Berlin Text System 3.1 User Manual (V 2.0)

Contents

Introduction

Welcome to Berlin Text System V 3.0 - a new Java software with a Couch DB database and an Elastic search engine, designed for editing and annotating Ancient Egyptian texts. Entering texts into the **Text Editor** allows the texts to be annotated in different layers; one of the main functions of the system is the lexical and grammatical annotation of words in texts. Using an integrated lemmatizer, all words are connected to the appropriate entries in the **Lemma List**, which is constantly updated and contains all known words of the Ancient Egyptian vocabulary. Furthermore, all texts (here called 'database objects') can be enriched with metadata, such as provenance, materiality, and date, which can be selected from a controlled vocabulary of **Thesauri**. Additionally, in the **Abstract Text** function the different textual witnesses of a text can be combined in one view, showing the text's development over time.

The four major components - Text Editor, Lemma List, Thesaurus, and Abstract Text are briefly described below:

- The **Text Editor** provides tools for transliteration, translation, lemmatization (assigning a lemma to a word), entering hieroglyphic transcriptions via a Hieroglyph Type Writer, and annotations. Texts can be merged and arranged in a Text Corpus. The Text Editor is the core of the BTS.
- The **Lemma List** contains two up-to-date lists of Pre-Coptic lemmata separated into words from Hieroglyphic and Hieratic scripts, and those in Demotic script. These lists are accessible to any BTS user. Each lemma has passport data, transliteration, and translation, as well as annotations and comments.
- The **Thesaurus** contains vocabulary which is used for the metadata of the database objects, such as date, location, provenance etc. A controlled vocabulary for metadata is necessary to maintain data consistency and effective search functions. All terms in the thesaurus reflect a semantic network of concepts including parent/child relationships. Thesaurus entries are offered in the Passport Editor section of either the Text Editor in the Text Corpus View or the Lemma Editor in the Lemma view.
- The **Abstract Text** connects all versions of a text with a long textual tradition; this function is currently unavailable.

This User Manual provides an overview of the features in BTS.

- The **Introduction** chapter provides a description of the system requirements as well as step-by-step instructions for installing BTS and its initial configuration. It also includes a description of the different user roles.
- The **General User Guide** provides a basic introduction to BTS and explains how to edit an Ancient Egyptian text.
- The **Guide for advanced and privileged users** shows users with the necessary editing rights how to edit the lemma list and the thesaurus entries, and contains information for administrators and editors.
- The **BTS User Interface** chapter is a detailed explanation of all elements available in the BTS user interface. This chapter serves as a reference to the "Guide" chapters.
- The **BTS Grammar Rules** chapter is a compilation of the essential rules for transliteration in BTS.
- The **BTS troubleshooting** chapter offers solutions for common questions. and problems.
- The **Glossary** gives an overview of the most important terms used in the BTS user interface.

System requirements

Supported Operation Systems

BTS has been tested on Windows 7 SP1 64-bit, Windows 8.1 64-bit, and Windows 10 64-bit. We cannot guarantee that it will work properly on other Windows OS (e.g. XP or Windows Server).

Required RAM

BTS requires a minimum of 2 GB RAM. To work properly we recommend at least 4 GB RAM, since your local BTS installation will need to communicate with the server to update the data, synchronizing and downloading all available database files, which are now about 2 GB in size.

Mac and Linux

At the moment BTS does not support Mac or Linux OS. As a "workaround" we suggest using a virtual machine (VM) with Windows such as WINE to run BTS on your PC; popular VM solutions for Mac include VM Ware Fusion and Parallels (both commercial), and Virtual Box (free of charge). You will still need a 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 onwards. 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 with the firewall of your PC. For the port number see *Install BTS* on page 6.

Internet access

BTS can be used online and offline, i.e. you do not need permanent internet access. You only need stable internet access to download the word list and other data during the installation process, and to synchronize your local data with the server each time you open BTS. If you do not have internet access when opening BTS, it will not be able to synchronize with the server.

