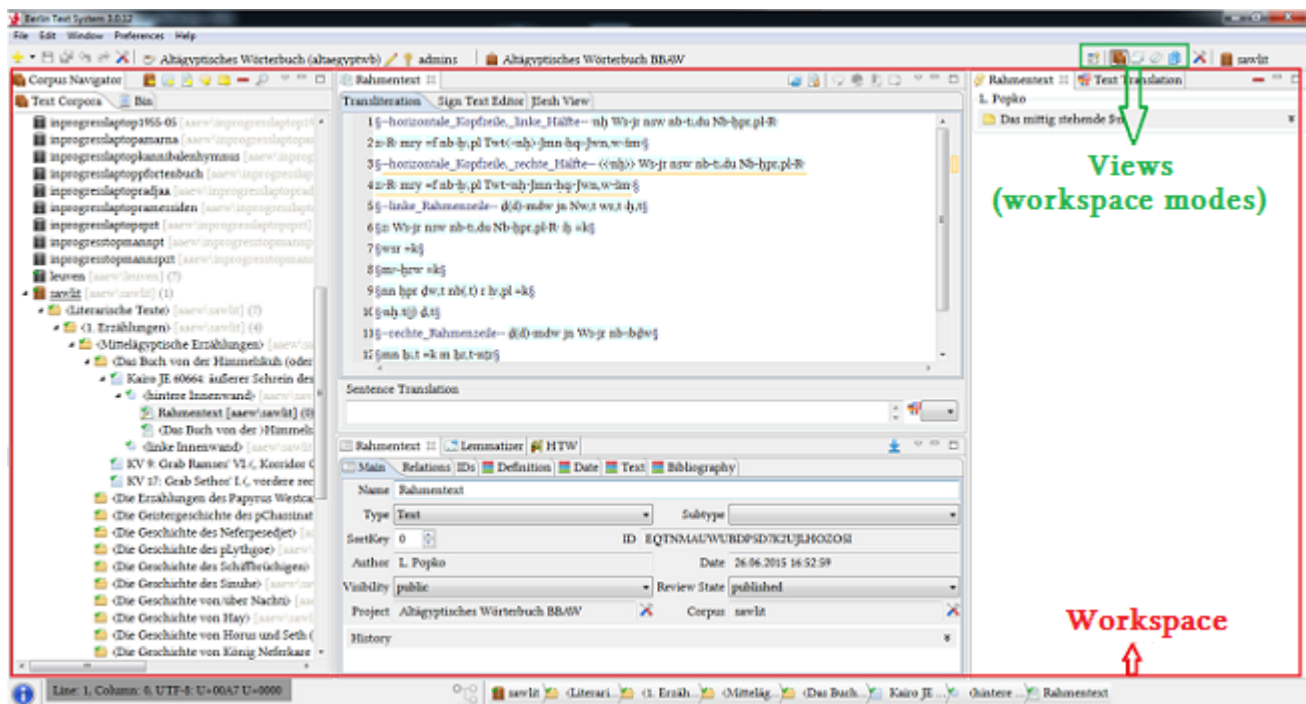
- Navigation tree
- Node (= Branch) - entry in a navigation tree, which can be further expanded, ex. text corpus, text corpus object or a text.
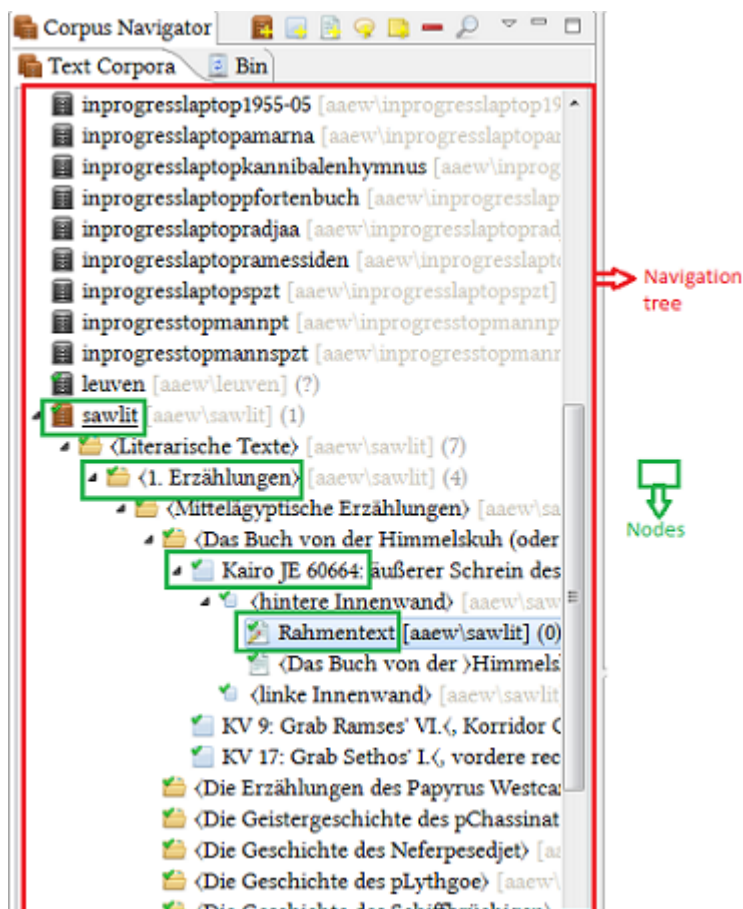
Moreover the following terms are used:

- Database object: any element (item) of the database (text, word, object etc.)
- Text corpus object: an item of the database, referring to a physical object. Texts and text corpus objects are in child-parent relation, i.e. text is always attributed to the object.
- Child-parent relation: the relation of subordination between two items of the database.
- Lemma: the canonical form (dictionary form) of a set of words.
- Token: the representation of lemma in the text (word form)
- Local and remote databases: local databases are running on user's PCs, remote databases are located on BTS central server in Berlin.
- WCN: word corpus number

User guide

Introduction to BTS User Interface

This chapter provides the brief introduction to the BTS User Interface (UI).

The BTS program window is split into four major sections:

- *Menu bar*
- *Toolbar*
- *Workspace*
- *Status bar*

The Menu bar and the Toolbar are located at the top of the program window. At the bottom of the program window the Status bar is displayed. The area between Toolbar and Status bar is called Workspace. The contents of the Workspace change depending on the viewing mode. BTS has four such modes, activated by clicking on a relevant button on the Toolbar:

 Text Corpus view

 Lemma view

 Thesaurus view

 Abstract Text view

Within each view there is a number of windows, which may include tabs and sub-tabs. Tabs can be freely moved and even drag-&-dropped outside of the BTS program interface into a separate window.

The default arrangement of the windows is currently the following (see the screen-shot below):

- **"Navigator" window on the left**

  Depending on the view selected, it can be called Corpus-, Thesaurus- or Lemma Navigator. The tabs are the following: for the Corpus Navigator: "Text Corpora" + "Bin"; for the Lemma Navigator: "WL" + "Bin"; for the Thesaurus Navigator: "Thesauri" + "Bin"; and for the Abstract Text Navigator: "Ths" + "Bin".

- **"Annotation and Translation" window on the right**

  In Lemma and Thesaurus view the "Translation" tab is not displayed.

- **"Editor" window at the top center**

  In Text Corpus view this window contains "Text Editor" tab with three sub-tabs: "Transliteration", "Sign Text Editor" and "JSesh View". In Lemma view it is called "Lemma editor" with no sub-tabs. Abstract Text view contains both "Text editor" and "Abstract text editor" tabs.

- **"Passport Data Editor", "Lemmatizer" and "Hieroglyph Type Writer (HTW)" as one window at the bottom center**

  At the bottom three tabs are grouped together in one window. The Text Corpus and Lemma views display all three. Thesaurus and Abstract Text views have only "Passport Data Editor" tab.

  NOTE: as soon as a database object is selected in the Navigator window, the titles of the tabs "Text Editor", "Passport Data Editor", "Lemmatizer" and "Translation" adopt the selected database object name.

Create / modify a database object

The following functions are available to the user with administrator privileges over a given corpus.

Creating a database object

1. Choose the corpus from the corpora tree where you wish your object to appear. You can add an object to a corpus or to another already existing object.
2. Click "Add Text Corpus Object" in the toolbar. This action will add an object as a sub-entry of the chosen corpus.

   NOTE: Currently the new objects and texts will be saved in your main working corpus and not in the selected corpus if those two differ. New objects will appear in the selected corpus, but will not be saved there.
3. Name your object in the *Main Tab* of the Passport Editor (The "Name" input field will appear red). You can actually start working without naming your object and name it later. Until it is named, the object will appear in the corpora tree with the default name "BTST Object".
4. Define the Type and, if applicable, also the Subtype of the object. Provide as much information as you can by filling out the tabs of the *Passport Data Editor*.

Creating a text

1. Select *a node* in the Corpus Navigator where you'd like to place your text. You can add a text to an object or even to an already existing text.
2. Click "Add Text" in the Corpus Navigator toolbar. A "child"-element will be added to the selected object. The default title "BTS Text" will be attributed to it (in order to see it, you might have to open the parent object).
3. Name your text in the *Main Tab* of the Passport Editor. (The "Name" input field will appear red until it is filled out.) You can actually start working without naming your text and name it later. Until then the default name will be "BTS Text".

Moving database objects

To change a physical location of a database object (marked in square brackets aside the name) from one project or corpus to another, right click the chosen item and select "Move among projects" in the appearing context menu. In the

opened window the current physical location is displayed. Alter the entries as you wish (upper field for a new project and lower field for a new corpus in the project). Changing the physical location does not affect the position of the database object in the Navigator tree.

Deleting database objects

To delete a database object (corpus, object, text) select it and then click on ▬ "Delete". It will be moved to the bin (⬆ "Bin" tab in the Corpus Navigator section), where you have the opportunity to restore it (right click the object and choose "Restore" from the context menu) or to delete it permanently. All subordinate elements will be deleted as well. Upon closing or restarting the BTS all the items in the Bin will be deleted permanently.

Edit a text

The process of editing a text begins with entering the transliteration in the Text Editor Transliteration field. However, in order to enter a transliteration, you first need to *install and configure the keyboard* provided by the BBAW. Other steps in the text editing process involve lemmatizing (analyzing a word regardless of its inflected forms) of your transliterated text, assigning *inflection codes* to the lemma, entering translation and hieroglyphs to the text. You can also add comments, rubra, etc. to the transliteration whenever you wish. The following order of editing is not compulsory. It is only supposed to help you with particular functions of the BTS. It is up to you to decide the order of the text editing.

1. Transliteration

To enter or edit the transliteration of your texts, click in the "Transliteration" tab of the *Text Editor* in the upper centre of the Text Corpus view.

Transliteration follows the BTS *grammar rules*.

The most important rules are the following

- Start and end each sentence with the sentence marker "§".
- Use the "space" key only between two words or extratextual information, not after typing a sentence marker "§" or after opening brackets.
- Brackets come in pairs. You have to close every bracket you have opened. Sometimes the system will do this automatically, but there are cases where that does not work. Clicking "CTRL+Space" will show the markers that are allowed at the position of the cursor. For recurring elements you also can define a template in the *Preferences*.
- The dual and plural endings are transcribed with ".w" or ".wj/.tj" when written phonetically. When marked graphically, they are transcribed with ".pl" or ".du". When the plural and dual endings are written both phonetically and graphically they are transcribed with both options: "w.pl" or ".wj/.tj.du".
- Ambiguities are entered as: "%case 1: rd.du| case 2: war,t.du%". Be careful not to type a space in front of the vertical stroke. You can input as many cases as you need.
- It is not allowed to leave out an ending ("nb."), to write two full stops ("nb.."), to close brackets before you open them ("n]b[") or to interlace different kinds of brackets wrongly ("{n[b}]").

Using Templates

It is possible to use templates in order to speed up the transliteration process. Note that you can create your own templates (*Preferences*). You can access the templates by right-clicking in Text Editor and choosing "Content Assist". Depending on the position of the cursor (within a sentence / word or outside the sentence marked by §§) you will get a different set of templates to choose from. This can be influenced by changing the "Context" of your templates (see *Preferences*).

Adding Extra-textual Information

- Line counts are introduced by #lc: and end with **#**. The numbers are written in square brackets. E.g.: Line 1 = #lc: [1]#
- Paragraphs start with #para: and end with **#**. E.g.: CT VI 106a = #para: CT VI 106a#
- A destruction is indicated by two hyphens **--...--**. E.g.: --rest of line destroyed--, --3Q-- (destruction of 3 scriptorial squares).

- If the number of words missing can be determined, use underscores in brackets "[___]". E.g.: "[___] [___]" for 2 missing words.
- All other descriptive information is to be put between "#": E.g.: #in front of the first person looking left:#; #3Q are left empty#.

Some transliteration conventions

- Ending within word-stems: "," (comma). E.g. *#m,t*.
- Grammatical endings: "." (dot). E.g. *n#r:w; s#m.n =f*.
- J-Augmentation: ":" (colon). NOTE: Not for causatives or other prefixes!
- Suffix: "=" (equality sign). NOTE: A space has to be inserted before this sign (e.g. sḏm.n =f).
- Use of "j" instead of "ı#".

  Use of "q" instead of "ḳ".

  Use "~" for syllabic writings, e.g. g#~w#~š#.

See *Grammar Reference* for detailed information.

2. Translation

You can type the translation of individual sentences in the text input field "Sentence translation". This window will

remain deactivated (greyed out) during transliteration, until you press the button "Load Text Lemmata".

Make sure to have selected the right language of your translation in the drop-down menu on the right. (: de, en, fr, es, ru). In the standard view only one line will be visible. The default language of your choice can be setup in the *Preferences*. Extend the text editor window and scroll up and down if the sentence contains more than one line. The complete translation of the text will appear on the right of your BTS screen in the "Text translation" section. Clicking on a sentence here will highlight it and the same sentence will be underlined in the "Transliteration" subsection. You will have to enter the translation sentence by sentence (designated in the transliteration with §§). The input of the complete translation as a running text is not possible.

3. Lemmatizing and encoding inflections

To lemmatize a transliterated text two tabs should be open: "Sign-Text Editor" (default location: top center) and "Lemmatizer" (default location: bottom center; note that the title of the latter changes as soon as you selected an element in the Navigator tab). Only non-colored (white) tokens in the "Sign Text Editor" are lemmata and can be lemmatized.

Several elements are displayed in the "Lemmatizer" tab:
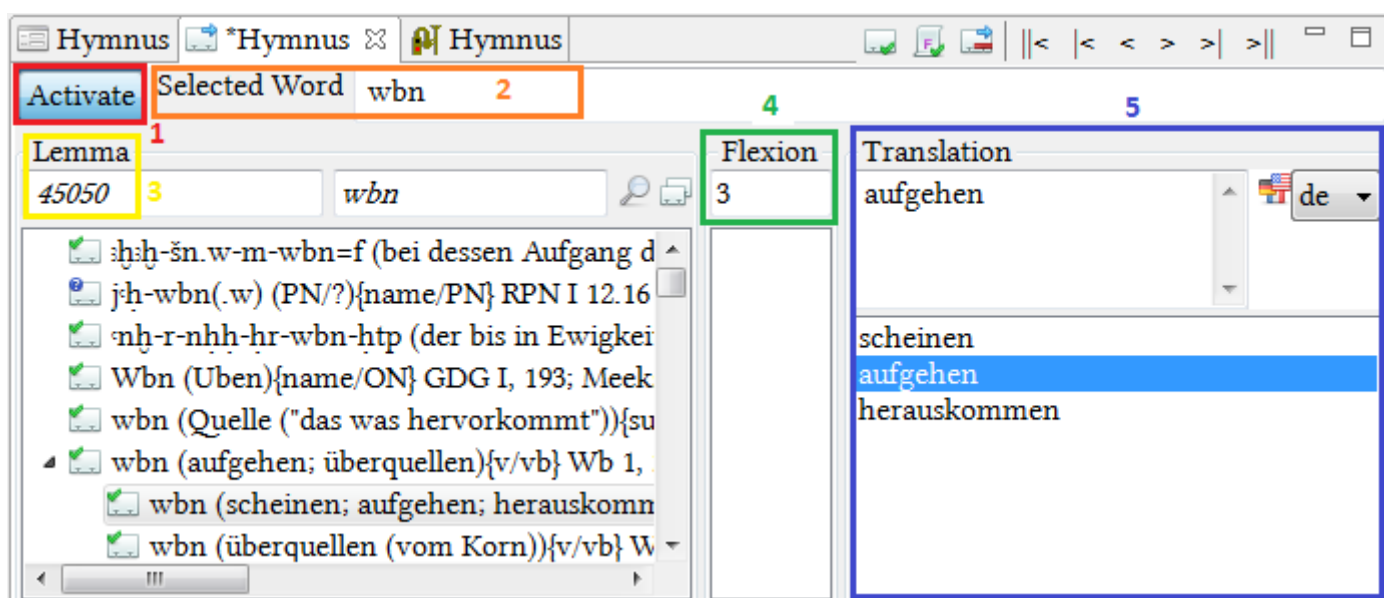
1. "Activate" button: activates / deactivates other fields
2. "Selected Word" displays the transliteration of a lemma selected in the "Sign Text Editor". In the example above *wbn* has already been lemmatized, so the other fields are filled out. If you find out that you have made an error in the transliteration, you can modify it in the "Selected Word" field and it will be altered in the Sign-Text-Editor and the Transliteration tab automatically.
3. Lemma provides the lemma number from the word list (WL). Next to it, the selected transliteration of a lemma is displayed. To lemmatize a lemma, select the correct suggestion from the list in the field below. The default setting in Preferences / Preferences / Lemmatizer allows you to activate the function "automatically select the first lemma proposal".
4. The field "Flexion" shows the code referring to the grammatical form of the inflection of the selected word.
5. In the field "Translation" you can choose one or several fitting translations from the lower field (in the example there is only one option, but there can be more). Make sure to have selected the correct language in the drop-down menu on the right. The only choices currently available for the Lemmatizer are German and English. Choose several available translations by left-clicking and holding CTRL at the same time. If none of the options seems fitting to you, you can enter your own translation as well.

If you cannot find a lemma, click the magnifying glass 🔎 and search for it in the lemma list by entering the WCN (word corpus number) or the name of the lemma. You can also reduce the search results by using the filters "Search for IDs" or "Search for Names only". Additionally, you can automatically add wild cards / quotation marks by clicking the provided buttons in the Search pop-up. More on search function see the corresponding *section*. If the lemma you need does not exist please contact the BTS Project.

To confirm click on 📥 "Confirm current lemma editing and continue to next lemma" or on ">" button. ">|" brings you to the end of the line and >|| to the end of the text.

To delete lemmatization click on 📤 "Remove lemma information" in the Lemmatizer toolbar.

4. Annotations, Rubra, Glosses and Comments

BTS text editing tools include an annotation, a rubrum, a gloss or a comment, which can be applied to a word or a sequence of words, a sentence or several sentences.

What is the difference between an annotation, a subtext, a rubrum or a comment?

Annotation is intended to provide the extra-textual information for parts of the text, which may include bibliographical references via Thesaurus. Annotations can thus include meta-data. Annotations are not limited to one fragment, they can be connected with more than one section of a text. You can use annotation, for example, to divide

your text into chapters (e.g. first part being a biography and the next an offering scene), as the titles of particular sections cannot be inserted in the transliteration in the Text Editor.

Subtext is use it to mark sections of a text in a case when the sequence of the chapters is not clear.

Gloss is a brief explanation of the meaning of a word in a text.

Rubrum is used to mark rubrum in the text.

Comment is an information to a text which can discuss problems of a phrase or a word but cannot be related to other sections (unlike annotations, comments cannot have meta-data such as e.g. bibliographical information).

To edit a text, use buttons above the "Text Editor" tab

Mark the sequence you want to annotate: for only one word you just place the cursor within the word; if the word comprises a single character only, place the cursor directly behind the character). You can create more than one annotation for the same token, and vice versa, the same annotation can be created for different tokens.

NOTE: If buttons are deactivated, click somewhere outside of your text and then again in it.

Add Annotation

Adds an *Annotation* to the selected part of your text. A grey bar appears in the "Annotation" tab to the right, with a thin like marking which part of the text the annotation refers to. It is possible to enter Passport Data, as you may want to provide meta-data (extra-textual information).

Add Rubrum

Converts the selected part of the text into a rubrum, which is indicated by red color of the text and a grey bar on the right.

NOTE: Currently you cannot delete rubra via the "Undo" button.

Add Subtext/Gloss

Can be used as either a subtext or a gloss. Clicking on a button will add a "child"-element of your text in the corpora tree. It can be edited like a regular text.