Install BTS

Preparing the installation

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

- The BTS-folder, containing system data, including the installer (bts.exe) and the manual (.pdf file)
- Keyman Keyboard (aaew.kmx)
- BBAW Libertine Font (BBAWLibertine_ah.ttf)

NOTE: We recommend creating and using the "standard" directory on "C" drive: "c:\bts".

Installing BTS

Double-click "bts.exe" and 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". If you have extracted your BTS program package into another directory, 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" (offline) mode. The button "Next" will be activated once you select an option.

     NOTE: The software is not yet ready to work without a BTS Server URL. Please always select "Yes" because the server-link is necessary for downloading the word list and other data from the server.
3. **Server Connection**

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

  After entering the information required, click "Connect to server". In the upper part of a window saying "The connection you have entered is OK" will appear. 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" (lefthand box) and click "Add" to add it to your system. The project should then appear in the righthand 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, allow 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 usually take about 20 minutes and is not visible to the user; it might take longer depending on your system. There is also no notification once the process is completed. Close the "Database manager" window and reopen it after approximately 20 minutes. As soon as the "aaew_wlist" displays the number of c. 49.500 in the "DB Doc Count" column, the process is complete.

   NOTE: Sometimes the automatic login 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. A small window will appear, where you have to login with your user name and password. You can activate "Remember me" so that in the future BTS will automatically log you in. You can change and deactivate this function in the *preferences*.

6. **Index data**

   Last but not least, all data imported from the server must be indexed. Indexing enables the search function, as the query is not done in the database (which would take time) but in the document indexes instead.

   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. Databases that are not indexed successfully are marked either in yellow or red. If indexing was not successful for some corpora re-index them by clicking on the button "Re-index all non-OK".

   NOTE: To work with BTS all databases should be indexed correctly. Therefore, always re-index those databases which are marked either yellow or red.

   NOTE: The items "_recplicator" and "_uses" cannot be indexed and always are marked in red. You do not have to re-index these items.

Start BTS

BTS automatically starts during the installation process. Afterwards BTS is started by double-clicking "bts.exe".

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

Update/Uninstall BTS

1. Update BTS

   BTS automatically checks for updates every time you start the program. In case an update is found, you can choose to install it or postpone it. The update can be installed via the program's user interface as well, by clicking "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, and so it cannot be uninstalled in the normal way. To uninstall the program, close the program window and delete all files from the installation folder.

   NOTE: You might have to restart your system before deleting the folder because the DB services might be still running in the background after closing the program, and therefore might block the deletion.

   NOTE: Using "Help / Uninstall software" entry in the upper menu bar of BTS will not uninstall the program completely, it will only uninstall individual components, and sometimes this is not possible because DB services will still be running. You will have to close the program window and delete the files again.

Initial configuration of BTS

When you use BTS for the first time, you will need to carry out a few initial configurations and install the keyboard, which will be explained in this chapter.

Configuring your BTS

In the menu bar click on "Preferences/Preferences" and expand "Berlin Text System General" by clicking on the triangle symbol on the left.

1. **Active Corpora**

   Choose the "Corpus Settings" option from the expanded menu and add the corpora you are going to be working with to the "Active Corpora" list.
2. **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 already activated. Press "Apply" to save the change. Repeat the same for "Lemma Navigator Settings" and "Thesaurus Navigator Settings".

   NOTE: By default all database objects have "0" as sort key and, as a result, are organized in alphabetical order on the same level.
3. **Remember Me**

   By selecting this check box you can save your login credentials, so that BTS logs you in automatically upon startup.
4. **Text Editor settings**

   Expand "Text Editor" and select "Sign Text Editor". Activating "Show Hieroglyphs", "Show Lemma ID", "Show Flexion" (=Inflection), and "Show Translation" is recommended but can be changed any time.
5. **Applying the changes**

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

For more details on BTS configuration see chapter *Configuration* on page 39.

Installing and configuring the keyboard

To type Egyptological transliteration into BTS you need to first install and configure the relevant software, font, and keyboard with the following steps:

1. **Install Tavultsoft Keyman Desktop**

   Keyman Desktop is a free software of Tavultsoft 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 to install the program.

2. **Install "BBAW Libertine" Font**

   BTS works with "BBAW Libertine" font. This program only has to be installed on your system for use in BTS, meaning you can also use it in other programs like Word etc. if you want to. To install the font, right-click the "BBAWLibertine_ah.ttf" file 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**

   To use this font, you need to install the AAeW Keyboard into Keyman Desktop. This keyboard layout includes all necessary characters, including brackets, verse points, and cartouches.

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

   NOTE: The "Onscreen Keyboard" function is not available yet. See *Keyboard layout* on page 9 for the position of the characters.

4. **AAeW Keyboard characters** (see *Keyboard layout* on page 9)

   To switch to the AAeW Keyboard press **CTRL + Shift** (Win 7) or **Windows Key + Spacebar** (Win 8, Win 10).

   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**. E.g.: "Ctrl" + "Alt" + "8" = "["

   Characters such as "ẖ" are generated by "deadkeys". You type them in by combining the elements "_" and "h" respectively. For example to type "ẖ" press the deadkey for "_" (i.e. line below the character, see diagram below) and then "h".

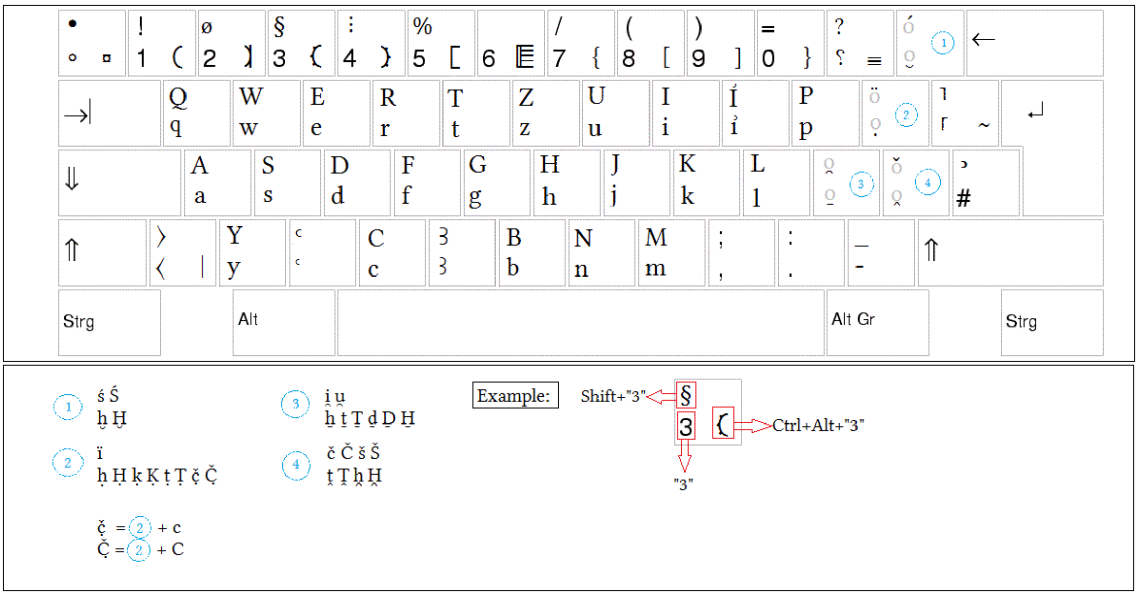
   NOTE: The keyboard only works for characters necessary in Egyptological transliteration which, for example, uses "h with dot" (ḥ) but not "s with dot" (ṣ). This means that the deadkey "dot below the character" only works with "h", "k", "t", and "č", but not with "s" (for ṣ) or "d" (for ḏ). Furthermore, not every character is allowed in all parts of the BTS. In particular, the transliteration system established by Wolfgang Schenkel is not allowed in the Transliteration Editor, but only in comments, bibliography etc.