Add Comment

Adds a comment to the selected part of the transliteration. This will be underlined yellow.

You can also use these functions via the drop-down menu that appears when you click on the triangle to the right of the annotation symbols.

The existing annotations are displayed in the *Annotation tab* on the right. A new annotation will appear at the bottom of this list. With the arrow on the right you can expand the annotation and see more information as well as further editing options.

You can delete the annotation by selecting it and clicking ▬ Delete in the upper right corner of the Annotations tab. A confirmation window will appear, click "Delete" to confirm or "Cancel" if you changed your mind.
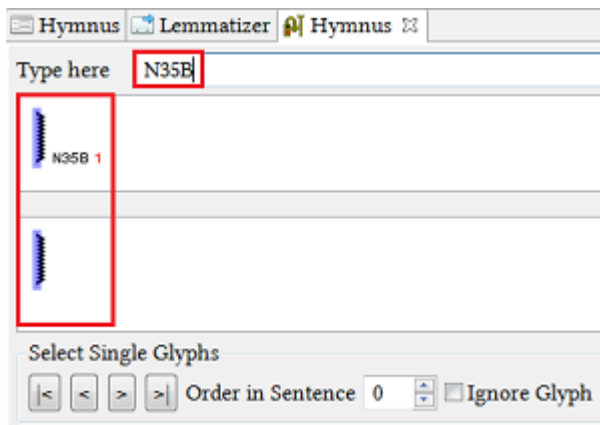
5. Entering Hieroglyphs

To edit the hieroglyphs of your text, you need to switch to the Sign Text Editor and then open the Hieroglyph Type Writer (HTW). HTW is based on JSesh application, created by Serge Rosmorduc.
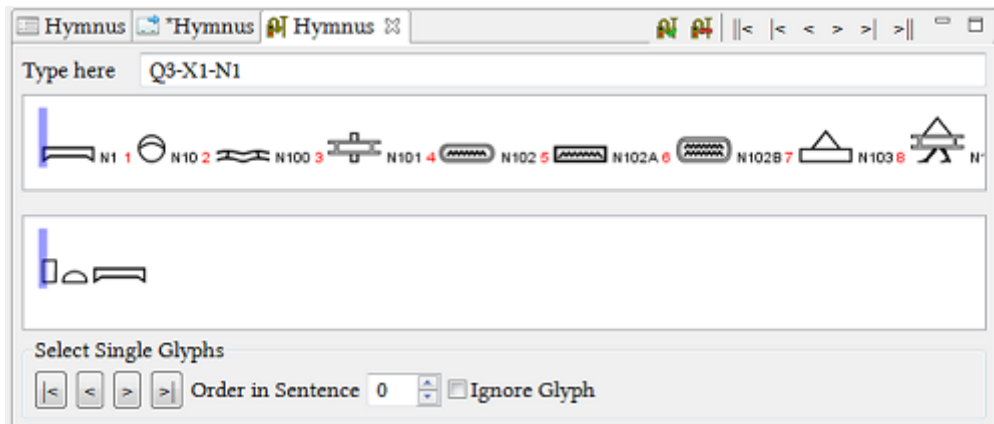
1. Click on a transliterated lemma in the Sign Text Editor tab, the word will be highlighted yellow. In the Hieroglyph Type Writer tab click into the "Type here" text field - this is where the hieroglyph input takes place. There are two different ways to enter the hieroglyphs. The first one is to enter the numbers of the Gardiner sign list (e.g. F18). The second is to enter the transliteration according to the Manuel de Codage rules.

2. When entering the first letters of a transliteration of a lemma, the programme will present you a list of hieroglyphs to choose from. Every hieroglyph has a number in red appearing next to it. To select a sign which does not appear on the first position on the list, press CTRL button on your keyboard and a number corresponding to the red number of the chosen sign. E.g. in the following screenshot there are four options presented for the input of the letter 'n'. If you would like to select the N35B-sign you would have to press CTRL+3.
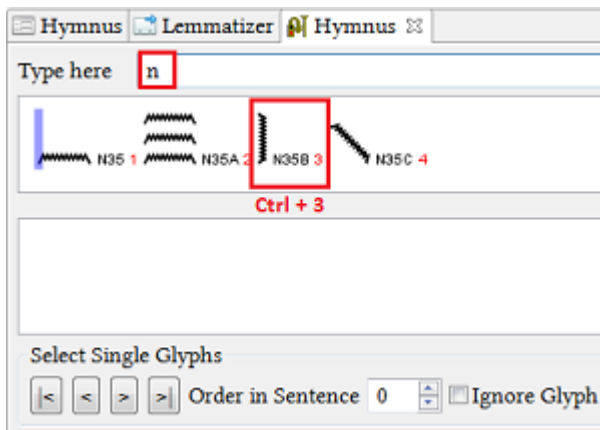
Afterwards, a Gardiner number will appear in the "type here" field and you will be able to continue hieroglyph input normally.

Separate the hieroglyphs of a word either only by "-" between the hieroglyphs (then all signs will be written one behind the other) or group them according to the "Manuel de Codage" rules with "-", "*" and ":". For more details see the section *Grouping Hieroglyphs*.

NOTE: Do not use the space bar to separate the signs.

3. In order to confirm the input of the signs and end the work on one word, either press ENTER on your keyboard, or click the icon of the scribal tool in HTW. You can also simply click on another word in the Text Editor if the word on which you would like to work is not the next one. Additionally, you can navigate between the words with the following icons in the HTW: ||< and >|| will bring you to the first and last word of the document respectively.| < and >| will bring you to the word at the beginning and end of the line respectively (the line as it appears in the Sign Text Editor, not the line of the given text), < and > will bring you to the previous and next word respectively. Furthermore, a Tool-tip will be displayed on mouse-over for each icon.

4. After the input and confirmation of the signs, upon returning to a transcribed word, Gardiner numbers of the signs will be shown in the "type here" field, even if the signs were initially entered as "Manuel de Codage" transliteration. In order to see the number sequence, select an already processed word.
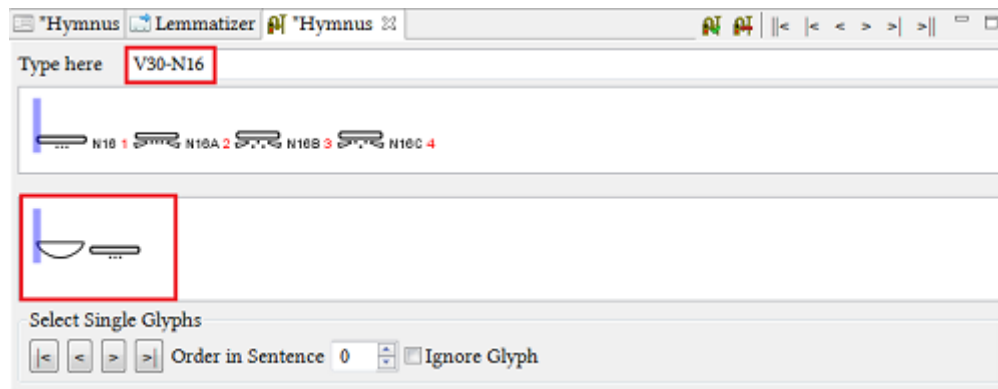
5. If you need to correct an already confirmed word, you can return to it by clicking on it in the Sign-Text-Editor or by using the previously described navigation icons and then making alterations in the "Type here" input field. If you need to delete the already entered hieroglyphs, you can simply use BACKSPACE or DELETE button on your keyboard and confirm by pressing ENTER. You can also click on the "Remove Hieroglyph Data" in the toolbar in the upper right corner, after clicking the chosen word.

Destructions and omissions

Shading (a complete destruction of a hieroglyph)

A complete destruction of the hieroglyphs (when the sign cannot be recognized anymore) is not to be reconstructed in square brackets (as in the transliteration). Instead, shading is applied to indicate that the destroyed sign cannot be read. The size of the destruction is not important, the shading will always be same size (see screen-shot below). You can enter it by using "//".
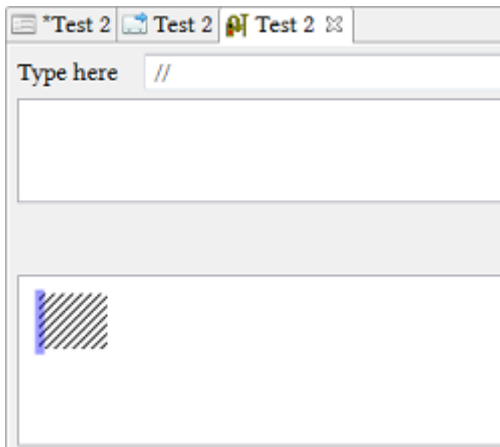
Partial Destruction

When a sign is only partially destroyed (part of it still visible and identifiable), it is rendered by half-square brackets. The half-square brackets are entered with [?-Hieroglyph-?] (see screenshot below). Please enter each partially destroyed sign separately (i.e. for each sign the brackets have to be entered separately; only one sign is allowed in one set of brackets).
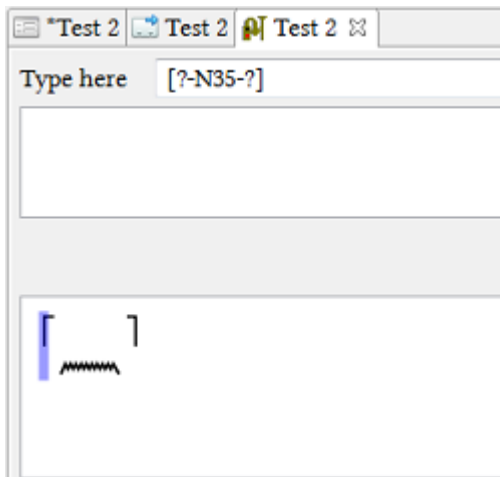
Missing Hieroglyphs

If a sign or a word is missing altogether (not destroyed) by omission of the scribe in antiquity, it is not to be supplemented. Only what is present in the text is to be encoded. If there is an empty space between two signs left in antiquity it is to be encoded with '..', as in the example below:
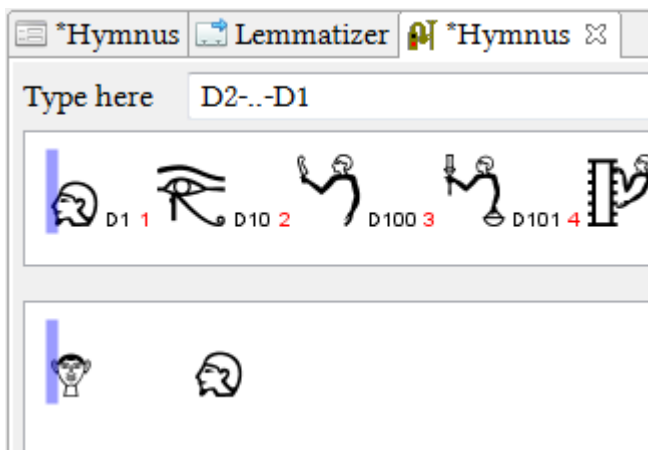
NOTE: Mistakes made in antiquity are not to be reproduced as such in the encoding!

Special signs

Dots

The black dot is rendered by the capital letter "O" and the red dot by the small letter "o".

NOTE: These are not verse points; dots with the uncertain meaning are found sometimes in hieratic texts.

Cartouches

A cartouche is an oval form surrounding a word: It is to be entered with <-G7->.

Serekhs

A serekh is to be entered with <S-G7->.

Hw.t-sign

A sign in a rectangular enclosure (Gardiner's O6) is to be entered with <H-G5->.

Haplographies

Haplographies are encoded normally at the position of the first occurrence. In the further occurrence they are to be
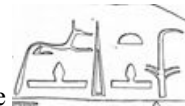
encoded in double angle brackets: [&-[&- + Hieroglyph + -&]-&] . E.g. in this case the sign X8 should be written twice, so it needs to be inserted into double angle brackets in the position where it should occur for the second time: M23-X1 R4 X8 [&-[&-X8-&]-&] E15 R4.

NOTE: Some hieratic signs like lines or dots without hieroglyphic equivalent are available in the Ff group.

Inversions

When the inverted words form a single lemma the sign-sequence is to be entered as it appears in the script.

When the inverted words do not form a single lemma each word is to be encoded with the signs that belong to it. The inverted sign-sequence cannot be reproduced.

When the inversion occurs while the word boundaries are broken , e.g. ,the signs have to be assigned to words they belong to (in this case V30+G7 and I9 separately). The inverted sign-sequence cannot be reproduced/depicted with the hieroglyphs but the program offers an option to mark such inversions.

Select Single Glyphs

This function is available for the last type of inversions. To mark the correct position of G7 determinative, select it using buttons |< < > >| . The selected sign will be marked red. After that set the "Order in Sentence" to the position where the sign occurs in the manuscript. Then do the same with the I9 sign. In the example below G7 and I9 have to switch to positions 7 and 6 accordingly.
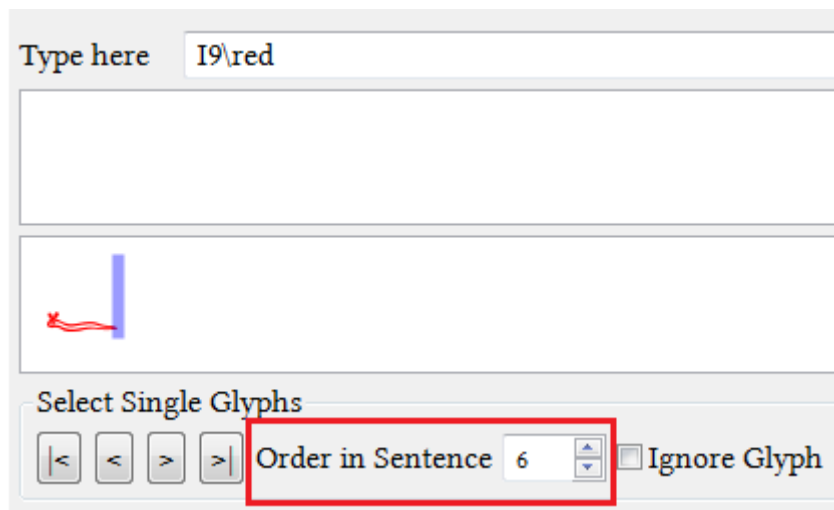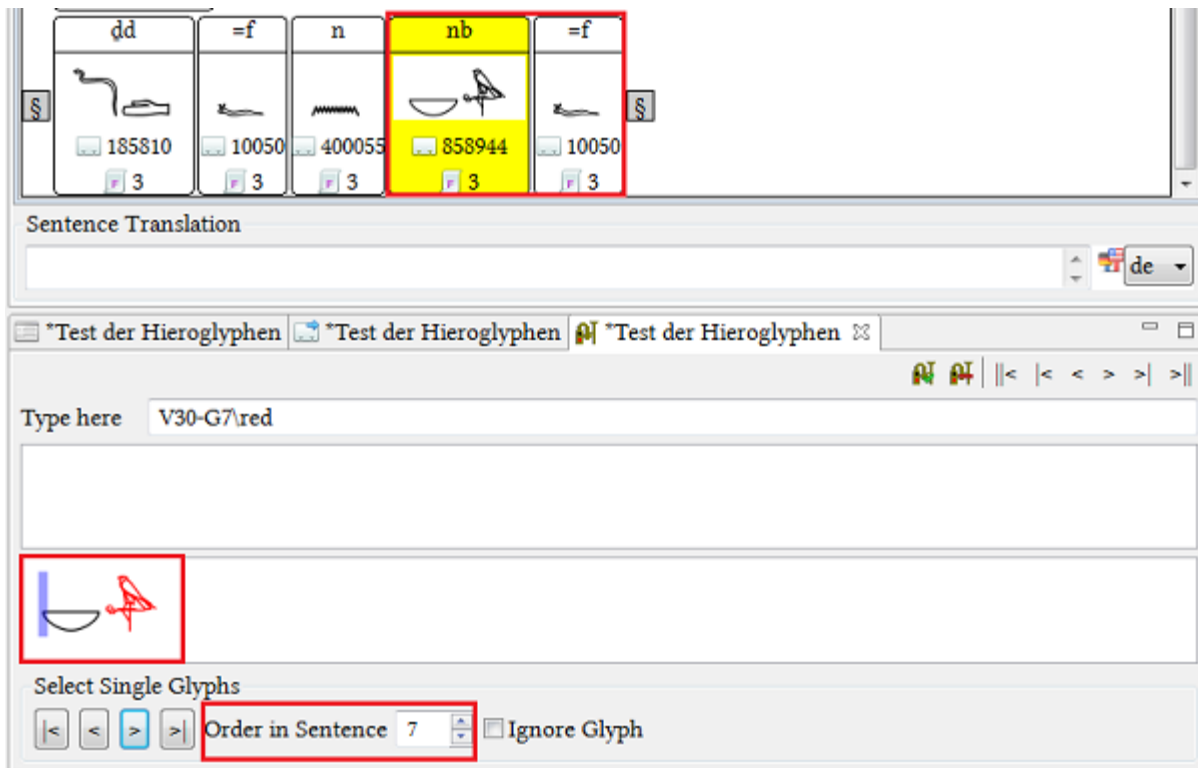
Grouping hieroglyphs

Use ":" and "*" to group hieroglyphs. It is crucial that you work with the photos or facsimile of the original text. Publications containing hand- or computer-written hieroglyphs may present the hieroglyphs in a different order than the original text. If neither photo nor facsimile of your text is available, please refrain from grouping the hieroglyphs.

NOTE: due to technical reasons, columns have to be transcribed into lines.

Example:

H-t:p =

Q3*X1:N1 =

Grammar check

The BTS is capable of checking a transliteration for errors by using system grammar rules. This does not mean that it can recognize false lemmata or transliteration errors and correct them. In fact, grammar check follows the internal logic according to which specific signs can only occur in specific combinations. It detects disagreements with this logic and marks them:
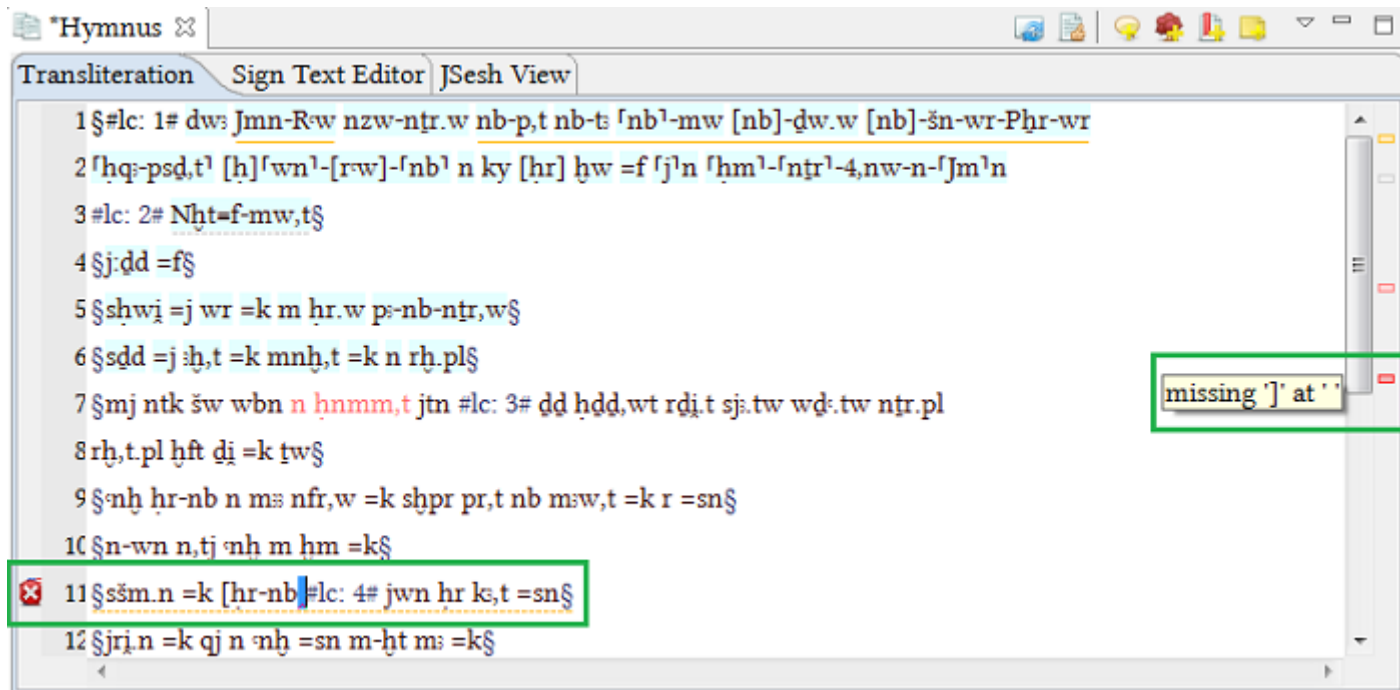
Errors can be marked by:

1) ❌ - sign on the left of the text;

2) a dark red rectangle on the right next to the scroll bar of the Transliteration tab. NOTE: dont mess them up with the light red rectangles, which show the location of a rubrum. Upon mouse-over on the rectangle the tool-tip will be displayed, explaining the cause of the error.