   NOTE: As Keyman Desktop is a separate software, you have to start it before using it in BTS. We recommend incorporating it into the Windows autostart function.

Keyboard layout

BTS uses the following AAeW keyboard layout.

NOTE: Each of the keys highlighted in blue with a number (1 to 4) have two "deadkey" options, which can be accessed in the same way as for normal keys: the upper characters by pressing **Shift + Key**, and the lower characters by pressing **Ctrl + Alt + Key**.



Description of User roles

User roles control which users can modify which database objects. These access rights are defined by an 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

Regardless of their role or status, every BTS user can:

- Access all entries in the drop-down menu "Window".
- Access "Preferences/Database Manager".
- Adjust individual preferences (see *Preferences* on page 43 for more detail).
- 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: *Administrator*, *Editor*, *Researcher*, *Transcriber*, or *Guest*. One user can have different 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 a BTS administrator, the default user role is *Guest*.

User status

The status of *Reader* or *Updater* can be assigned to an user with respect to specific database objects. To do this right-click on an item and select "Edit Updaters / Readers".

E.g. a researcher with the status of Updater can edit all items in a given corpus. If their status is changed to Reader, the user will only be able to view the items. The Updater and Reader status with reagrd to specific database objects in a corpus can be assigned to a user by an *Admin*, *Editor*, or *Researcher* (the latter needs to have the Updater status) of a given corpus. This is done by right-clicking on a database object, selecting "Edit Updaters/Readers", and assigning a user to a user status through the menu on the right.

NOTE: Obtaining the Reader/Updater status for an entire corpus does not extend to individual items within that corpus; such a status has to be assigned for every database object which the user is allowed to edit.

Visibility status

Another factor restricting user rights is the *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 database object, it may only be available for viewing or editing to those users with the necessary rights. More on the visibility status of database objects will be outlined in the descriptions below.

Administrator

The administrator role applies only to a specific database, i.e. a corpus, a lemma list, or the thesaurus database (not the entire BTS!). An administrator can edit or delete all database objects in a given corpus, without needing the Updater status for specific database objects in that corpus.

Rights

- Can manage and control any user role within a given corpus (currently unavailable).
- Can edit all items in a given corpus, regardless of their visibility status.
- Can add or remove database objects within a corpus. Deleted database objects 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 objects.
- Can alter the visibility of individual database objects in the Passport Editor (Main Tab).

Limitations

- The admin user role applies to particular corpora only.
- The admin cannot edit the passport data or name of an entire corpus if they are not assigned administrator privileges to that particular corpus. Even if the entire corpus has a visibility status "Public", the admin will still have a guest status when selecting the corpus. The admin has rights only for individual database objects within the corpus.
- The admin cannot create new corpora within a project.

Editor

Editors may review and correct database objects owned by other users even if no specific rights for the database object were granted to them, allowing them to review and edit the data.

Rights

- Can edit all items in a database, i.e. a corpus, a lemma list, or the thesaurus database, where they have been assigned editor rights.
- Can add or remove database objects within a corpus.
- Can assign the Updater or Reader status to other users, but only for individual database objects.
- Can technically change their own status as a Reader or an Updater. This is irrelevant however, because the user role "Editor" takes precedence (as in the case of the Admin).

  NOTE: These rights apply only for database objects with visibility "project", "public", or "all authenticated". In all other instances, the editor has only access to the database objects if they have been assigned the Updater or Reader status.

Limitations

- In cases where the corpus was created by someone else, editors can modify individual database objects, but are attributed a guest role for the corpus itself (i.e. they cannot edit the corpus passport data, or assign Updaters/ Readers for an entire corpus).
- The editor cannot create new corpora within a project.

Researcher

Researchers may create new objects within a corpus, and can also edit or delete their own database objects, or objects for which they were granted editing rights (i.e. the Updater status).

Rights

- Can add database objects within a corpus.
- Can edit database objects for which they were given the Updater status.
- Can assign the Reader/Updater status for other users, but only if they themself have the Updater status.
- Can change their own status from an Updater to a Reader for a database object and thus lose their editing rights, meaning they will not be able to change back to Updater.