In the example above (see screen shot) a square bracket was opened, but the second one is missing. If you insert the required symbol the error message will disappear.

List of error messages and their solutions:

Modifying the object's passport data

Link to the video.

provide two examples – one for text and one for a Text Corpus object.

For detailed description of passport editor fields see *Passport Editor*.

Data saving options

There is no auto-save function in BTS 3.0. Make sure you save your work in regular intervals to avoid loss of input.

The options for saving files are the following:

- The program will save your file automatically after you select a different database object.
- You can save manually by clicking buttons 💾 or 💾 in the toolbar. See *Toolbar* for more information.
- If you have not saved your work before leaving the program, clicking on "Exit BTS" or "Restart BTS" will trigger the warning: "Select the parts to save" .

NOTE: We recommend you to save your work in regular intervals. In case your operation system or BTS software hangs up, you may lose your data.

NOTE: Created database objects will be automatically saved but changing any data (including their names etc.) requires manual saving.

Configuration

The BTS allows you to adjust various settings in a way that best suits your needs.

The features available for configuration are:

- Changing font size
- Adjusting display
- Templates

Changing font size

Changing font size of the BTS is quite simple. Select Window entry from the Menu bar. The first option in the drop-down menu will be "Switch Font Size/CSS Theme". Click on it in order to enlarge the font. There is no list of font sizes to choose from. The font size will be enlarged or shrank upon clicking on the entry. Clinking on the entry the second time will bring back the original size and change the look of the BTS a little. Next two clicks will keep enlarging the font with the new coloring. The next clicks shrink it again and bring back the original coloring. Test it out in order to establish which look is the best for you. The example below demonstrates the look after three clicks on the "Switch Font Size/CSS Theme" entry.
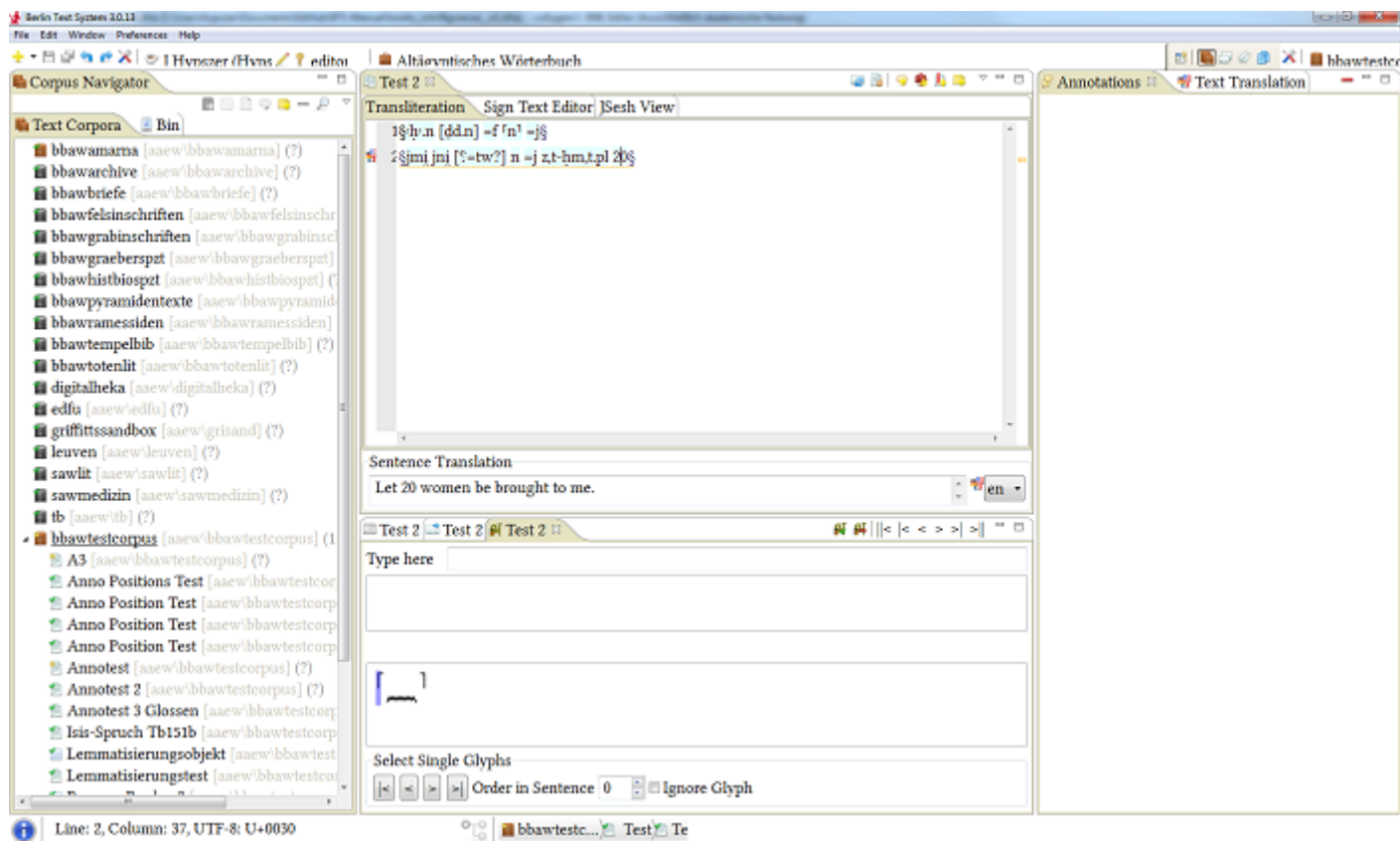
Adjusting display

BTS is flexible when it comes to the location and display of individual tabs within it.

Minimizing/Maximizing

Most tabs can be minimized or maximized using those two buttons: ▭ and ▢ respectively. When you have maximized or minimized one or several tabs of the workspace (Corpus Navigator, Text Editor, etc.), the respective icons will appear on the right or left side of the program window. See *Window* for explanations of the icons.

This example shows the maximized Text Editor. Other tabs are minimized and displayed as icons on the right and left (marked by a red rectangle). To restore minimized tabs, click either their icon or restore ▭ icon above it.
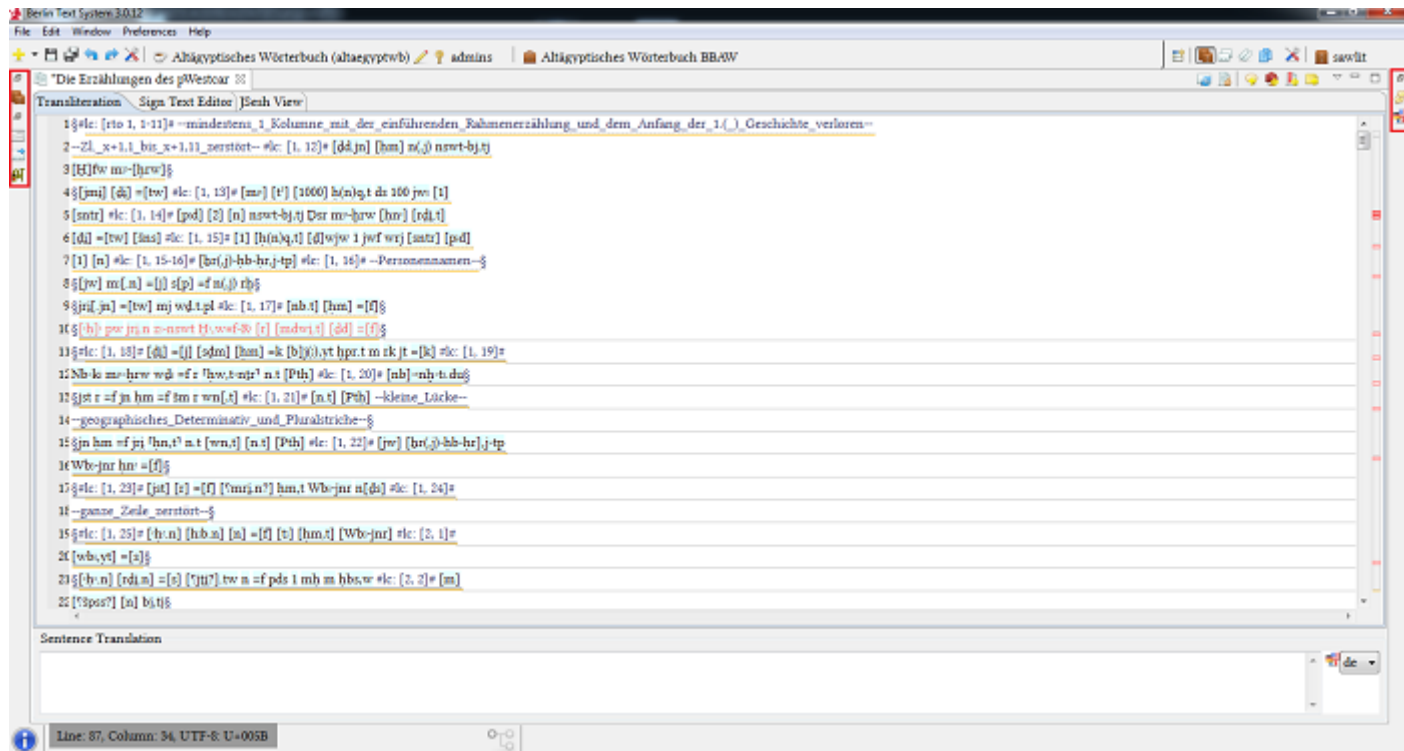
Moving tabs

If you don't like the default arrangement of the BTS tabs, most of them can be moved (some have to stay together, like all the sub-tabs of the Text Editor: Transliteration, Sign Text Editor and JSesh View, all the sub-tabs of the Passport Editor and the sub-tabs of the Corpus Navigator: Text Corpora and Bin). You can grab a tab and just pull it to a different location within the workspace. Below is an example of rearranged sections. Annotations have been moved next to the Corpus Navigator, Translation is placed below it, and Text Editor no longer central.
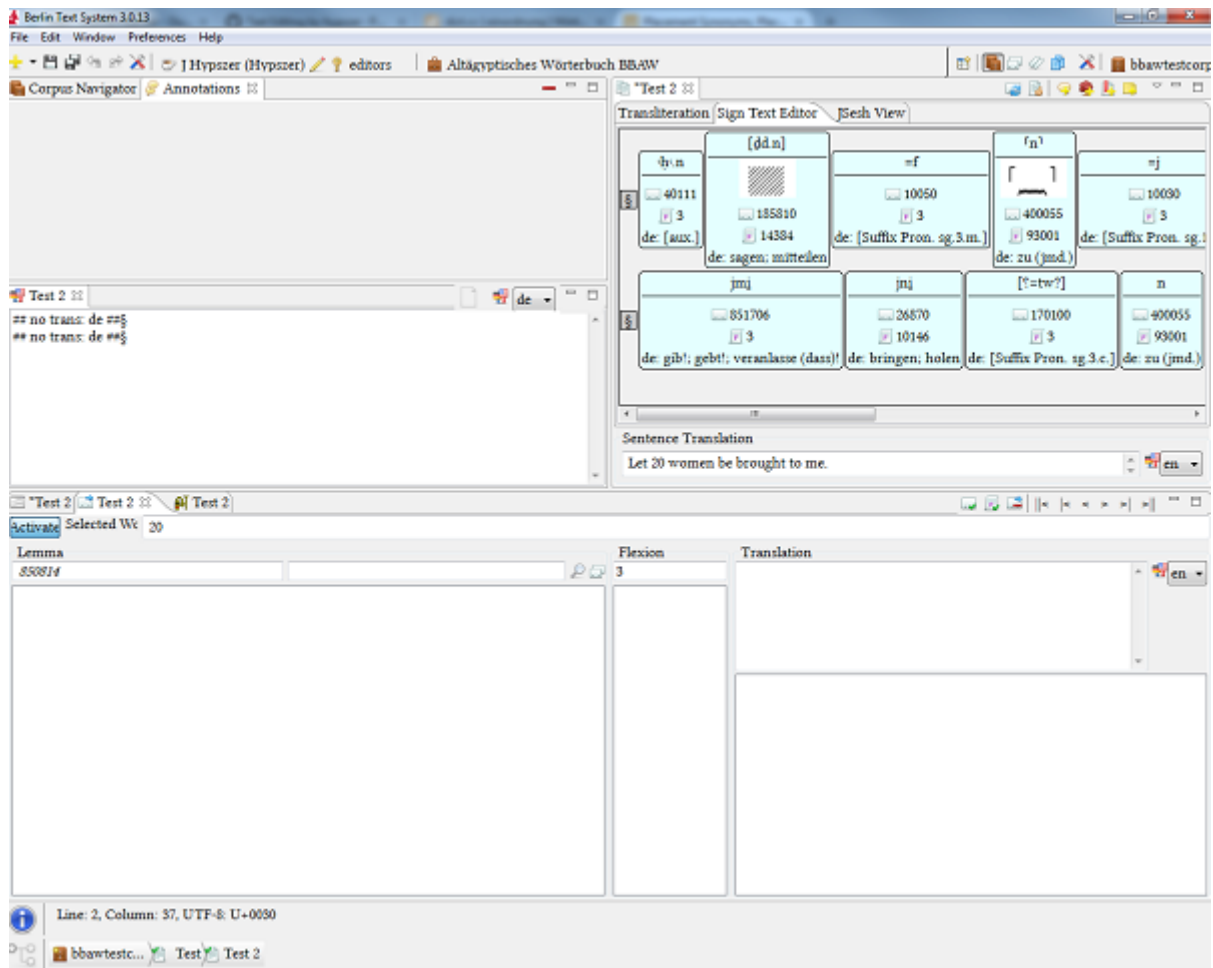
It is also possible to pull an entire tab completely out of the program window. See screenshot below for an example. The tabs that have been removed from the program and now have individual windows cannot be put back in. You will have to restart the BTS in order to have the default view again.
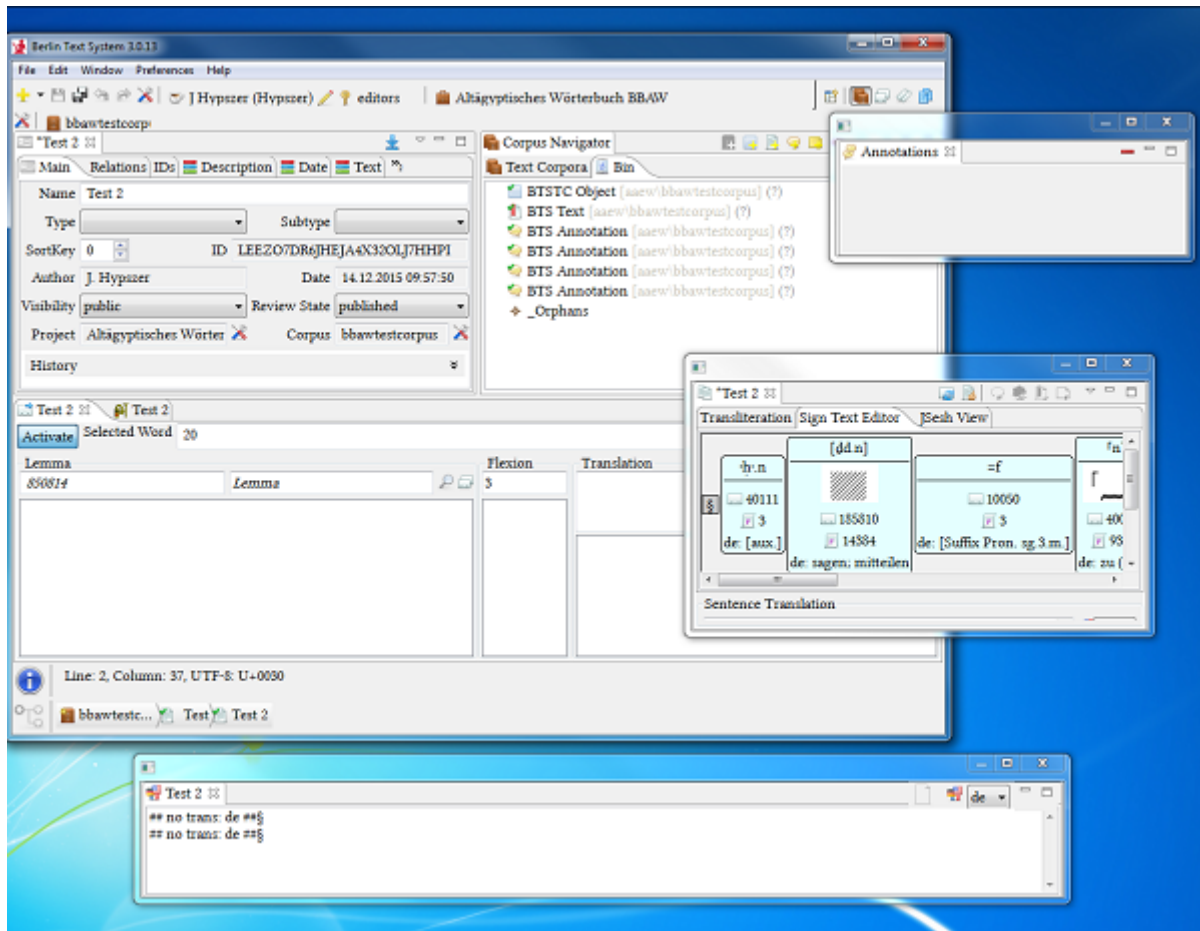
Templates

A template is a pattern used to replicate letters, shapes or designs in the word processing. You can use this function to speed up the transliteration process.

Access the already-existing templates through the Content Assist (right-click in the Text Editor Transliteration field and choose it from the menu). The already-existing templates are essentially what you can find on the keyboard layout and type manually, but you can decide which method is better for your needs. Depending on the position of your cursor (within a sentence / word or outside the sentence marked by §§) you will get a different set of templates to choose from, so it might be helpful if you ever have doubts about what is allowed to insert in a given position. In the example below, the position is line 3, where no §§ have been added yet. Hence the Content Assist gives you only one option: to enter §.
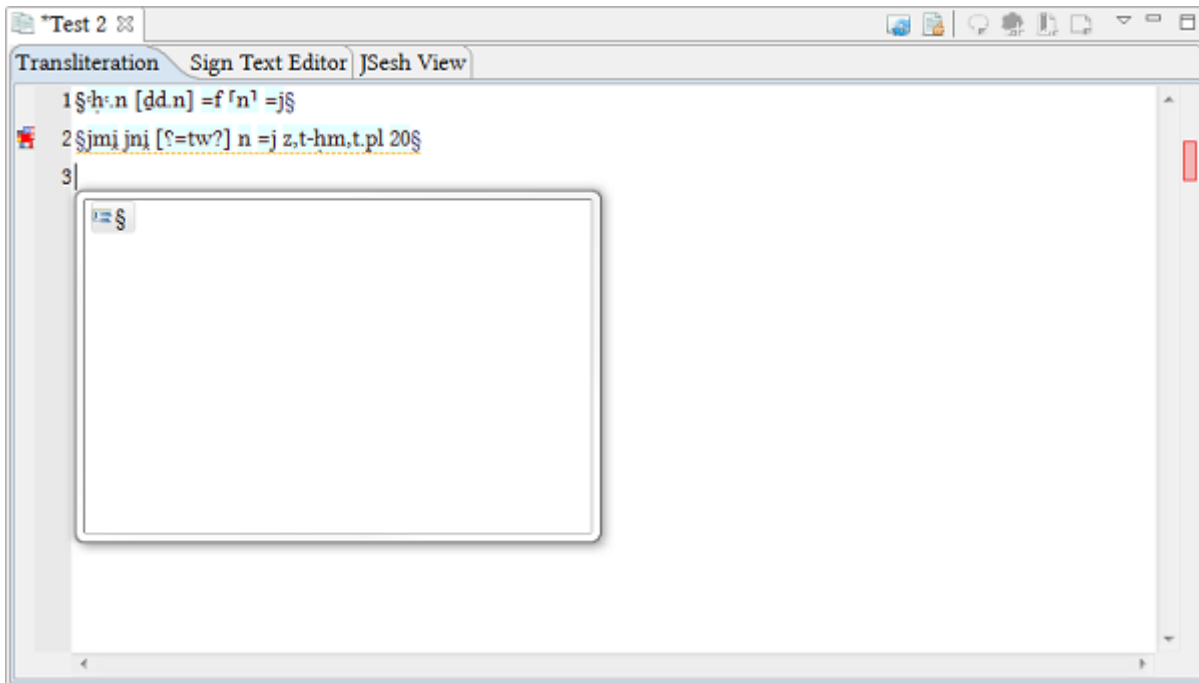
You can also create your own templates. Select Preferences in the Menu bar. Then expand EgyDsl and click on Templates entry. Clicking on "New..." will open a new window where you can name your template and select its context from the drop-down menu. The context determines at which position in the text the template will be displayed (e.g. WordMiddle, WordPart). You can add a short description to it in order to remember what it does. Name and short description will be displayed in the Content Assist. In the field Pattern enter the motive which will be displayed in the transliteration. The Button Insert Variable allows you to choose from some pre-set patterns which you can use for your template. The example below demonstrates how a template works.
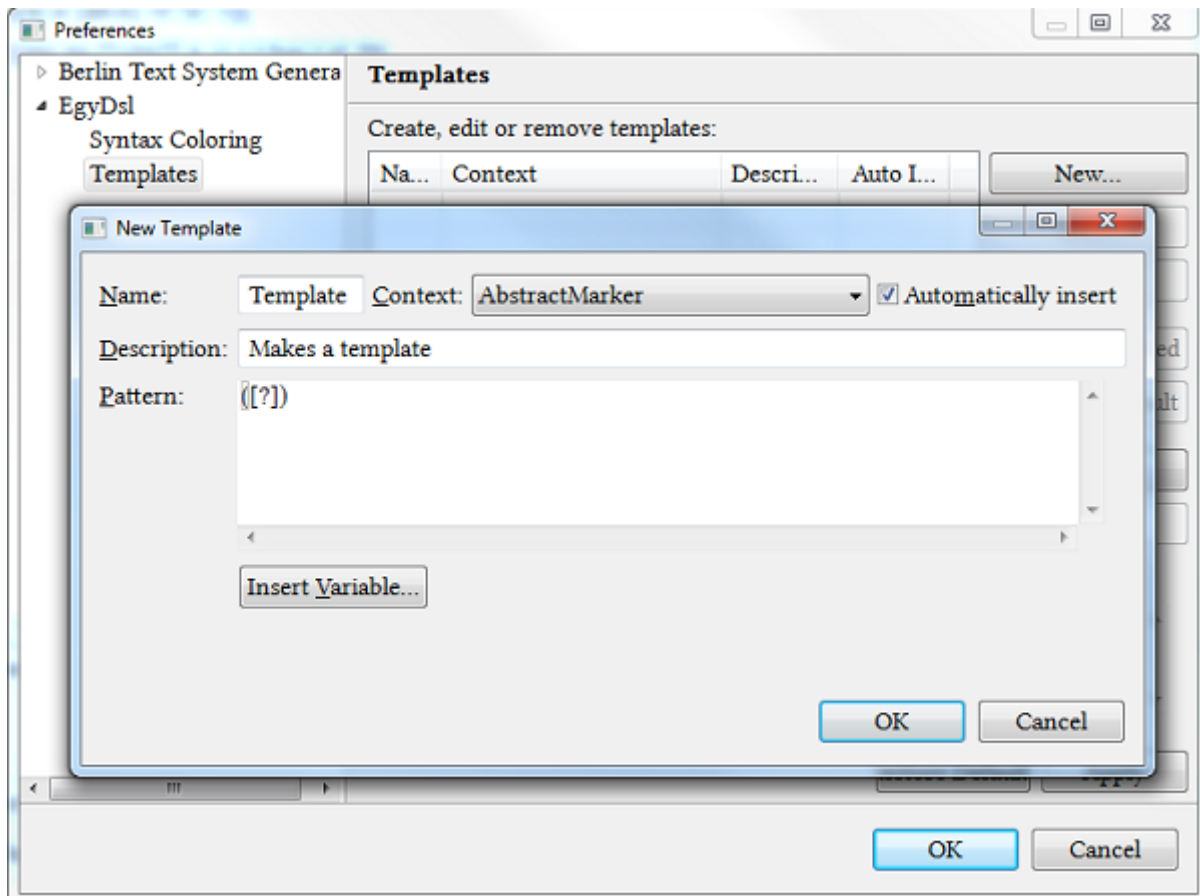
This is a window where you enter the data for a template. When it's finished, click OK and it will appear in the list. You can edit or remove it as well. You can now use it in the transliteration. Right-click within the §§ sings and open the Content Assist. Scroll to the bottom where the new template is located. Clicking on it once will display the pattern which will be inserted to the text. Double-clicking will add the template to the transliteration.

Preferences

To get to the "Preferences" window, click either button 🛠 in the left part of the toolbar menu or on a drop-down entry "🛠 Preferences..." in the Menu bar / Preferences.

There are two options available: "Berlin Text System General" and "EgyDsl".

Berlin Text System General

Expanding the "Berlin Text System General" will present the following options:

Abstract Text Settings

Configuration

Currently the only available option is Altägyptisches Wörterbuch (AAEW) (10). Click "Apply" to use this configuration. Click "Restore Default" to go back to the default configuration.

Corpus Settings

Here you can choose a set of corpora you are going to work with. Every corpus that does not appear in the Active corpora list on the right won't be accessed by BTS. To activate a corpus select it in the list on the left and then click "Add". To remove the corpus from your working list, select it and click Remove. Add all / Remove all will add or remove all available corpora to or from the Active Corpora list.

The check-box "Activate to select main working corpus" has a specific function. If it is activated all new text or database objects created in the "Corpus Navigator" window will be physically saved in the selected corpus. For example in the Corpus Navigator you have selected Corpus 2, but your main working corpus is Corpus 1. The new database object will be *physically* saved in Corpus 1, although in the Corpus Navigator it is displayed as a part of Corpus 2.

Corpus Navigator Settings

- Check box "Corpus Navigator sort by sort key". By default, all objects on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a SortKey in the Passport data of the object will change its position regarding other objects, "0" being on top. See *Main Tab*.

- Default Visibility applies to all newly created objects. Defines a visibility status a corpus will have by default after its creation.

- Default Review State applies to all newly created objects. Like the "Default Visibility" above, this defines a review state which a corpus will have directly after its creation.

Lemma List Settings

Here you can choose a project with a main working lemma list. All new lemmas will be saved in this project. You can currently choose Altägyptisches Wörterbuch BBAW and Demotic. If you chose both, the combined lemma list will be displayed in "Lemma Navigator"

Lemma Navigator Settings

- Check box "Lemma Navigator sort by sort key". Per default all objects on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a "SortKey" in the Passport data of the object will change its position relevant to other objects, "0" being on top.

- Default Visibility applies to all newly created objects. Defines a visibility status a lemma will have by default after its creation.

- Default Review State applies to all newly created objects. Like the "Default Visibility" above, this defines a review state which a lemma will have directly after its creation.

Lemmatizer

The Lemmatizer allows you to set a default inflection (the programmes default inflection is "3") and activate the check box "Automatically select first lemma proposal". More on grammatical rules see *BTS Grammar Rules - Reference*.

Project settings

Here you can choose your main working project from the drop-down menu. The field below gives you an option to choose further projects from which you want to load and read data. In the box on the left is a list of available projects. Clicking on one will give you an option to add it to the "Projects to be downloaded" on the right. Clicking on Apply below will download the project. Between the two fields you also have an option to remove the project from the right field and to "Add All" from available to to-be-downloaded and "Remove All" from to-be-downloaded to available. Next to the "Apply" button there is also one that will restore default settings "Restore Default".

Remember me

Select the check box "Remember my login credentials on startup" to be logged in automatically, when starting BTS.

Text Editor

• Activate mouse-over pop-up with information on lemmata. Activating this option will display the lemmatization information about the selected lemma in the Text editor (currently unavailable).

• Show line number ruler on left side. This check box activates the line numbering (of the window) in the *Text editor*.

Sign Text Editor

Defines elements displayed in the lemma-boxes while editing tokens inside the Sign Text Editor. Additionally, the line width can be adjusted by changing the number in the "Line width in pixel" input field.

The applied changes will be visible upon refreshing the view of the "Sign Text Editor" tab.

Thesaurus Settings

Here you can choose a project with a main working thesaurus. All new thesaurus entries will be saved there. Currently only one working thesaurus is available "Altägyptisches Wörterbuch BBAW".

Thesaurus Navigator Settings

• Check box "Ths Navigator sort by sort key". Per default all objects on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a "SortKey" in the Passport data of the object will change its position relevant to other objects, "0" being on top.

• Default Visibility applies to all newly created objects. Defines a visibility status a thesaurus entry will have by default after its creation.

• Default Review State applies to all newly created objects. Like the Default Visibility above, this defines a review state which a thesaurus entry will have directly after its creation.

EgyDsl

In the "EgyDsl" menu entry you can change the appearance of your BTS. This includes applying different colours and scripts as well as importing and editing templates.

Templates

This window offers you a functionality to create templates to make the transliteration input easier. For example, you can define a special marking for ambivalent words. While transliterating, right-click a word and select "Content assist". Your template will be displayed at the end of the list. Double click on it - it will be automatically inserted into the text.

New...

Displays a pop-up window with the following options:

• Name

Enter the name of the template (this is not the performed output that the template gives, only a label).

• Context

Choose the context where your template can be used. E.g. while your position in a text is inside a word, the Content Assist will only allow you to use templates that have the context "WordPart".

There are only two possibilities that we recommend you to use here:

- SentenceItem

The template can be used inside a sentence.

- WordPart

The template can be used inside a word.

- Automatically insert

Not functional yet.

- Description

Enter any description for your template.

- Pattern

Enter any input that you want to be performed by the template here. This means the input you have entered into the pattern will appear one-to-one in your text after clicking the template-name in the Content Assist later. You can use the button "Insert Variable..." to insert predefined states e.g. brackets etc..

Edit

Select an already existing template and click this option in order to edit it.

Remove

Select an already existing template and click this option in order to remove it.

Restore Removed

Not available.

Revert to Default

Not available.

Import

Click this button and browse the explorer to locate your template file (this only works if you have a template (.xml) file already existing). Click it and press "open" to import a template.

Export

Select the template you want to export from the template list and press this button to export your template. Browse your explorer to the location where you want to save your export-file. Afterwards enter a name inside the pop-up-window and press "save".

Change Password

After clicking on this entry in the "Preferences" drop-down menu, a window will appear. Follow the instructions in the window (Enter old password, enter new password and repeat the new password) to change your password. "OK" confirms the new password. "Cancel" reverts the changes.

Search Function

Search function is available in the Navigator tab of each view (Text Corpus, Lemma, Thesaurus).

In the toolbar of the Navigator, click on the search icon 🔍. A window will appear with an input field and two check boxes.
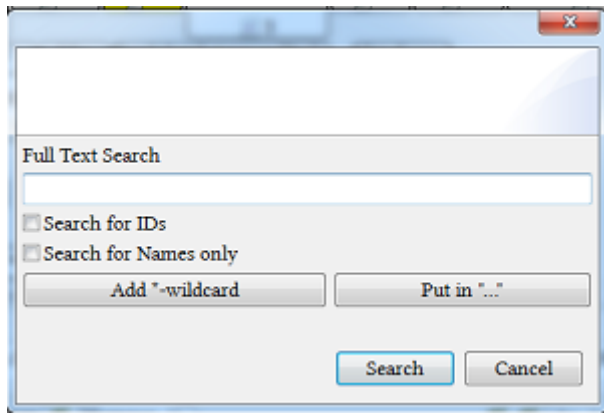
The search works as a full-text search. This means that any word you insert into the input field will be searched independently from other words that you search for at the same time (e.g. when you search for Papyrus Westcar, the program will look for "Papyrus" and "Westcar" separately and present you with results that contain each word. If you want to search phrases you will have to insert a phrase into quotation marks " ". Due to the full-text search your results can become complex and confusing (the searching procedure will include any data existing in the database including passport data, comments, annotations etc. and therefore you might not know where to find the result you are looking for).

When you want to locate a specific database object within a project there are two possibilities for the search:

1. If you know the ID of a database object, enter the ID into the input field and activate the check box "Search for IDs".
2. If the ID is unknown you can search the name of a database object and activate the check box "Search for Names only". To minimize the result use search-phrases and put them into quotation marks " ".

When you want to locate specific data inside of database objects you can do this by just entering specific values into the input field without clicking any check boxes. In order to restrict the result, use search phrases and put them into " ". At the moment there is no option to limit this kind of search to specific sections of the database objects data (e.g. the phrase "ḫpr,w.pl ḥr ḫpr" will be displayed twice in the searching result if it appears inside the transliteration in Text Editor and is part of any comment or passport data). If you search for a word or a phrase that may appear in the text translation, comments or passport data, it will be displayed multiple times for one text in the results.

Database Manager

Open Database Manager

The "Database manager" window in "Preferences" displays all available database collections. Each database collection is reflected by a line in the table. The number of documents per collection is shown in the column "DB Doc Count".

Indexing

Indexing is a process, which optimises the search in the database. Indexing allows the query to be done not in the database documents themselves, but among their "indexes". The status of a corpus' indexing process is indicated by the background colour of its line in the "Database Manager". Each line can have one of three background colours. Green means that everything is indexed properly. Yellow indicates that this corpus is currently being indexed, while red stands for a problem that occurred. The column "Index Doc Count" shows the number of the already indexed documents in this corpus. Additionally, the Status of the corpus will be displayed in the "Status" column (OK- green, ERROR- red or INDEXING...- yellow). The "% indexed" column shows the percentage of the indexing process.

Re-Indexing

Re-indexing may take a while. The more databases you have to re-index, the longer it will take. During this process you will not be able to use BTS.

Re-indexing has three options:

- Re-index all

- Re-index all non-OK

- Re-index individual DB collection.

To re-index individual collections, select them by left-click, scroll to the right of the table and click on Re-index.

Close

Leave the "Database Manager" window by clicking the Close button in the lower right corner.

Administrator guide

Create / modify a corpus

The following function is available to the user with global administrator privileges only. The detailed description of the UI elements can be found in *Text Corpus* section.

Creating a corpus

1.
   Click on the ⬚ New Corpus icon. It is located above the *Corpus Navigator*. Alternatively, right-click on any corpus and select "Create New Text Corpus".
2. Choose a name and a prefix (a prefix is a short name under which the corpus will be saved in the database).

   NOTE: No special signs, spaces or capital letters are allowed in the prefix!
3. Select the check box if you want to "Synchronize corpus with central database". Other users will be able to see your new corpus only if it is synchronized with remote database. Otherwise, it will rest in offline mode on your PC. After you have finished, click "OK". Cancel the creation with the "Cancel" button.
4. Your new corpus will appear in the list of the corpora.

Create / modify a database object

The following functions are available to the user with administrator privileges over a given corpus.

Creating a database object

1. Choose the corpus from the corpora tree where you wish your object to appear. You can add an object to a corpus or to another already existing object.
2. Click "Add Text Corpus Object" in the toolbar. This action will add an object as a sub-entry of the chosen corpus.

   NOTE: Currently the new objects and texts will be saved in your main working corpus and not in the selected corpus if those two differ. New objects will appear in the selected corpus, but will not be saved there.
3. Name your object in the *Main Tab* of the Passport Editor (The "Name" input field will appear red). You can actually start working without naming your object and name it later. Until it is named, the object will appear in the corpora tree with the default name "BTST Object".
4. Define the Type and, if applicable, also the Subtype of the object. Provide as much information as you can by filling out the tabs of the *Passport Data Editor*.

Creating a text

1. Select *a node* in the Corpus Navigator where you'd like to place your text. You can add a text to an object or even to an already existing text.
2.
   Click ⬚ "Add Text" in the Corpus Navigator toolbar. A "child"-element will be added to the selected object. The default title "BTS Text" will be attributed to it (in order to see it, you might have to open the parent object).
3. Name your text in the *Main Tab* of the Passport Editor. (The "Name" input field will appear red until it is filled out.) You can actually start working without naming your text and name it later. Until then the default name will be "BTS Text".

Moving database objects

To change a physical location of a database object (marked in square brackets aside the name) from one project or corpus to another, right click the chosen item and select "Move among projects" in the appearing context menu. In the opened window the current physical location is displayed. Alter the entries as you wish (upper field for a new project

and lower field for a new corpus in the project). Changing the physical location does not affect the position of the database object in the Navigator tree.

Deleting database objects

To delete a database object (corpus, object, text) select it and then click on ➖ "Delete". It will be moved to the bin (🔼"Bin" tab in the Corpus Navigator section), where you have the opportunity to restore it (right click the object and choose "Restore" from the context menu) or to delete it permanently. All subordinate elements will be deleted as well. Upon closing or restarting the BTS all the items in the Bin will be deleted permanently.

Create a lemma entry

This option is only available to the user with the administrator privileges for the lemma-list. If you have a new lemma, which is not yet present in the BTS lemma list, please send BTS team a proposal via email: aegypt1@bbaw.de.

1. To create a new lemma, open the *lemma view*. On the left you will see the *Lemma Navigator*: a list of available lemmata, grouped alphabetically.
2. Select an appropriate group from the list, where your lemma should be placed. It will expand, showing further groups. You can either use your mouse (left-click) or navigate with arrows on your keyboard (up and down to navigate between groups, right and left to expand or collapse them).
3. Narrow the choice down even more by selecting a further, smaller group. A list of lemmata will appear. You should check if the lemma you wish to enter really has not been entered yet.
4. Click on 🖳 in the Lemma Navigator toolbar, in order to add a child entry for a lemma.
5. In the *Lemma Editor* add a transliteration for your lemma.
6. In the text-input field below you may also add hieroglyphs. In order to do that, open the *Hieroglyph Type Writer (HTW)* and follow the instructions on how to enter hieroglyphs for a text.
7. In the text-input field below, enter a translation for your lemma (choosing the language of your translation beforehand).
8. Add a bibliographical reference to a dictionary or an actual text as a reference in the *Passport Editor*.

Create a thesaurus entry

This option is available to the user with the administrator privileges for the thesaurus!

The main function of the Thesaurus is to provide standardized vocabulary for the text meta-data (extra-textual information), like dating, location or material. For a detailed description of the individual elements of the Thesaurus view see *Thesaurus*.

1. Open the Thesaurus view by clicking the ✏ "Thesaurus" icon in the *Toolbar*.
2. In the Thesaurus Navigator on the left, click either 🏷 "Add Thesaurus Root Entry" or 🏷 "Add Thesaurus Child Entry". A root entry may stand on its own, while child entry is always dependent on the root entry.
3. Click on the "Thesaurus" entry to edit its content. A Passport Editor 🖼 will appear in the middle.
4. In the Passport Editor you can type a name (default name is either "Thesaurus Root" or "Thesaurus Child"), define type and subtype via the drop-down menus and edit visibility and review status. For a detailed description of the individual tabs and elements of the passport editor of the Thesaurus, see *Passport Editor*.
5. To add an annotation or a comment to a Thesaurus entry, click 🌼 "Add Annotation" and 🗒 "Add Comment" in the toolbar of the Thesaurus Navigator.
6. To delete a thesaurus entry, use the ➖ "Delete" button in the Thesaurus Navigator toolbar. It will move the entry to the "Bin" tab, where you can manually permanently delete it. Closing or restarting the BTS will also lead to the permanent deletion of an entry from the Bin.

File / Create new project

Clicking on File opens a drop-down menu with the entries New / New Project, Insert, Exit BTS and Restart BTS.

New Project

Selecting New Project will open the Edit project name window. Enter the Project name, Project prefix and a Description (optional) here. Project prefix is the internal name of the project, under which it will be saved in the database.

NOTE: please don't use special characters, spaces, or capital letters in the Project prefix! It is recommended not to click Finish button until the last configuration window is displayed.

The "Next >" button leads to the "Project Connection Settings" window. Here you can enter the Connection Type, Server URL and the Database Path. The standard connection type used by BTS is "couchdb". The Server URL includes the URL and port number and currently is "http://aaew64.bbaw.de:9589/". DB Path is left empty.

Clicking on the "Next >" button will display a Project Feature window to select features such as corpus data, thesaurus data and word list data. It is recommended to select all the check-boxes.

In the Project Database Collection window the new databases can be added or the existing ones edited. Editing includes changing the database name or activating / deactivating synchronizing and indexing check-boxes.

Confirm the creation of your project with the "Finish" button. To change or view information in the previous windows you can always click "< Back". Cancel the creation of the new project with "Cancel". The project properties can always be modified later through the "Edit current project" menu.