Limitations

- Cannot edit the database objects of other users within a corpus when they are a Reader or no status is assigned to them.
- If a database object within a corpus has a visibility status *Reader*, *Group*, or *Project*, the Researcher will not be able to see it unless they have the Updater/Reader user status.

Transcriber

Transcribers are allowed to add hieroglyphic encodings to texts for which they are granted the "Updater" status. They may not create new database objects or change any of the existing data of the database objects.

Rights

- Can edit hieroglyphs for database objects within a particular corpus, when they are assigned the "Updater" status.

Limitations

- Cannot edit transliteration, lemma, or passport data of the corpus or database objects.
- Without a Reader status in a given corpus, database object, or text, the Transcriber can only view these items, but is not allowed to edit them in any way, which includes adding hieroglyphs.
- Database objects with a visibility status *Reader*, *Group*, or *Project* will not be visible if no status is assigned to the Transcriber.

Guest

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

If given no status (i.e. they are not a Reader/Updater), a guest will not be able to see the database objects in a corpus with a visibility status of Reader, Group, or Project.

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

Guests can see the lemma and the thesaurus views but will not be able to do anything in them.

Summary of User roles

The interplay of user roles, user statuses, and visibility statuses is summarized in the table below.

ADMINISTRATOR				
DB Object Visibility	**User status**			
	No status	*Reader*	*Updater*	*Can assign User Status?*
Public	Can edit everything	Can edit everything	Can edit everything	Yes

Reader	Can edit everything	Can edit everything	Can edit everything	
Group	Can edit everything	Can edit everything	Can edit everything	
Project	Can edit everything	Can edit everything	Can edit everything	
All Authenticated	Can edit everything	Can edit everything	Can edit everything	
EDITOR				
	No status	*Reader*	*Updater*	*Can assign User Status?*
Public	Can edit everything	Can edit everything	Can edit everything	Yes
Reader	Cannot view	Can edit everything	Can edit everything	
Group	Cannot view	Can edit everything	Can edit everything	
Project	Can edit everything	Can edit everything	Can edit everything	
All Authenticated	Can edit everything	Can edit everything	Can edit everything	
RESEARCHER				
	No Status	*Reader*	*Updater*	*Can assign User Status?*
Public	Can view, not edit	Can view, not edit	Can edit everything	Yes
Reader	Cannot view	Can view, not edit	Can edit everything	
Group	Cannot view	Can view, not edit	Can edit everything	
Project	Cannot view	Can view, not edit	Can edit everything	
All Authenticated	Can view, not edit	Can view, not edit	Can edit everything	
TRANSCRIBER				
	No Status	*Reader*	*Updater*	*Can assign User Status?*
Public	Can view, not edit	Can view, not edit	Can only edit Hieroglyphs	No
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*	*Can assign User Status?*
Public	Can view, not edit	Can view, not edit	Can view, not edit	No
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	

General user guide: How to edit a text

The following instructions are for users with basic user rights. Researchers can learn the basic and most important tools for how to create and edit a text and how to configure their personal settings. Transcribers can learn how to edit hieroglyphs of a text. All features covered here also apply to users with editor and administrator rights.

Introduction to the BTS User Interface

This chapter provides a brief introduction to the BTS User Interface (UI). For a detailed description see the chapter *BTS User Interface*.

The BTS 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 the Toolbar and the Status bar is called the Workspace. The contents of the Workspace change depending on the view you are in. BTS has four such views, activated by clicking on the appropriate button in the Toolbar:

 Text Corpus view

 Lemma view

 Thesaurus view

 Abstract Text view

Within each view there are a number of windows, which may include tabs and sub-tabs. Any tab and window of the workspace can be arranged according to the individual need of the user. You can maximize/minimize or move them within the workspace, or drag-&-drop them into a separate window. If you close this separate window, you can restore the tab via the menu entry Window/Open [name of the tab] or by restarting BTS.