Exit BTS

Click to exit the program. If you have unsaved data, you will be asked if you want to save it.

Restart BTS

Click to restart the program.

Edit / Edit current project

The Edit drop-down menu contains the following entries:

Edit

Edit current Project

If you click on the "Edit current Project", a window comes up, where you can edit the current project's name and description.

The Button "Next >" leads to the "Project Connection Settings" window. Here you can enter your connection type (BTS uses "couchdb"), "Server URL" and the Database Path.

Clicking on "Next >" will display a window with options to select additional features, such as corpus data, thesaurus data, word list data and abstract text. Select the relevant check boxes and click "Next".

In the "Project Database Collection" window you can add the existing databases to the new project. You can edit the name of the collection by clicking the "Edit" button.

Confirm the changes made to your project with "Finish". To go to the previous window you can always click "<Back". Cancel all the changes with the "Cancel" button.

Edit Updaters/Readers

This option allows you to set *User Status* for the currently selected database object (corpus, text, lemma, thesaurus entry etc.).

On the left side of the "Edit Updaters/Readers" window click on a Reader or Updater status.

NOTE: Clicking anywhere in this window will make it disappear, but it reappears at the next click.

Currently two user statuses are offered: Readers and Updaters. Select the user or user group from the drop-down menus, appearing on the right side of the window. Click on Assign role to user or Assign role to whole user group to assign a user / user group to a role. The selected user / user group will then appear under the relevant status on the left.

Click "Save and Close" to save your changes.

Open Conflict Dialog

Open Revision History

Having selected a node (an entry in the navigation tree) in the Corpus Navigator, clicking this option will open a "Revision History" window. Two display fields under "Select Master Version" and "Select Compare Version" allow you to compare the changes you made to the object. The master (current) version is shown on the left, the auto-saved versions ("revisions") appear on the right. You can navigate between the tabs "Passport Editor" and "Egyptian Text Editor" to see the changes made in the respective areas.

If you want to return to a certain version of the text, right-click on the revision and select "Replace current with selected revision".

Edit configuration

This function is available to the user with global administrator privileges only.

To open the configuration window, select "Edit Configuration" from the drop-down menu of the menu bar.

A "Currently Active Configuration" by default is "Altägyptisches Wörterbuch (AAEW)", but if other configurations should be available, they will appear in the drop-down menu above.

A field below shows all available BTS configurations. Expand the "Altägyptisches Wörterbuch (AAEW)", following entries will be displayed:

1. Certainty: upon expanding, three values are displayed: certain, probable or uncertain. No Owner Objects selected.
2. coreExpressions
3. Custom-Entries
4. Identifiers
5. objectTypes
6. Passport
7. Project-Phase
8. Relations
9. Revision-Status
10. Visibility

Manage users and user groups

Manage Users and User Groups tab offers the opportunity to create new users and add users to project groups, which have a specific set of rights in the editing process.

In the tab Active Users the active user groups are displayed. In the tab Bin deleted user groups are shown. In the brackets behind the group names the number of the assigned users is displayed. Clicking on a group name will open the list of assigned users. The last entry in the list "_Orphans" shows on click all available users.

Each group has an ID and a name which appear in the field on the right. For each group a type can also be given and there is a possibility to write a comment. Also on the right side, below the group data, there is a section for creating new individual members within the group: Create New User. A username and a password are to be entered while creating a new user. In the third section below there is a drop-down menu, where you can choose existing users and add them to the group by clicking on the Add user to Group.

Clicking on a username allows to modify his/her information on the right side of the window. It contains such fields as ID of User, First name and Surname (both required fields marked with *), Email, Website, Description, Web Description, Siglum and Comment. In the ID field a username given earlier appears, but cannot be edited anymore. Password of a user can be changed here (e.g. in the case that a user forgets his/her password). Users can also change own passwords any time via *Preferences / Change password* (as long as they know their previous password). The check box "User is Database Administrator" can be checked.

Functions of the buttons in this tab:

 New Group

Adds a new group to your list of groups.

 Delete

Deletes the selected user and moves him/her into the tab "Bin".

 Undo

Undo the last action.

 Redo

Redo last undone action.

 Edit updaters of selected database object

Opens the window, where you can assign either "Reader" or "Updater" role to a user in relation to the user group.

Administrate user roles and rights

The user role administration in BTS follows a certain procedure: first roles are assigned to a corpus and then users are assigned to existing roles (i.e. Project -> Corpus -> User Role -> User Name.)

1st Level: Projects

A List of projects is displayed in the field on the left side. Upon clicking on a chosen project, its data will appear in the field on the right. The data includes: Project ID, Project Name, Project Prefix, Description, Connection Type, Server URL and DB Path. You can also click on the blue link below "Add Database Collection" and in the pop-up window give the name of the collection and check boxes "Synchronize Collection" and "Index Collection for Full Text Search" if needed. Clicking OK will add the collection to the chosen project and it will appear at the bottom after opening the project tree.

2nd Level: DB Collections

For each collection the data will also be displayed on the right. "DB Collection Name" is shown, but cannot be edited. Two check boxes can be selected: "Synchronize with Server" and "Index Collection". Below is a drop-down menu "Create New Roles Description" where you can choose: admins, editors, researchers, transcribers or guest roles for the users. After choosing one option from the drop-down menu, click on the blue link "Add New User Roles Description" to add the role.

3rd Level: User Roles

In the tree on the left, the added roles will appear after expanding the collection. On the right, Role Name and User Role Definition (a description of tasks and rights) will appear, which cannot be changed. In the two fields below you can assign a user or a group to each role. At the bottom there is a blue link "Remove this Role and its members form DB collection". Clicking it will remove the chosen role from the collection on the left.

4th Level: Users

Expanding (clicking on) a role, users with the assigned roles will be displayed. Clicking on individual user will make their first name and surname to appear on the right, in the case where an entire group has a specific role, the name of

the group will appear. You can remove users and groups from specific roles by clicking the blue link on the bottom "Remove Role from User" or "Remove Group from Role".

Functions of the buttons in this tab:

New Project

Adds new project.

Delete

Deletes a project.

Undo

Undo last action.

Redo

Redo last undone action.

Edit updaters of selected database object

Opens the window, where you can assign either "Reader" or "Updater" role to a user in relation to the user group.

Open Futon

NOTE: This menu item is only available for an administrator!

Futon is a web-based graphic user interface (short GUI), which provides a basic interface to the majority of the functionality of CouchDB. This is a "backdoor" to your database, allowing you to create, update, delete and view documents and access the configuration parameters. It shows the source code of the database objects in JSON format.

Open ES GUI

Opens the "Elastic Search" graphic user interface with your standard internet browser. Allows you to see the "backdoor" of the queries done in the BTS.

BTS User Interface

This section provides a detailed description of the UI elements of the application. It is intended as a reference for the User and Administrator guides.

Menu bar

The **Menu bar** is located at the top of the BTS program window.

There are five menu entries, each one displaying a drop-down menu on click.

File / Create new project

Clicking on File opens a drop-down menu with the entries New / New Project, Insert, Exit BTS and Restart BTS.

New Project

Selecting New Project will open the Edit project name window. Enter the Project name, Project prefix and a Description (optional) here. Project prefix is the internal name of the project, under which it will be saved in the database.

NOTE: please don't use special characters, spaces, or capital letters in the Project prefix! It is recommended not to click Finish button until the last configuration window is displayed.

The "Next >" button leads to the "Project Connection Settings" window. Here you can enter the Connection Type, Server URL and the Database Path. The standard connection type used by BTS is "couchdb". The Server URL includes the URL and port number and currently is "http://aaew64.bbaw.de:9589/". DB Path is left empty.

Clicking on the "Next >" button will display a Project Feature window to select features such as corpus data, thesaurus data and word list data. It is recommended to select all the check-boxes.

In the Project Database Collection window the new databases can be added or the existing ones edited. Editing includes changing the database name or activating / deactivating synchronizing and indexing check-boxes.

Confirm the creation of your project with the "Finish" button. To change or view information in the previous windows you can always click "< Back". Cancel the creation of the new project with "Cancel". The project properties can always be modified later through the "Edit current project" menu.

Exit BTS

Click to exit the program. If you have unsaved data, you will be asked if you want to save it.

Restart BTS

Click to restart the program.

Edit / Edit current project

The Edit drop-down menu contains the following entries:

Edit

Edit current Project

If you click on the "Edit current Project", a window comes up, where you can edit the current project's name and description.

The Button "Next >" leads to the "Project Connection Settings" window. Here you can enter your connection type (BTS uses "couchdb"), "Server URL" and the Database Path.

Clicking on "Next >" will display a window with options to select additional features, such as corpus data, thesaurus data, word list data and abstract text. Select the relevant check boxes and click "Next".

In the "Project Database Collection" window you can add the existing databases to the new project. You can edit the name of the collection by clicking the "Edit" button.

Confirm the changes made to your project with "Finish". To go to the previous window you can always click "<Back". Cancel all the changes with the "Cancel" button.

Edit Updaters/Readers

This option allows you to set *User Status* for the currently selected database object (corpus, text, lemma, thesaurus entry etc.).

On the left side of the "Edit Updaters/Readers" window click on a Reader or Updater status.

NOTE: Clicking anywhere in this window will make it disappear, but it reappears at the next click.

Currently two user statuses are offered: Readers and Updaters. Select the user or user group from the drop-down menus, appearing on the right side of the window. Click on Assign role to user or Assign role to whole user group to assign a user / user group to a role. The selected user / user group will then appear under the relevant status on the left.

Click "Save and Close" to save your changes.

Open Conflict Dialog

Open Revision History

Having selected a node (an entry in the navigation tree) in the Corpus Navigator, clicking this option will open a "Revision History" window. Two display fields under "Select Master Version" and "Select Compare Version" allow you to compare the changes you made to the object. The master (current) version is shown on the left, the auto-saved versions ("revisions") appear on the right. You can navigate between the tabs "Passport Editor" and "Egyptian Text Editor" to see the changes made in the respective areas.

If you want to return to a certain version of the text, right-click on the revision and select "Replace current with selected revision".

Window

Drop-down menu "Window" contains the following entries:

Switch Font Size / CSS Theme

There are two colours (blue and gray) and three font sizes available. Clicking on Switch Font Size / CSS Theme will consequently switch between themes and fonts sizes. If it is not yet to your liking, click again on Switch Font Size, until you have tested all three options and made your decision. BTS will remember your personal adjustments at the startup.

Open Perspective

The Window Open perspective comes up with the entries Lemma, Text Corpus, Thesaurus and Abstract Text. Select the entry and click "OK" to switch to the relevant view of the BTS (Lemma, Corpora, Thesaurus, Abstract Text). The first time you select a different entry, it may take a while until the relevant view appears.

Further options allow you to open particular sections of each view. The following windows will be opened depending on the view:

Text corpus view

Open Text Editor

Open Lemmatizer

Open Passport Editor

Open Hieroglyph Type Writer

Open Annotation Part

Open Text Translation

Lemma view

Open Lemma Editor

Open Lemmatizer

Open Passport Editor

Open Hieroglyph Type Writer

Thesaurus view

Open Annotation Part

Open Passport Editor

Preferences

Edit configuration

This function is available to the user with global administrator privileges only.

To open the configuration window, select "Edit Configuration" from the drop-down menu of the menu bar.

A "Currently Active Configuration" by default is "Altägyptisches Wörterbuch (AAEW)", but if other configurations should be available, they will appear in the drop-down menu above.

A field below shows all available BTS configurations. Expand the "Altägyptisches Wörterbuch (AAEW)", following entries will be displayed:

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2. coreExpressions
3. Custom-Entries
4. Identifiers
5. objectTypes
6. Passport
7. Project-Phase
8. Relations
9. Revision-Status
10. Visibility

Open User Manager

NOTE: This function is available to the user with global administrator privileges only. Clicking on this menu entry opens the window "User Management" with two tabs: "Manage Users and User Groups" and "Administrate User Roles and Rights".

Manage users and user groups

Manage Users and User Groups tab offers the opportunity to create new users and add users to project groups, which have a specific set of rights in the editing process.

In the tab ![icon] Active Users the active user groups are displayed. In the tab Bin deleted user groups are shown. In the brackets behind the group names the number of the assigned users is displayed. Clicking on a group name will open the list of assigned users. The last entry in the list "_Orphans" shows on click all available users.

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Clicking on a username allows to modify his/her information on the right side of the window. It contains such fields as ID of User, First name and Surname (both required fields marked with *), Email, Website, Description, Web Description, Siglum and Comment. In the ID field a username given earlier appears, but cannot be edited anymore. Password of a user can be changed here (e.g. in the case that a user forgets his/her password). Users can also change own passwords any time via *Preferences / Change password* (as long as they know their previous password). The check box "User is Database Administrator" can be checked.

Functions of the buttons in this tab:

![icon] New Group

Adds a new group to your list of groups.

— Delete

Deletes the selected user and moves him/her into the tab ![icon] "Bin".

![icon] Undo

Undo the last action.

![icon] Redo

Redo last undone action.

![icon] Edit updaters of selected database object

Opens the window, where you can assign either "Reader" or "Updater" role to a user in relation to the user group.

Administrate user roles and rights

The user role administration in BTS follows a certain procedure: first roles are assigned to a corpus and then users are assigned to existing roles (i.e. Project -> Corpus -> User Role -> User Name.)

1st Level: Projects

A List of projects is displayed in the field on the left side. Upon clicking on a chosen project, its data will appear in the field on the right. The data includes: Project ID, Project Name, Project Prefix, Description, Connection Type, Server URL and DB Path. You can also click on the blue link below "Add Database Collection" and in the pop-up window give the name of the collection and check boxes "Synchronize Collection" and "Index Collection for Full Text Search" if needed. Clicking OK will add the collection to the chosen project and it will appear at the bottom after opening the project tree.

2nd Level: DB Collections

For each collection the data will also be displayed on the right. "DB Collection Name" is shown, but cannot be edited. Two check boxes can be selected: "Synchronize with Server" and "Index Collection". Below is a drop-down menu "Create New Roles Description" where you can choose: admins, editors, researchers, transcribers or guest roles

for the users. After choosing one option from the drop-down menu, click on the blue link "Add New User Roles Description" to add the role.

3rd Level: User Roles

In the tree on the left, the added roles will appear after expanding the collection. On the right, Role Name and User Role Definition (a description of tasks and rights) will appear, which cannot be changed. In the two fields below you can assign a user or a group to each role. At the bottom there is a blue link "Remove this Role and its members form DB collection". Clicking it will remove the chosen role from the collection on the left.

4th Level: Users

Expanding (clicking on) a role, users with the assigned roles will be displayed. Clicking on individual user will make their first name and surname to appear on the right, in the case where an entire group has a specific role, the name of the group will appear. You can remove users and groups from specific roles by clicking the blue link on the bottom "Remove Role from User" or "Remove Group from Role".

Functions of the buttons in this tab:

New Project

Adds new project.

Delete

Deletes a project.

Undo

Undo last action.

Redo

Redo last undone action.

Edit updaters of selected database object

Opens the window, where you can assign either "Reader" or "Updater" role to a user in relation to the user group.

Database Manager

Open Database Manager

The "Database manager" window in "Preferences" displays all available database collections. Each database collection is reflected by a line in the table. The number of documents per collection is shown in the column "DB Doc Count".

Indexing

Indexing is a process, which optimises the search in the database. Indexing allows the query to be done not in the database documents themselves, but among their "indexes". The status of a corpus' indexing process is indicated by the background colour of its line in the "Database Manager". Each line can have one of three background colours. Green means that everything is indexed properly. Yellow indicates that this corpus is currently being indexed, while red stands for a problem that occurred. The column "Index Doc Count" shows the number of the already indexed documents in this corpus. Additionally, the Status of the corpus will be displayed in the "Status" column (OK- green, ERROR- red or INDEXING...- yellow). The "% indexed" column shows the percentage of the indexing process.

Re-Indexing

Re-indexing may take a while. The more databases you have to re-index, the longer it will take. During this process you will not be able to use BTS.

Re-indexing has three options:

- Re-index all

- Re-index all non-OK

- Re-index individual DB collection.

To re-index individual collections, select them by left-click, scroll to the right of the table and click on Re-index.

Close

Leave the "Database Manager" window by clicking the Close button in the lower right corner.

Preferences

To get to the "Preferences" window, click either button ⚒ in the left part of the toolbar menu or on a drop-down entry "⚒ Preferences..." in the Menu bar / Preferences.

There are two options available: "Berlin Text System General" and "EgyDsl".

Berlin Text System General

Expanding the "Berlin Text System General" will present the following options:

Abstract Text Settings

Configuration

Currently the only available option is Altägyptisches Wörterbuch (AAEW) (10). Click "Apply" to use this configuration. Click "Restore Default" to go back to the default configuration.

Corpus Settings

Here you can choose a set of corpora you are going to work with. Every corpus that does not appear in the Active corpora list on the right won't be accessed by BTS. To activate a corpus select it in the list on the left and then click "Add". To remove the corpus from your working list, select it and click Remove. Add all / Remove all will add or remove all available corpora to or from the Active Corpora list.

The check-box "Activate to select main working corpus" has a specific function. If it is activated all new text or database objects created in the "Corpus Navigator" window will be physically saved in the selected corpus. For example in the Corpus Navigator you have selected Corpus 2, but your main working corpus is Corpus 1. The new database object will be *physically* saved in Corpus 1, although in the Corpus Navigator it is displayed as a part of Corpus 2.

Corpus Navigator Settings

- Check box "Corpus Navigator sort by sort key". By default, all objects on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a SortKey in the Passport data of the object will change its position regarding other objects, "0" being on top. See *Main Tab*.

- Default Visibility applies to all newly created objects. Defines a visibility status a corpus will have by default after its creation.

- Default Review State applies to all newly created objects. Like the "Default Visibility" above, this defines a review state which a corpus will have directly after its creation.

Lemma List Settings

Here you can choose a project with a main working lemma list. All new lemmas will be saved in this project. You can currently choose Altägyptisches Wörterbuch BBAW and Demotic. If you chose both, the combined lemma list will be displayed in "Lemma Navigator"

Lemma Navigator Settings

- Check box "Lemma Navigator sort by sort key". Per default all objects on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a "SortKey" in the Passport data of the object will change its position relevant to other objects, "0" being on top.

- Default Visibility applies to all newly created objects. Defines a visibility status a lemma will have by default after its creation.

- Default Review State applies to all newly created objects. Like the "Default Visibility" above, this defines a review state which a lemma will have directly after its creation.

Lemmatizer

The Lemmatizer allows you to set a default inflection (the programmes default inflection is "3") and activate the check box "Automatically select first lemma proposal". More on grammatical rules see *BTS Grammar Rules - Reference*.

Project settings

Here you can choose your main working project from the drop-down menu. The field below gives you an option to choose further projects from which you want to load and read data. In the box on the left is a list of available projects. Clicking on one will give you an option to add it to the "Projects to be downloaded" on the right. Clicking on Apply below will download the project. Between the two fields you also have an option to remove the project from the right field and to "Add All" from available to to-be-downloaded and "Remove All" from to-be-downloaded to available. Next to the "Apply" button there is also one that will restore default settings "Restore Default".

Remember me

Select the check box "Remember my login credentials on startup" to be logged in automatically, when starting BTS.

Text Editor

- Activate mouse-over pop-up with information on lemmata. Activating this option will display the lemmatization information about the selected lemma in the Text editor (currently unavailable).

- Show line number ruler on left side. This check box activates the line numbering (of the window) in the *Text editor*.

Sign Text Editor

Defines elements displayed in the lemma-boxes while editing tokens inside the Sign Text Editor. Additionally, the line width can be adjusted by changing the number in the "Line width in pixel" input field.

The applied changes will be visible upon refreshing the view of the "Sign Text Editor" tab.

Thesaurus Settings

Here you can choose a project with a main working thesaurus. All new thesaurus entries will be saved there. Currently only one working thesaurus is available "Altägyptisches Wörterbuch BBAW".

Thesaurus Navigator Settings

- Check box "Ths Navigator sort by sort key". Per default all objects on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a "SortKey" in the Passport data of the object will change its position relevant to other objects, "0" being on top.

- Default Visibility applies to all newly created objects. Defines a visibility status a thesaurus entry will have by default after its creation.

- Default Review State applies to all newly created objects. Like the Default Visibility above, this defines a review state which a thesaurus entry will have directly after its creation.

EgyDsl

In the "EgyDsl" menu entry you can change the appearance of your BTS. This includes applying different colours and scripts as well as importing and editing templates.

Templates

This window offers you a functionality to create templates to make the transliteration input easier. For example, you can define a special marking for ambivalent words. While transliterating, right-click a word and select "Content assist". Your template will be displayed at the end of the list. Double click on it - it will be automatically inserted into the text.

New...

Displays a pop-up window with the following options:

• Name

Enter the name of the template (this is not the performed output that the template gives, only a label).

• Context

Choose the context where your template can be used. E.g. while your position in a text is inside a word, the Content Assist will only allow you to use templates that have the context "WordPart".

There are only two possibilities that we recommend you to use here:

• SentenceItem

The template can be used inside a sentence.

• WordPart

The template can be used inside a word.

• Automatically insert

Not functional yet.

• Description

Enter any description for your template.

• Pattern

Enter any input that you want to be performed by the template here. This means the input you have entered into the pattern will appear one-to-one in your text after clicking the template-name in the Content Assist later. You can use the button "Insert Variable..." to insert predefined states e.g. brackets etc..

Edit

Select an already existing template and click this option in order to edit it.

Remove

Select an already existing template and click this option in order to remove it.

Restore Removed

Not available.

Revert to Default

Not available.

Import

Click this button and browse the explorer to locate your template file (this only works if you have a template (.xml) file already existing). Click it and press "open" to import a template.

Export

Select the template you want to export from the template list and press this button to export your template. Browse your explorer to the location where you want to save your export-file. Afterwards enter a name inside the pop-up-window and press "save".

Open Futon

NOTE: This menu item is only available for an administrator!

Futon is a web-based graphic user interface (short GUI), which provides a basic interface to the majority of the functionality of CouchDB. This is a "backdoor" to your database, allowing you to create, update, delete and view documents and access the configuration parameters. It shows the source code of the database objects in JSON format.

Open ES GUI

Opens the "Elastic Search" graphic user interface with your standard internet browser. Allows you to see the "backdoor" of the queries done in the BTS.

Change Password

After clicking on this entry in the "Preferences" drop-down menu, a window will appear. Follow the instructions in the window (Enter old password, enter new password and repeat the new password) to change your password. "OK" confirms the new password. "Cancel" reverts the changes.

Help
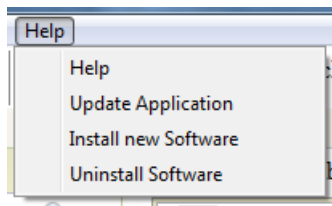
Help

Clicking on this menu entry will open the HTML version of the manual.

Update Application

Searches for available software updates.

Install New Software-Components

Choose software to add to your BTS.

Uninstall Software-Components

Choose to see which parts of software are installed. Select a specific path. Click "Uninstall" at the bottom of this window to uninstall selected parts of the program.

NOTE: This does not uninstall BTS. To uninstall BTS you have to manually delete all files from the installation path.

Toolbar

The Tool bar displays several icons. ToolTips are displayed upon the mouse-over.
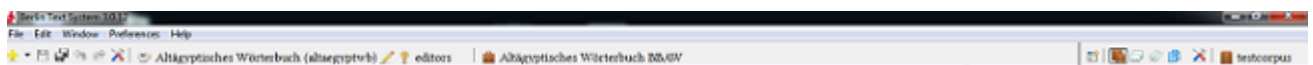
New

Click the black triangle on the right of the plus sign to open a context menu.

Here you can choose between the entries to create a new corpus, a new text corpus object, a new text or an annotation. As long as you did not select a corpus in the Navigator window the entries in the menu are disabled.

Save

Save the changes you made in the currently active database object. As long as you did not work in the database object it will be inactive (grey) and after saving it will return to the inactive state. If you attempt to close the program the window will ask you to save your changes unless you already have done a save before.

NOTE: There is no auto-save in BTS 3.0, but the program will save your file when you click on another database object. Make sure you save your work in regular intervals to avoid loss of input!

Save all

Save all changes in all the database objects you have worked on.

↩ Undo (Ctrl+Z)

Undo the last action. You can undo more than one action. You have to be in the same view where you made your changes (same transliteration, translation etc.). Corpora/objects/texts created accidentally cannot be deleted this way.

↪ Redo

Reverse last "undone" action.

🛠 Preferences

This option is available twice on the toolbar and leads to Preferences / Project Settings.

Next to the cup 🍵 the currently logged in user is shown. Next to pencil 🖊 and key 🔑 the user role is visible.

💼 displays the name of the current project.

🗔 Open Perspective...

A pop-up window will appear with the list of perspectives / views.

🗄 Text Corpus, 🗔 Lemma, 🗋 Thesaurus and 🗔 Abstract Text are all views which you can open by clicking on their respective icon on the toolbar.

NOTE: The Abstract Text feature is not complete yet. It will compile the witnesses of a single text (e.g. Sinuhe) and deliver a generic structure, ex. display the concordance of paragraphs. The metadata concerning the "abstract text" can be entered here, e.g. the bibliography.

To the right of the 🗄 you can see your main working corpus. At startup "No Corpus" is displayed. To set the corpus click on the 🛠 Preferences icon, which will forward you to the *Corpus Settings*.

Status bar

The status bar is located at the bottom of the program. In the lower part, next to the 🔳 icon, it shows the path to the object you are currently working on. Above, your location in the active text is displayed (line, column, etc):

Clicking on ℹ will display a window with status messages.

Workspace

The workspace is a part of the BTS user interface, located between the toolbar and the status bar. It changes appearance whenever the user switches between Text Corpus, Lemma, Thesaurus and Abstract Text views.

Common features

BTS workspace consists of dynamic windows, which can be maximized, hidden or dragged out of BTS interface. Each window can contain one or more tabs. Tabs can be moved from one window to another or opened in a separate window. Sub-tabs cannot be moved independently of a tab they are assigned to.

E.g. the "Passpost Data Editor" tab can be moved to the "Annotations" / "Translation" and grouped together with them. Alternatively it can be dragged out of BTS user interface as a separate window. The sub-tabs of "Passport Data Editor" (Main, Relation, IDs etc.) cannot be moved separately. The arrangement will be saved for the current view

mode (Corpus, Thesaurus, Lemma and Abstract Text). Restarting the programme will undo the changes and restore the default windows arrangement. See also *Introduction to BTS User Interface*.

The icons common for all windows are the following:

⊟   minimizes window (places the window icon on the icon bar on the left or right side of the workspace).

☐   maximizes window. All other windows are automatically minimized.

⊟ restores window to the default (non-maximized and non-minimized) view.

Text Corpus View

Text Corpus is the default view of the BTS workspace. Here you can work on text corpus objects and texts, including transliteration, translation, lemmatization, hieroglyphs and their metadata.

There are following tabs to work with:

*   Corpus Navigator (default position: left part)
*   Text Editor (default position: middle part, top)
*   Passport Data Editor (default position: middle part, bottom)
*   Lemmatizer (default position: middle part, bottom)
*   Hieroglyph Type Writer (HTW) (default position: middle part, bottom)
*   Annotation and Text translation (default position: right part)

NOTE: in the default view the tabs "Passport Data Editor", "Lemmatizer" and "HTW" are grouped together in one window. Nevertheless they can be moved separately.

As soon as you select a text in the Corpus Navigator, titles of these tabs as well as those of the "Text editor", "Annotation" and "Text Translation" change to the text title.

Corpus Navigator

The Corpus Navigator tab is located on the left side of the Text Corpus view. Here you can see the position of the text in the corpus tree, displayed hierarchically. You can navigate through the corpus by clicking the database objects or using the "up" and "down" arrow keys on your keyboard, and using "right" and "left" arrows in order to expand or close a node (entry in a tree). Only one text can be opened at a time.
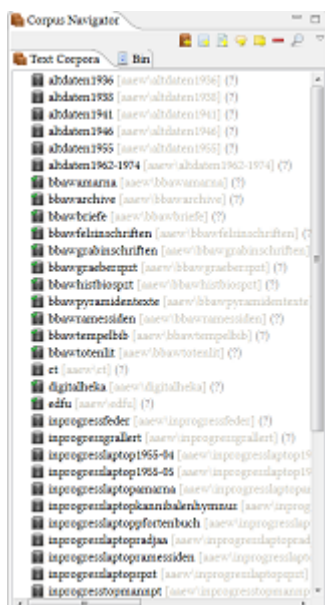
Apart from the object name, physical location of the database object is displayed in square brackets. The number of elements it contains is displayed in round brackets.

is displayed for any *active* corpus in the tree, for which you have an updater or reader status.

is displayed for every other corpus.

Corpus Navigator has two sub-tabs: Text Corpora and Bin. A third tab with the search results will appear, when you open the search dialog. By default the tab Text Corpora is activated. In the Bin tab you can find your deleted texts and objects. Please note that generating the list of the objects in the "Bin" tab may take up to one minute the first time you click it after installing BTS. Thereafter the preview works faster.

At the top of the Corpus Navigator section there are several buttons. Two of them, and , are also available in other windows and are therefore explained in the *Common features* section.

Corpus Navigator-specific buttons are the following:

Create New Text Corpus

Click to create a new corpus.

Add Text Corpus Object

Adds a "child" (a lower level)-object to the currently selected database object. Choose the active element by clicking it. It receives a the default title "BTSTC Object" unless you rename it in the Passport Editor.

NOTE: The physical location where the child element is saved is not the active corpus but your main working corpus which you have chosen in the *Preference Settings*.

Add Text

Adds a "child" text to the selected node. It is called "BTS Text" unless you rename it in the Passport Editor.

NOTE: The physical location where the child element is saved is not the active corpus but your main working corpus you have chosen in the *Preference Settings*.

Add Annotation

Adds an annotation to the active node.

Add Comment

Adds a comment to the active node.

Delete

Moves the selected element from the Corpus Navigator section to the Bin. In the Bin you can either restore it or permanently delete it per right-click. Note that you are only allowed to delete your own objects, texts etc..

Open Simple Search Dialog

Open a search dialog in order to search for specific database objects, phrases. etc..

Clicking will display the drop-down menu containing options described above plus the additional ones:

• Delete Permanently: use this option to delete an item completely (it will not be moved to the bin).

• Restore: Click to restore an item from the bin.

• Move Object among Projects: Allows you to assign the given database object to another project

• Open Conflict Dialog: *currently inactive*

- Present

- ⊕ Open Revision History: See *Menu bar -> Edit*.

- 🔑 Edit Updaters/Readers: See *Menu bar -> Edit*.

- Filter: Filters the corpora according to the listed criteria.

Text Editor

The Text Editor tab is located in the upper part in the middle of the Text Corpus view. The text input field is empty as long as no text from the Corpus Navigator is selected. Upon selecting a text you will be able to transliterate it and enter hieroglyphs. This chapter provides a general description of the tab. For a step-by-step instruction of how to enter a new text please refer to the relevant *chapter* in the User Guide section of this manual.

The Text Editor section contains two input fields. The upper one displays either the "Transliteration", the "Sign Text Editor" or the "JSesh View" - depending on the tab selected. The lower input field displays translation of the sentence, selected with the cursor in the upper window.
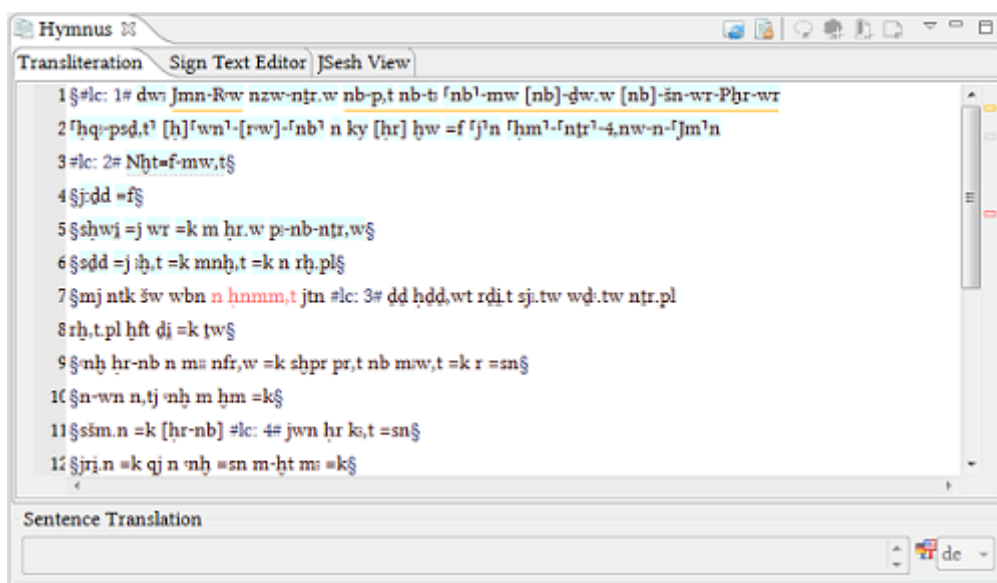
Transliteration

Here you can enter or modify the transliteration of the text which you previously selected in the corpora tree. Beware of the *BTS Grammar Rules*, otherwise the auto-checker system will trigger an error, marked by a red square and underlined red.

Sign Text Editor

The "Sign-Text-Editor" provides the token-based presentation of the text. Initially only the transliteration is displayed there - each word / lemma in a separate box. The Lemma ID, the inflection code, the Lemma Translation and hieroglyphs of each token can be made visible via menu entry "Preferences / Preferences / Berlin Text System General / Text Editor / Sign Text Editor".

The hieroglyphic input is done in the 🔤 Hieroglyph Type Writer tab below. The hieroglyphic values, entered there, are automatically applied to the selected lemmata in the "Sign-Text-Editor" sub-tab. Additionally to the transcription and hieroglyphs, a lemma number and inflection code will be displayed in each word box after a successful lemmatization.

JSesh View

Displays a cohesive hieroglyphic text. "dot" marks the end of the sentence (signified in "Transliteration" and "Sign Text Editor" tabs with "§" sign).

There are several buttons above the "Text-Editor" window:

Load Text Lemmata

Loads word and sentence borders of your texts in order to be able to add a translation and to lemmatize the words and add the hieroglyphs in the next steps. Click this button after transliteration has been finished.

Check Text Lemmata, Flexcodes...

Checks the completeness of text lemmatization, translation and hieroglyphic transcription.

Add Annotation

Adds an *Annotation* to the selected part of your text. It will be underlined with a gray dotted line.

Add Rubrum

The active token is marked red in the text as rubrum.

Add Subtext/Glosses

Adds a subtext or a gloss respectively as a "child" of your text. You can edit it separately.

Add Comment

Adds a comment to the selected part. It will be underlined yellow.

You can use these functions also via the drop-down menu that appears when you click on the arrow on the right.

Additionally, for Annotations, Rubra and Comments, a small, rectangular bar will appear on the right side of the Text-Editor with the corresponding colour. Clicking on the bar will bring you to the marked segment of the text.

Sentence translation

At the bottom of the Text Editor tab there is a text-input field where you can enter a translation of every sentence. With the existing transliteration it is deactivated unless a lemma has been selected in the "Text editor" or until you click somewhere into the sentence. With the new transliteration it is greyed out until you press "Load Text Lemmata" - after this the text-input field will be activated. Note that you have to switch the keyboard layout from "AAeW" to standard to enter the translation.

The "Languages" icon offers a drop-down menu with a number of languages (English, German, French, Spanish, Russian) to choose from. Choose the language of your translation.

Passport Editor

The Passport Editor section is located in the bottom part in the middle of the Text Corpus view. It contains the metadata of a selected text corpus object. It's divided into different subsections which are organized in tabs. These categories vary depending on the view: Text Corpus, Lemma, Thesaurus or Abstract Text. The rights to modify object's passport data depend on your *user role* for the selected corpus.

If you are working on a "child object" and want it to have the same meta-data as the "parent object", you can click "Inherit Passport Data" in the top right corner of the Passport Editor. Note that the "parent" data will be copied in the empty fields only. If the fields were filled out, their content will remain unchanged.

NOTE: the inheritance procedure applies to all tabs at once, not only the currently open one.

Main

The text-input fields and drop-down menus in this tab allow you to enter technical data of your text or object.

- Name: Enter or change the name of your object or text.

- Type and Subtype: Choose a type and subtype (e.g. text, object, etc.).

- SortKey: By default, all objects on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a "SortKey" in the Passport data of the object will change its position regarding other objects, "0" being on top.

- ID: Displays the ID of the object, which is generated automatically by the BTS. It cannot be changed.

- Author: Displays the author (creator) of the object.

- Date: Displays the date of creation of the object.

- Visibility: Define who can see the object or Text (public, project, group, reader, all_authenticated). See also *User Roles Description*.

- Review State: Enter or edit the review state of the object or text (published, reviewed, awaiting-update, awaiting-review, new, in progress, transformed awaiting update). The default review state is "published". Additional "review states" can be created /added by administrator in "Preferences / Edit Configuration/Revision Status"

- Project and Corpus: Clicking on 🗡 you can assign the object or text to another project / corpus. You can only move the corpora or projects for which you have rights. Note that only the physical position of an object will change (displayed in the Corpus Navigator in the square brackets), not its position in the hierarchical tree of objects. (If you want to change the position of an item in the hierarchical tree then you have to change the relation of your text or object. See *Relations Tab*.

- History: Click to see all changes of the selected database object. Information includes the username of the editor and the date. In order for the history information not to be displayed, change to another "Corpus Navigator" object and then back.

Relations

The Relations tab gives information on the relation between the objects. The default setting is the relationship between the selected object and its parent object ("Part of").

Relation

Choose an option from the drop-down menu:

- Partof: Your current item is a part (child) of another item.

- Family

- is composed of

- is cross-reference to

The last three options are offered but are not relevant for the Text Corpus at the moment.

Object: Enter the Name of the related object here.

🔍 **Search Object**: Search for the object in the corpora of your current project, so that you do not have to enter it manually. The search may take a few seconds until the results are displayed.

➕ **Add Relation**: Click it to add more relations between yours and other items.

➖ **Remove Widget**: This removes a relation from the object.

IDs

Since there is the possibility that the text appears in external projects, the ID tab provides the opportunity to enter the external ID, thus linking the projects. By default a ➕ button will be displayed. Click it to add an ID.

- Provider: Choose the provider (an external project) from the drop-down list.

- Type: Enter the type of the ID, in case such exists.

- External ID: Enter the external ID here (e.g. Trismegistos).

- ➕ Add Identifier: Add another set of information, including the "Provider", "Type" and "External ID"

Description

This tab is helpful for recording the working process. The provided input fields are the following:

- Line count: Enter the modus of the text's line count (e.g. define how the lines are counted in your text). NOTE: Line count is only visible for the item-type "text".

- Protocol: Enter the dates of your working process here (e.g. first entering, editing etc.).

- Description: Describe the type of your textual witness/object here.

- Comment: Write any additional comments you may have to your work.

Findspot

Another tab specific to an object, serves to enter information about the findspot of the object.

This tab is divided into two sections: "Place" and "Former Place".

Place

- Place: Choose the findspot from the Thesaurus.

- Comment: Add a comment to the findspot.

- is_origin: Select this check box if the chosen findspot is the original site where the object was created.

- Certainty: Choose between "Certain", "Probable" and "Uncertain"

Former place

- former_place: Select a previous find spot from the thesaurus.

- Comment: Add any comment to the findspot.

- is_origin: Add the origin of the object if the find spot is not equal to the original location.

- Certainty: Choose between "Certain", "Probable" and "Uncertain".

Present Location

This is another tab specific for an object.

- Location: Choose the location of your object from the Thesaurus.

- Inventory Number: Enter the number of your object if provided.

- Comment: Enter a comment about the location of the object if necessary.

- in_situ: Select this check box if the object is still preserved in its original location.

- is_present_location: Select this check box if the present location differs from its original location (e.g. on display or in inventory of a museum).

- Add widget: Click to add an additional "location" section so you can enter a previous location (if it differs from the present location).

- Delete widget: Click to delete a section.

Date

Define the dating of the selected item. It is necessary to use the "Search" button and use the Thesaurus entries. The rights to modify object's date data depend on your user role for the selected corpus. Enter the data in the text input fields "date" (via "Search") and "comment".

 Search:

Click to search the Thesaurus for valid dates.

 Add widget::

Click to add another date text input field if the object or text can only be dated between a terminus post quem and a terminus ante quem. Use the first date field for the earlier date and the second date field for the later date.

 Remove widget:

Click to delete a "date" text input field.

 Add Entry group:

Click to add a new entry group, containing both "date" and "comment" text input fields.

This feature is available to make "from" and "to" dating possible.

Object

This tab is specific for an object, it does not appear when you are working on a text.

This tab is divided into three parts: "Description of Object", "Technical Details", "Archaeological and Cultural Context of Object".