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

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

  Depending on the view selected, it is named Corpus-, Thesaurus-, or Lemma Navigator. The tabs are the following: for the Corpus Navigator they are "Text Corpora" + "Bin"; for the Lemma Navigator they are "WL" + "Bin"; for the Thesaurus Navigator they are "Thesauri" + "Bin"; and for the Abstract Text Navigator they are "AT" + "Bin".

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

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

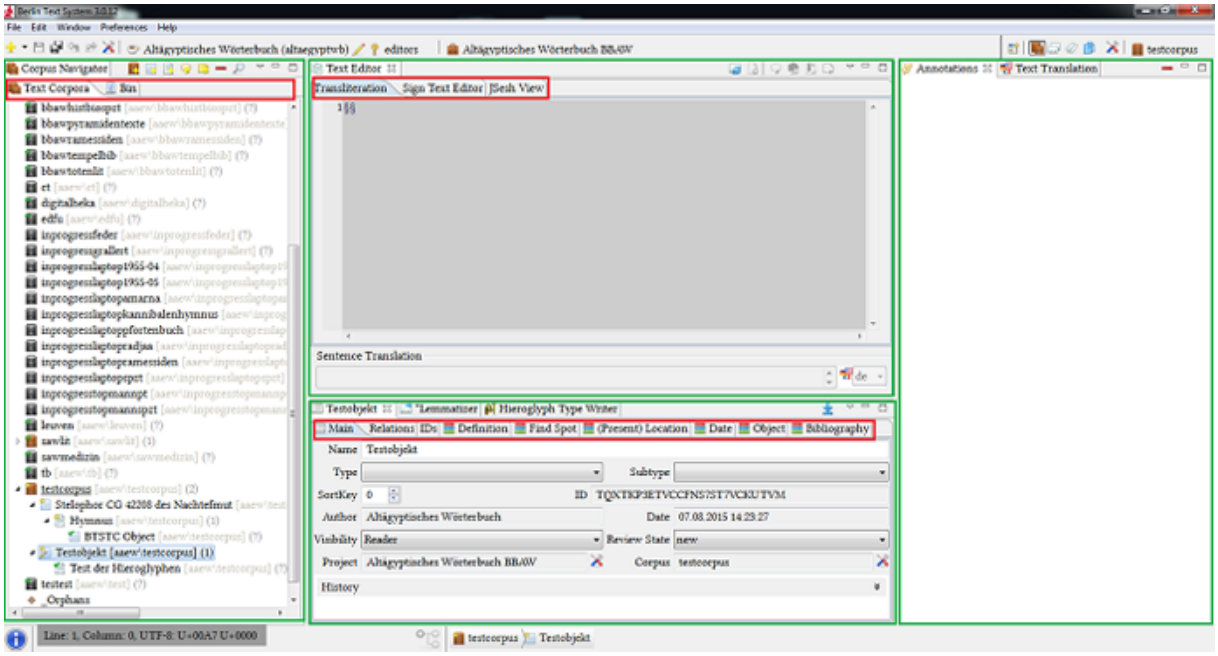
- **"Editor" window in the top center**

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

- **"Passport Data Editor", "Lemmatizer", and "Hieroglyph Type Writer (HTW)" in 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 the "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.



Creating and modifying a database object (Text Corpus Object and Text)

The following functions are available to users with at least Researcher rights for a given corpus. Creating a Text Corpus Object (TCObject) and a Text are the basic steps for entering and editing a text in BTS. Before creating a Text you need to define the physical source of that text by creating a TCObject, which is the object on which your text is inscribed. Texts and TCObjects are therefore in a child-parent relationship, i.e. a Text is always linked to a specific TCObject, not vice-versa (see also *Glossary* on page 126).