Each of these parts has a "Comment" filed, where explanatory information can be entered (ex. in case the type of an object is undefined)

Description of Object

- Type of Object: Choose the type of your object (e.g. Schriftrolle for a scroll: entry 21- Objekttyp). Select "unbekannt" or "unbestimmt" if it is not known or nor defined.

- Object is component: Use this option if your object is a part of an other object. E.g. if you have a "lid" which is a part of a "coffin".

- Owner

- Description

- Comment: Allows you to write your own comment on the object.

There are also four check boxes available: Model, Imitation, Miniature, Skeuomorph. Select if any of them apply to your object.

Technical Details

- Material: Choose a material your object is made of from the Thesaurus.

- Dimensions: Enter the size of your object (hight, width and length) into the input fields.

- Condition: Choose a condition of your object.

- Technique: Choose a technique your object has been worked in from the drop-down menu. In case it is not defined select "unbestimmt".

- Comment: Add a comment of your object's technical details.

Archaeological and Cultural Context of Object

- Grouping: Choose an option from a drop-down menu.

- Cultural Context: Choose a context of your object form the Thesaurus.

- Comment: Add a comment on the cultural context of your object.

Text

The Text tab allows you to enter textual metadata for the text. It is displayed for a text only.

- Language: Edit the language of the text by choosing an entry from the Thesaurus 🔎 (entry 4- Sprachen).

- Script: Edit the script of the text by choosing an entry from the Thesaurus 🔎 (entry 5- Schriftformen).

- Texttype: Edit the type of the text by choosing an entry from the Thesaurus 🔎 (entry 11- Textsorten).

You can, of course, comment your data in the relevant "Comment" fields.

Bibliography

Enter a bibliographical information using the Thesaurus here. The tab contains:

- Bibliographical text field: A field where you can enter the bibliographical data manually. Currently it is recommended to use this field only.

- Bibliographical entry / Bib. item: Navigate through Thesaurus with 🔎 Search to find the correct bibliographical reference. The bibliographical thesaurus was not ready yet at the time of the compilation of this manual. We recommend to use "Bibliographical text field" instead.

- Bibliographical entry / plates: Enter the plate number and/or select the check box with a letter below.

- Comment: Use this input field to comment your reference.

- Add Entry Group: Click to add an additional bibliography section.

- Remove Entry Group: Click to delete a bibliography section.

Synonyms tab

Enter the synonyms to the "Name" in the Main tab, selecting the language from the drop-down menu.

Lemmatizer

The Lemmatizer tab is used to reference the selected transliterated word to the lemma entry in the Lemma list. It has several text input fields and a toolbar. Using the Lemmatizer is the most important step to perform the subsequent lexical search in the database, to create word indexes or to conduct all kinds of lexical analyses.

NOTE: You can use the lemmatizer only if the Sign Text Editor tab has been selected.

- Activate: Click Activate to enable the lemmatization, click it again to deactivate it after you are done with lemmatizing.

Text input fields

- Selected Word

This field displays the word that you had previously selected in the "Sign Text Editor". You can change its transliteration (e.g. to correct your input) and the new list of lemmas will be displayed in the field below. The lemmata corresponding to the altered transliteration appear only after moving first to another lemma and then coming back to the lemma you are working on! There are three sections in this field: Lemma, Flexion and Translation.

The section <u>Lemma</u> is composed of three fields. The Lemma-list is automatically generated, based on the entry in the "Selected Word". Choosing a lemma from the list will display its "word corpus number" in the *WCN* field. The lemma itself is displayed in the field to the right of WCN.

The section <u>Inflection</u> and <u>Translation</u> show the default inflection number "3" and translation options for the selected lemma. The inflection number and translation can either be selected from the available ones (lower text box, this feature is not yet implemented) or manually entered (upper text box). The values in the "Translation" field depend on the Language Selection on the right.

- Search Object: Opens a search dialogue where you can look for lemmata manually.

- Open Lemma Navigator: Opens a complete list of available lemmas ("Lemma View) in the separate window.

Toolbar

- Confirm current lemma editing and continue to the next unlemmatized word

- Confirm current lemma editing and continue to next, not yet inflected word

Confirm the current inflection code of the lemma and continue to next word, where the inflection code has a default number "3" (i.e. has not been manually defined yet).

- Remove lemma information

- Move selection to the beginning of the document.

- Move selection to the beginning of the sentence.

- Move selection to previous word.

- Move selection to next word.

- Move selection to the end of the sentence.

- $>\parallel$ Move selection to the end of the document.

Hieroglyph Type Writer (HTW)

The Hieroglyph Type Writer is a tool which enables entering or editing hieroglyphs for the transliterated text in the "Sign-Text-Editor". The Hieroglyph Type Writer can be found in the lower part of the BTS user interface, next to the Passport Editor and the Lemmatizer.

In order to use the HTW you need to open the "Sign Text Editor" and select a lemma for which hieroglyphs are to be entered.

The HTW consists of the following sections:

Type here

Here you can enter either the Gardiner codes or "Manuel de Codage" transcription of a word chosen in the Sign-Text-Editor. In the field below the hieroglyphic variants are offered based on your input in "Type here". Select and confirm the sign by pressing "Ctrl" + the number (marked in red next to the desired sign). The field underneath it displays the hieroglyphic signs the way they appear within the selected word in the "Sign Text Editor".

Select Single Glyphs

In the case of an inversion this function offers to mark a hieroglyph and assign a different position for it in a sentence.

- $|<$ Move selection to the first sign.
- < Move selection to the previous sign.
- > Move selection to the next sign.
- $>|$ Move selection to the last sign.
- Order in Sentence: Use the up/down arrows to set a number corresponding to the position of a sign in a sentence if the transcription does not correspond to the order of signs in the manuscript.
- Ignore Glyph: Check box is applicable, for instance, in a case of a haplography. Checking this box after selecting a sign will signalize that the sign does not originally appear in the manuscript.

Toolbar

Placed in the upper-right corner of the HTW, the toolbar shows following buttons:

Confirm current hieroglyph editing and continue to the next word. Pressing the "Enter" key also confirms the hieroglyph editing.

Remove hieroglyph data: removes already entered hieroglyphs.

$\parallel<$ Move selection to the beginning of the document.

⊩< Move selection to the beginning of the line.

< Move selection to the previous word.

> Move selection to the next word.

>| Move selection to end of line.

>‖ Move selection to end of document.

Annotation and text translation

The annotations and text translation window is placed on the right side of the default BTS user interface in each view. You can *maximize and minimize* the window with ☐ and ⊟ buttons.
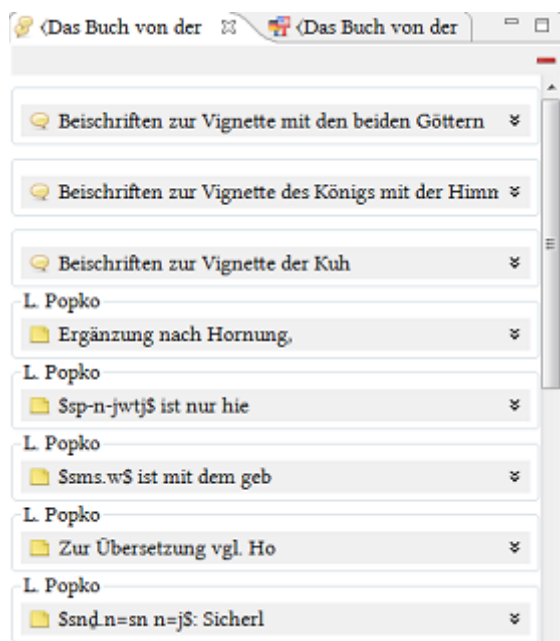
Annotations

The Annotations tab can contain the following elements :

💬 Annotation

🌳 Rubrum

📒 Comment

📕 Glosse

Clicking one of them will display their content. The related textpart will be marked in "Transliteration" tab with different colours: bright red for Rubra; yellow for comments; gray for Annotations and blue for Glosses. The underlining of the related segment in the text will appear thicker. Additionally, for Annotations, Rubra and Comments, a small rectangle will appear next to the scroll bar of the Text Editor with the corresponding colour. Clicking on the rectangle will bring you to the marked segment of the text.

Each annotation, rubrum, comment and gloss contains a toolbar with the following buttons:

🖼️ Add Current Text Selection as Reference

The selected text part is referenced to the current annotation, rubrum, element and gloss. This feature provides an opportunity, for example, to reference multiple text parts to a single annotation.

The following buttons can be used to connect the existing comments, annotations, rubra and subtexts/glosses to other parts of the text:

🖙 Update Current Reference

🖻 Remove Current Reference

✎ Edit Comment or Edit Annotation: This opens a window with different content for annotation, rubrum and comment. It is not available for 📕 "Glosses".

Clicking on the "Edit Annotation" will display the passport editor for annotations and rubra. Each annotation will have its own ID and its relation to the chosen text will be shown in the "Relations" tab.

By clicking the "Edit Comment" button, a "Comment Editor" a window will appear. You can enter or edit a title for your comment in the upper input field and the content of your comment in the lower input field. Below there is also a section where you can see or edit a relation of the comment to the text, using the ID.

━ Delete: Will delete the currently selected element.

To learn more about annotations refer to the *"Annotations" section* in the "User guide".

Text translation

The "Text translation" section shows a consequent, sentence-by-sentence, translation, which makes a continuous proofreading possible. The drop-down menu "Languages" 🏳allows to select a translation in the relevant languages. Sentences which have not been translated yet are marked as "## no trans: de ##§" / "## no trans: en ##§" etc. A click on a sentence highlights the sentence in the "Sign text editor", in the "Transliteration" tabs, and in the "Sentence translation" input field. A typo or another problem observed in the continuous translation can be altered in the "Sentence translation" input field.

Lemma View

Lemma view can be activated by left-clicking the Lemma icon in the *Toolbar*. Any user can see the contents of the lemma view, although the ability to modify it is restricted by the relevant *user role*.
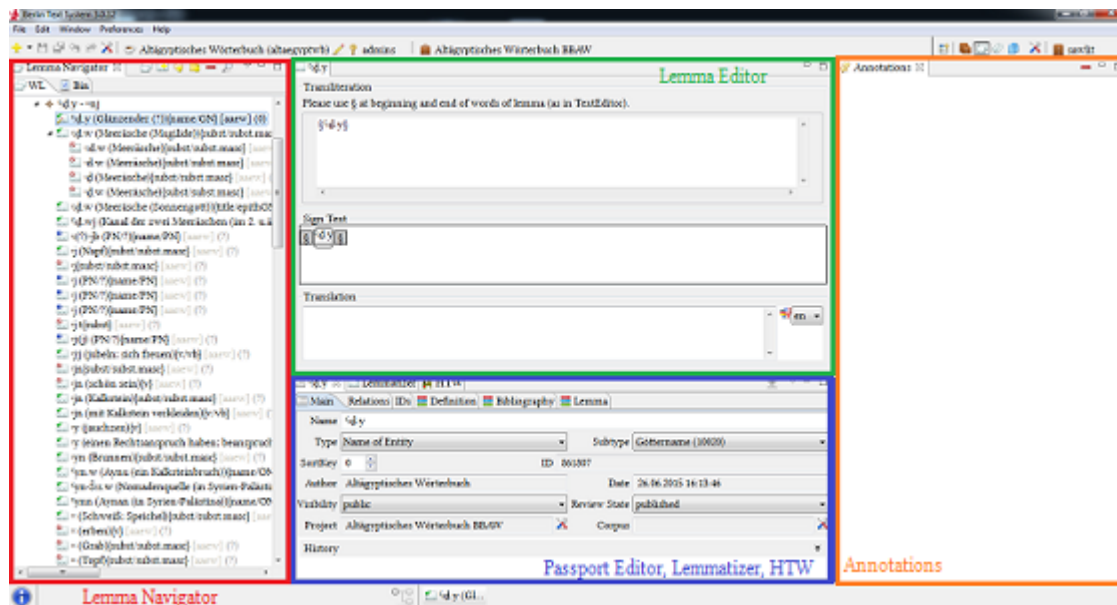
Lemma Navigator

In the Lemma Navigator you can browse, coordinate and control the lemma-entries of the TLA. It is divided into two sub-tabs: WL and Bin. Clicking one of those will show either the word list or a "trash can". Please note that generating the list of the objects in the "Bin" tab may take up to one minute the first time you click it after installing BTS. Thereafter the preview works faster.

Tools

The Lemma Navigator's toolbar includes the *standard tools* plus the following additional ones (from left to right):

Add Lemma Root Entry

This adds a new lemma root entry which appears first in the "rs-d̲#d̲#-ḥ#y.t" group. Entering the name of the lemma will automatically arrange its position in the hierarchical tree. A refresh might be necessary.

Add Lemma Child Entry: This adds a new child entry to a selected root entry or child entry.

Add Annotation: Adds an annotation to the active lemma.

Add Comment: Adds an annotation to the active lemma.

Delete Comment: This moves an entry from the WL to the Bin. Deleting entries that are moved to bin will be deleted permanently.

Open Simple Search Dialog: This opens a search dialog to filter the WL for specific entries.

WL

In the WL (=Wortliste/word list) the lemmata are presented as groups in a tree. The label of a specific group shows the first and the last word of each group, sorted according to the egyptological "alphabetic" order. Clicking on a group opens new subgroups (if such exist) until lemma root entries show up. Root entries can have child entries. To display child entries simply click the root entry.

Next to each lemmata there is one of the following icons:

means that a lemma is certain and confirmed.

means that the meaning of a lemma is uncertain/ not defined.

means that a lemma has been proven to be wrong and usually, upon expanding, a correct lemma will be displayed.

Bin

Entries (root or child) deleted in the WL are moved to the Bin. The entries in the Bin are not grouped alphabetically anymore. Deleting an item at this point (in the Bin) will remove it permanently. Note that the initial opening of the tab "Bin" may take some time.

Clicking the drop-down menu ▽ will display all the options present in Tools (see above) and a few more:

• Delete Permanently: Use this option to delete an item completely (it will not be moved to the bin).

• Restore: Restores a deleted lemma to its original position in the tree.

• Edit Updaters/Readers: Assign *user roles* for Lemma entries.

• Open Conflict Dialog (option not available yet)

• Open Revision History: Opens the history of the changes made for the selected lemma.

• Filter: Apply different filters on the available lemma-list:

...by Project

...by Creator

...by Updaters

...by Review Status

...by Visibility

To apply the filter, activate the relevant check boxes shown in the dialog window.

Lemma Editor

The Lemma Editor is located in the upper centre of the workspace when Lemma view is active. It contains three sections.

Transliteration

The lemma transliteration section is identical to *Text Editor*. Transliterate the lemma in this field within the "§" signs ("§" marks the beginning and the end of the lemma). If the transliteration is not enclosed in "§", it will not be valid. Each lemma has to be enclosed in it (left and right of the written word, without "space").

Compound-word-lemmata: If you want to enter a lemma that consists of multiple words (e.g. as in m-ẖnw), use "-" between each element. If you want to split them into multiple elements (but have it as one entry) then just use "space" between each word. Do not enclose each word individually with "§".

The consequence of splitting the compounds into multiple elements is that in the case of searching for a part of the compound (e.g. "ḥm" in the case of *#m-n#r*) the evidence of the token lemmatized as compound will appear.

Example:

"m-ẖnw": Typing §*m-#nw*§ marks one element while §*m #nw*§ marks two elements: *m* and *#nw*.

Wrong: §m̲§ §*#nw*§.

Sign-Text

In the Sign-Text section every lemma appears as a single element, no matter if the element is part of a compound word or not. This means that you can sub-lemmatize every part of a compound in addition to the compound itself (which would be lemmatized as one lemma only).

Translation

Enter the translation for the complete lemma into this field. Select the language of your choice by left-clicking the drop-down menu marked by 🏳️. The default language is English.

Passport Editor

Passport Editor is per default located at the bottom centre of the workspace together with two other tabs: Lemmatizer and HTW. It contains the metadata of lemmata. It is divided into different tabs. In the case of the Lemma view these tabs are: Main, Relations, IDs, Definition, Bibliography, Lemma plus the toolbar. The toolbar will be explained first.

Toolbar

Clicking ▽ opens the Menu containing the following entries:

- Inherit Passport Data: This function can also be triggered by clicking on⬇. It transfers the data from a higher level lemma to a lower level (root entry to child entry).

- Inherit Overwrite Passport Data: This option overwrites passport data if it has already been entered

Main

The Main tab contains general information about the lemma entry.

- Name: Choose or change the name of the lemma.

- Type and Subtype: Choose a type and subtype (e.g. substantive, adjective etc.).

- SortKey: Rearrange the items in the Lemma Navigator tree (the default order is alphabetical).

- ID: Display the ID of the lemma.

- Author: Display and edit the author of a lemma.

- Date: Display the date of creation of the lemma.

- Visibility: Define who can see the lemma (public, project, group, user).

- Review State: Enter or edit the Review state of the lemma (published, reviewed, awaiting-update, awaiting-review, new etc.).

- Project: ove the lemma to another project.

- Corpus: See or edit the name of the corpus. Click ⚒ to move an object/lemma between projects/databases.

- History: See all changes done in this database-object with User Name and Date.

Relations

This tab provides information on the relation between the lemmata.

Relation

Choose different types of relations:

- PartOf: A lemma is a part of another lemma.

- Contains / is composed of: A relation between a compositum and its components

- "Referencing": Establishes a relation between lemmas that have been proven to be wrong (🗑) and correct lemmas.

- "ReferencedBy": Defines the relation between the correct lemmata (🗑) and the wrong lemmata.

- RootOf: A relation between a lemma and its root.

- Successor / Predecessor: Sets the correlation between the Egyptian and Demotic word lists.

- Is cross-reference to: This option is offered but is not relevant at the moment.

- Object: Enter the Name of the related object here.

- 🔍 Search Object: Search for a text or an object in the corpora of your current project, so that you do not have to enter it manually.

- ➕ Add Relation: Click it to add more relations.

- ➖ Remove Relation: This removes relations from the Object.

IDs

Since there is the possibility that the text appears in external projects (and therefore also the tokens with lemmatization) the link between those external projects and the one you are working on can be seen here.

- Provider: Choose the provider from the drop-down menu.

- Type: Enter the type of the ID. Currently the default type is "aaew_wcn"

- External ID: If IDs exist because of the external projects, e.g. Trismegistos or other, then the ID of those external projects can be entered here.

- ➕ Add Identifier: Click this to add another set of information here.

Definition

This tab is to define your lemma and record your working process. Editor's comments can also be added here. Use the provided input fields:

- Description: Describe the type of your lemma here.

- Comment: Comment your work.

Bibliography

Enter a bibliographical information using the Thesaurus here. The tab contains:

- Bibliographical text field: A field where you can enter the bibliographical data manually. Currently it is recommended to use this field only.

- Bibliographical entry (Bib. item): Navigate through the corresponding Thesaurus with 🔍 Search to find the correct bibliographical reference.

- Bibliographical entry (Pages / plates): Enter the plate number and select the check box with a letter below.

- Bibliographical entry (Comment): Use this input field to comment your reference.

Lemma

Lemma tab provides information about different properties of the lemma. These are the following:

- Comment: Any comment to the Lemma which did not fit in any other subsection.

- Comment (English translation): Any comment to the English translation of the Lemma.

- Lsort, arb_vermerk, simplify, wclassnum, woart, word_class: present information tags inherited from the previous BTS version.

Lemmatizer

The Lemmatizer tab is used to reference the selected transliterated word to the lemma entry in the Lemma list. It has several text input fields and a toolbar. Using the Lemmatizer is the most important step to perform the subsequent lexical search in the database, to create word indexes or to conduct all kinds of lexical analyses.

NOTE: You can use the lemmatizer only if the Sign Text Editor tab has been selected.

- Activate: Click Activate to enable the lemmatization, click it again to deactivate it after you are done with lemmatizing.

Text input fields

- Selected Word

This field displays the word that you had previously selected in the "Sign Text Editor". You can change its transliteration (e.g. to correct your input) and the new list of lemmas will be displayed in the field below. The lemmata corresponding to the altered transliteration appear only after moving first to another lemma and then coming back to the lemma you are working on! There are three sections in this field: Lemma, Flexion and Translation.

The section Lemma is composed of three fields. The Lemma-list is automatically generated, based on the entry in the "Selected Word". Choosing a lemma from the list will display its "word corpus number" in the *WCN* field. The lemma itself is displayed in the field to the right of WCN.

The section Inflection and Translation show the default inflection number "3" and translation options for the selected lemma. The inflection number and translation can either be selected from the available ones (lower text box, this

feature is not yet implemented) or manually entered (upper text box). The values in the "Translation" field depend on the ⊞Language Selection on the right.

- 🔍Search Object: Opens a search dialogue where you can look for lemmata manually.

- 🖵 Open Lemma Navigator: Opens a complete list of available lemmas ("Lemma View) in the separate window.

Toolbar

- 🖳Confirm current lemma editing and continue to the next unlemmatized word

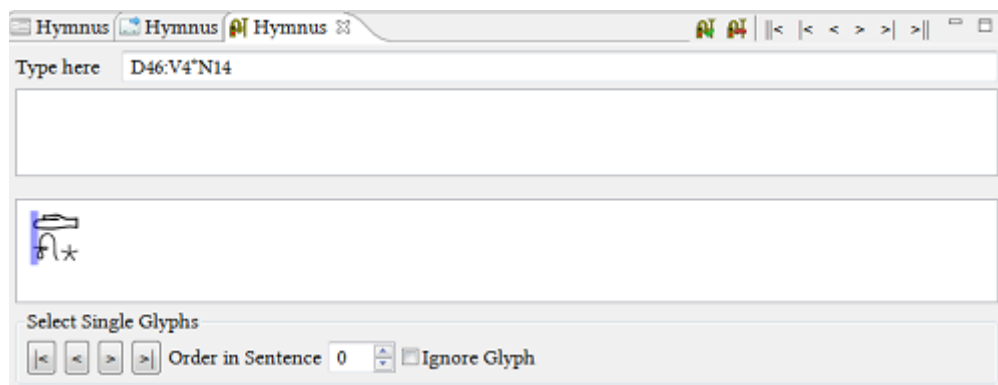- 🄵Confirm current lemma editing and continue to next, not yet inflected word

Confirm the current inflection code of the lemma and continue to next word, where the inflection code has a default number "3" (i.e. has not been manually defined yet).

- 🖳Remove lemma information

- ‖< Move selection to the beginning of the document.

- |< Move selection to the beginning of the sentence.

- < Move selection to previous word.

- > Move selection to next word.

- >| Move selection to the end of the sentence.

- >‖ Move selection to the end of the document.

Hieroglyph Type Writer (HTW)

The Hieroglyph Type Writer is a tool which enables entering or editing hieroglyphs for the transliterated text in the "Sign-Text-Editor". The Hieroglyph Type Writer can be found in the lower part of the BTS user interface, next to the Passport Editor and the Lemmatizer.

In order to use the HTW you need to open the "Sign Text Editor" and select a lemma for which hieroglyphs are to be entered.

The HTW consists of the following sections:

Type here

Here you can enter either the Gardiner codes or "Manuel de Codage" transcription of a word chosen in the Sign-Text-Editor. In the field below the hieroglyphic variants are offered based on your input in "Type here". Select and confirm

the sign by pressing "Ctrl" + the number (marked in red next to the desired sign). The field underneath it displays the hieroglyphic signs the way they appear within the selected word in the "Sign Text Editor".

Select Single Glyphs

In the case of an inversion this function offers to mark a hieroglyph and assign a different position for it in a sentence.

- |◄ Move selection to the first sign.
- < Move selection to the previous sign.
- > Move selection to the next sign.
- >| Move selection to the last sign.
- Order in Sentence: Use the up/down arrows to set a number corresponding to the position of a sign in a sentence if the transcription does not correspond to the order of signs in the manuscript.
- Ignore Glyph: Check box is applicable, for instance, in a case of a haplography. Checking this box after selecting a sign will signalize that the sign does not originally appear in the manuscript.

Toolbar

Placed in the upper-right corner of the HTW, the toolbar shows following buttons:

Confirm current hieroglyph editing and continue to the next word. Pressing the "Enter" key also confirms the hieroglyph editing.

Remove hieroglyph data: removes already entered hieroglyphs.

||◄ Move selection to the beginning of the document.

|◄ Move selection to the beginning of the line.

◄ Move selection to the previous word.

► Move selection to the next word.

>| Move selection to end of line.

>|| Move selection to end of document.

Annotations

The annotations window is per default placed on the right side of the workspace. To each entry in the "Navigator" either 🗨 "Annotation" or 🗂 "Comment" can be entered. Each annotation or comment offers additionally the following functions:

🗩 Update Current Reference

🗩 Remove Current Reference

✏ Edit Comment or Edit Annotation

Clicking on the "Edit Annotation" will display the passport editor. Each annotation will have its own ID and its relation to the chosen lemma will be shown in the "Relations" tab.

By clicking the "Edit Comment" button, a "Comment Editor" a window will appear. You can enter or edit a title for your comment in the upper input field and the content of your comment in the lower input field. Below there is also a section where you can see or edit a relation of the comment to the lemma, using the ID.

▬ <u>Delete</u>: Will delete the currently selected element.

To learn more about annotations refer to the *"Annotations" section* in the "User guide".

Thesaurus

The Thesaurus view can be activated by clicking the ⬦ "Thesaurus" icon in the *Toolbar*. Thesaurus contains a uniform terminology, which is used for the database object's metadata (also called "passport data"). New entries can be added here as well. Any user can see the contents of the Thesaurus view, although the ability to modify them is restricted by the relevant user role.

The three windows from left to right are: Thesaurus Navigator, Passport Data Editor, Annotations.
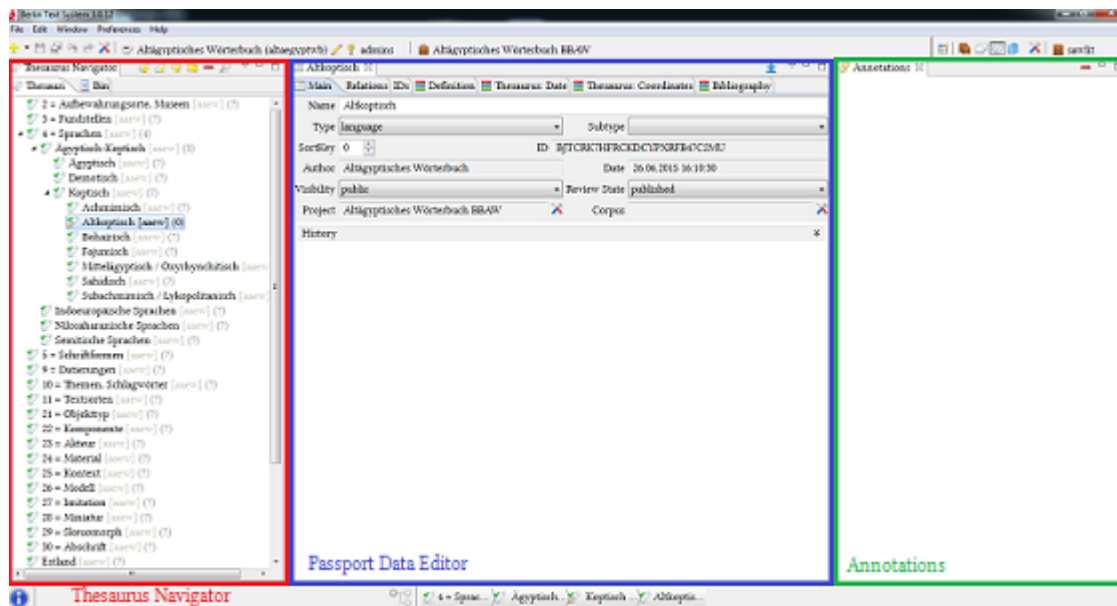
Thesaurus Navigator

The Thesaurus Navigator is located on the left of your workspace in the Thesaurus view. It includes key words that you can apply to the texts and objects metadata (passport data).

Toolbar

The toolbar of the Thesaurus navigator contains the following entries:

🏷 Add Thesaurus Root Entry: This adds a new "Thesaurus Root" which will appear at the bottom of the Thesaurus tree.

🏷 Add Thesaurus Child Entry: This adds a new child entry to a selected root entry or child entry.

💬 Add Annotation: Adds an annotation to the active thesaurus entry.

🗒 Add Comment: Adds an annotation to the active thesaurus entry.

▬ Delete: This moves an entry from the Thesaurus to ⬍ Bin.

🔍 Search: Search the Thesaurus for entries.

Bin

Entries deleted in Thesaurus Navigator appear in ⬍ "Bin" tab. They are listed individually. Deleting an item here will remove it permanently. Please note that generating the list of the objects in the Bin may take up to one minute the first time you click it after installing BTS. After this the preview works faster.

Drop-down menu " ▽ "

Offers all the options available in the Toolbar (see above) plus the following:

- Delete Permanently: Delete selected entry completely.

- 🔑 Edit Updaters/Readers: Assign user roles for thesaurus entries.

- ⊕ Open Revision History: Opens the history of the changes made for the selected lemma.

- Open Conflict Dialogue: Currently disabled

- Filter: Apply different filters on the thesaurus entries:

...by Project

...by Creator

...by Updaters

...by Review Status

...by Visibility

...by Types

To apply the filter, activate the relevant check boxes.

Passport Editor

Passport Editor is per default located at the upper centre of the workspace. It contains the metadata of thesaurus entries. Information in the Passport Editor is split between different tabs.

Toolbar

There are several buttons on the toolbar of the Passport Editor:

⬇ Inherit Passport Data From Parent Object:

Copy all data of a parent Thesaurus object and apply it for the active child (a child entry may have the same metadata as its parent). If several pieces of data are different in the child entry, fill them in beforehand - they will not be overwritten.

▽ Menu: opens the menu containing the following entries:

- Inherit Passport Data: This function can also be triggered by left-clicking ⬇. It transfers the data from a higher level lemma to a lower level (root entry to child entry).

- Inherit Overwrite Passport Data: This option overwrites passport data if it has already been entered

Main

🖳 The text input fields and drop-down menus give you several options to enter technical information of your thesaurus entry.

- Name: Enter or change the name of your entry.

- Type and Subtype: Choose a type and subtype (e.g. language, date, script) from the *Thesaurus*.

- SortKey: Rearrange the entries in the Thesaurus Navigator tree (the default order is alphabetical).

- ID: Displays the ID of the entry.

- Author: Displays the author of an entry.

- Date: Displays the date of the creation of the entry.

- Visibility: Change who can see the entry (public, project, group, user).

- Review State: Enter or edit the Review state of the object or text (published, reviewed, awaiting-update, awaiting-review, transformed_awaiting_update, new).

- Project: Move the thesaurus entry to another project.

- Corpus: Change the corpus you are working in. Both "Project and "Corpus" can be edited by clicking the 🛠 button.

- History: Displays the history of editing of the thesaurus entry.

Relations

Relations tab gives information on the relation between the thesaurus entries. The default setting is a "partOf" relation to the parent element.

Relation

Choose between "Partof" and "is cross-reference to" relation:

- Partof: Your current entry is a part (child) of another.

- Is cross-reference to: This references your entry to another entry.

- Object: Enter the Name of the related object here.

- 🔍 Search Object: Search for the object in the corpora of your current project.

- ➕ Add Relation: Click to add more relations.

- ➖ Remove Relation: Removes a relation from the object.

IDs

Since there is the possibility that the thesaurus entry appears in external projects, the ID tab provides the opportunity to enter the external ID, thus linking the projects.

- Provider: Choose the provider from the drop-down list.

- Type: Enter the type of the ID.

- External ID: Enter the external ID here (e.g. Trismegistos).

- ➕ Add Identifier: Add another set of information, including the "Provider", "Type" and "External ID" in the case of multiple appearances of the used thesaurus entries in more than one project.

Description

This tab serves to describe your object and record your working process. Editor's comments can also be added here. Use the provided input fields:

- Description: Describe the type of your thesaurus entry here.

- Comment: Comment your work.

Date

Enter the dating of your thesaurus entry, including the "Beginning", "End" and "Reference" information.

📇 Add entry group: Click to add a new section.

📇 Delete entry group: Click to delete a section.

Bibliography

Enter the bibliographical information here. This tab contains:

- Bibliographical text field
- Bibliographical entry (Bib. item) : Navigate through Thesaurus with 🔍 "Search" to find the correct bibliographical reference.
- Bibliographical entry (pages/plates): Enter the plate number and select the check box with a letter below.
- Comment: Use this input field to comment your reference.

Coordinates

After entering a location, you can insert its coordinates here:

- Latitude (German: "Breite"): Enter the latitude of the location.

- Longitude (German: "Länge"): Enter the longitude of the location.

Synonyms

Annotations

The annotations window is per default placed on the right side of the workspace. To each entry in the "Navigator" either 💬 "Annotation" or 📁 "Comment" can be entered. Each annotation or comment offers additionally the following functions:

👉 Update Current Reference

📇 Remove Current Reference

✏️ Edit Comment or Edit Annotation

Clicking on the "Edit Annotation" will display the passport editor. Each annotation will have its own ID and its relation to the chosen thesaurus will be shown in the "Relations" tab.

By clicking the "Edit Comment" button, a "Comment Editor" a window will appear. You can enter or edit a title for your comment in the upper input field and the content of your comment in the lower input field. Below there is also a section where you can see or edit a relation of the comment to the lemma, using the ID.

➖ Delete: Will delete the currently selected element.

To learn more about annotations refer to the *"Annotations" section* in the "User guide".

BTS Grammar Rules

Rules for transcribing a text

A proper transcription should represent all phonetical and morphological information that can be received from a text. A transcription should also represent destructions and mistakes. We recommend transcribing the traditional form of any word, as long as there is no evidence that it has undergone considerable changes in its phonology.

The following structural elements should be reflected by a transcription: every phonological or morphological element which is a part of a written word. Graphical elements without phonological or morphological function should not to be reflected (e.g. determinatives).

Conventions

Structural Signs

Structural Signs	
Prefixes	":"
Suffix-pronouns	"="
Lexical bound suffixes	"≡"
Endings (morph.)	"."
Endings (word formation)	","
Stem modification	"!"
Linking compound words	"-"

Prefixes

Only morphological prefixes are allowed to be marked by the structure sign (":"). Do not mark any prefix of word formation.

Examples	
Morphology:	
correct: *j:jri#=f*	incorrect: *jjri#=f*
Word Formation:	
correct: *smn*	incorrect: *s:mn*

Suffixes

Suffixes are to be marked consistently by "=". Note the white-space between a word and "=". Lexically bound suffixes have to be marked by "≡" to declare the suffix as included in the word (e.g. personal names).

Examples	
Morphological Suffixes:	
correct: *s#m =f*	incorrect: *s#m=f*
Lexical Bound Suffixes:	
correct: *N#r-#pr≡f*	incorrect: *N#r-#pr =f*

Endings

Morphological endings are to be marked by ".", endings of word formations by ",". Endings of personal names have to be written at the end of the full name, no matter if a name consists of compound words and/or suffixes.

Examples	
Morphology: *rm#.w*(Menschen)	Word Formation:*mn,w*(Denkmal)
Personal Name: *jni#-jt(j)=f.j*	

Stem Modification

Modifications of stems can be marked by writing a "!" directly behind the modified consonant. This will help the program to identify the correct lemma automatically and list it. This will just matter in the case of verbal inflections as in *gmm* (*gmi#*).

Examples
gmm! =f (gmi#)
wn! =f (wnn)
m#n! =f

Compound Words

Compound words such as prepositions (e.g. *m-#nw*) and nouns (*wnn-nfr*) have to be connected by writing a "-" between both words.

Examples
m-#nw
m-#t
#r-tp
wnn-nfr

Unmarked Structure: Idiomatic Expressions

Some objects are collocated with a verb so that they form an idiomatic expression. This collocation will be determined by setting the correct entry for the verb in the lemmatizer. The object itself has to be lemmatized as it is.

Example	
jri# #h.w – to feel pain	correct lemmatization: 1) *jri# (#h.w)* (WCN: 851959) 2) *#h.w* (WCN: 174)

System of Transliteration

Transliteration-signs with variable conventions

The following list shows the convention-variant used in the BTS:

BTS var.:	**Comparison / Identification:**
j	*j, i, ı#* : Strong radical (also used for nisba-endings in dual-endings)
i#	*j* (weak)

y	*jj*, sometimes *j* : duplicate M17
u#	*w* (weak)
s	*ś*
z	*s*
q	*#*
#	*č*
d	*#*
#	*č*

Reconstruction of weak consonants

Weak consonants have to be written in the cases of infirmae verbs as "*jri#*" – "to do", but not in the case of substantives derived from verbs of ult. Inf. classes as in "*w#.t*" – "way".

Nisbe- and Dual-Endings and Double-M17:

Endings of nisba-adjectives and inside a phonetically written dual are represented as "*j*".

Only phonemes expressed by a double "M17" are to be written as "*y*".

Unwritten Consonants

Conventions

Correctly unwritten (but not weak) consonants should be determined by the use of the following brackets: "( )". This means: whenever an unwritten but strong radical is expected, it has to appear in the transliteration. There are a few exceptions which will be listed below.

Rules for the reflection of unwritten consonants

Grammar	Yes (x) / No (-)
Numerus	-
Infinitive	-
Passive (tw/tj)	x
Contigent	x
Passive (*s#m.w=f*)	-
Prospective	-
Subjunctive	-
Imperative	-
Stative / PSP	-
Negative-comeplement	-
Participle	-
Relativeform	-

Numerus

Ideographic writings of numbers are not to be represented phonetically but designated through ".Pl" and ".Du".

Brackets

Theory

Only consonants of words or full words that are destroyed or partially destroyed are allowed to be put into brackets "[ ]" / "# #" if signs representing the consonants are intrinsically part of the writing. This means that the consonants that are complements of fully existing ideograms should not be surrounded by brackets. If a word is partially destroyed but is still fully readable (that happens if a determinative or a complement is destroyed, but the word is clearly written) then there is no need for a bracket.

- Example: nfr written: has to be transcribed as "*nfr*", not "*nf[r]*".

- Example 2: nfr written: has to be transcribed as "*#nfr#*".

Conventional Brackets

Correctly unwritten consonants / tokens	( )
Partly destroyed consonants / tokens	# #
Completely destroyed consonants / tokens	[ ]
Incorrectly unwritten consonants / tokens that have to be added	⟨ ⟩
Incorrectly written consonants / tokens	{ }

Non-conventional Brackets

Haplography	⟨⟨ ⟩⟩
Ancient additions.	(( ))
Ancient reconstructions over deletions.	[[ ]]
Ancient deletions.	{{ }}

Destructions

Theory

The author of a text should himself decide whether to reconstruct a word / phrase or not. If only a word class cán be reconstructed, the "representative" should be used instead (see below)

General Representation of Destructions

Destructions where words or even the number of words cannot be reconstructed have to be represented by the following notation:

"--nQ--" with "n" as count of destroyed quadrats.

Complete destruction of a line: "- -Rest_der_Zeile_zerstört- -" ???

Examples	
3 quadrats destroyed	"--3Q--"
1,5 quadrats destroyed	"--1,5Q--"

Representatives

Representatives are substitutes for distinctive word classes. They can be used if no phonetic information can be reconstructed.

List of Representatives:

-W-	Word
-WS-	Substantive
-WA-	Adjective

Inflection Codes

To each word form (token) an infection code should be assigned. Uninflected forms, for example substantives in singular and status absolutus, get the code "3". In the following the example will be given, explaining the inflection codes of verbs with suffix conjugation.

Inflection of Verbs

Suffix conjugation

The inflection code in the case of verbal suffix conjugation is made up of two elements: 1) the number of the verbal form + 2) the number of the suffix pronoun. The numbers of the verbal forms are, for example, the following:

10000 -> suffix conjugation

11000 -> prefixed suffix conjugation

10020 -> suffix conjugation, active form of the unmarked stem

10040 -> suffix conjugation, passive form of the unmarked stem

10100 -> suffix conjugation, active form of the geminated stem

10120 -> suffix conjugation, passive form of the geminated stem

The numbers for the suffixes run from 1 to 9, as attributed to each pronoun. Inflected verbs with a nominal subject get the number "0".

• Example:

jri#.n=f is encoded as "10384", which is a combination of "10380" and "4".

"10380" stands for "suffix conjugation, active n-form of the unmarked stem"

"4" stands for a 3rd p. sg. m. pronoun "f"

Other examples of the codes of the verbal inflection:

Table 1: sDm=f

ś#m	unmarked stem	geminated stem	special
active	10020 (*jri#*)	10100 (*jrr*)	10140 (*jnt, m#n* etc.)
passive	10040 (*jri#*)	10120 (redupl., *ś#mm*)	10160 (final j, y)

Table 2: sDm.w=f

ś#m.w	unmarked stem	geminated stem	special
active	10180 (*jri#.w*)	10220 (*jrr.w*)	10140 (*jnt.tw*)

ś#m.w	unmarked stem	geminated stem	special
passive	10240 (*jri#.w*)	-	10160 (final j, y)