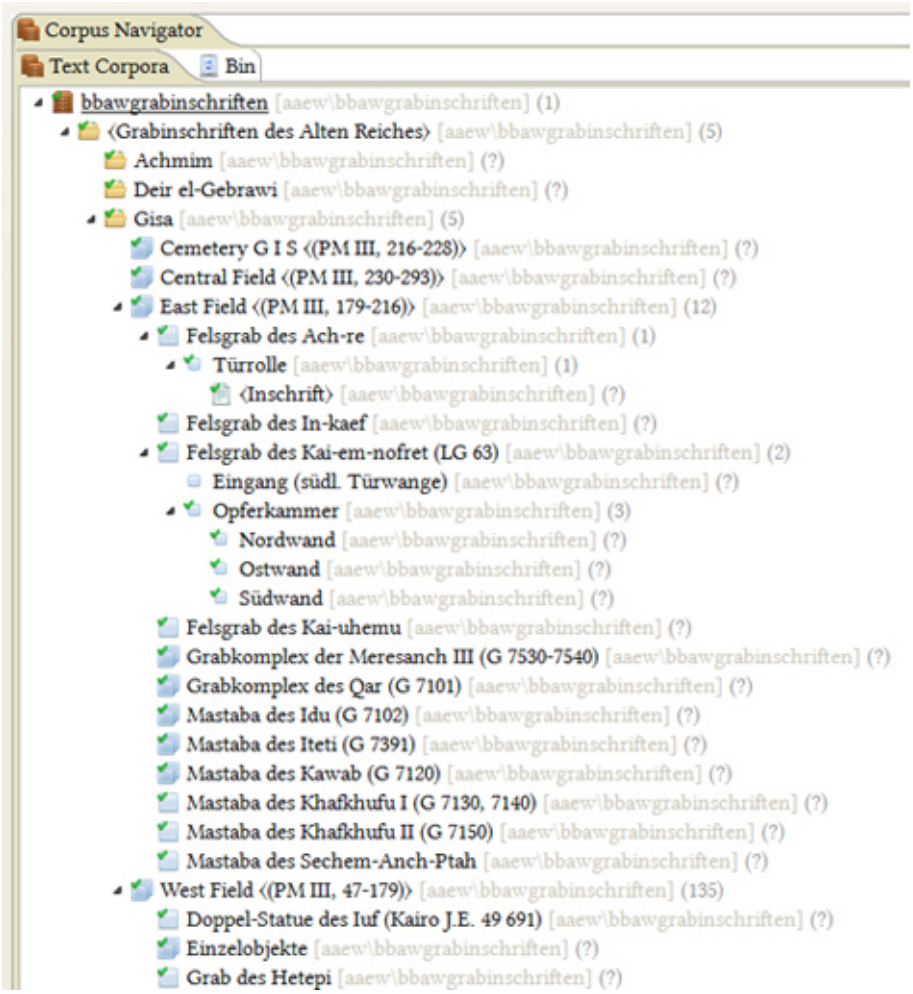
Creating a Text Corpus Object

1. Choose the corpus from the Corpus Navigator tree which you want your TCObject to belong to. You can either add an TCObject directly to a corpus or to another already existing TCObject within that corpus. Even though you can move database objects at a later date (see below), this process takes time and so try to maintain a logical organisation from the start (see image below).

   NOTE: New database objects are physically saved in your main working corpus (which you selected in the *preferences* option during installation), regardless of which corpus you chose in step 1. New database objects will appear in the corpus you chose in the Navigator Tree, but will not be physically saved there; positions in this Tree depend on the relationships between the database objects, not on their physical storage location.
2. Once you have selected your corpus/TCObject, click "Add Text Corpus Object". The newly created TCObject has the relation "PartOf" to the chosen corpus/TCObject.
3. Name your Text Corpus Object in the *Main Tab* of the Passport Editor (the "Name" input field will appear red). You can do this later if you prefer, but until it is named the database object will appear in the Navigator Tree with the default name "BTSTC Object".
4. Define the Type of the TCObject (there are no Subtypes so this field should not be used). Overall try to provide as much information as possible about the object by filling out the different tabs of the *Passport Data Editor*. The different Types are as follows:

   - **Caption:** The Caption is used to group physical objects under one heading for pragmatic reasons (e.g. the stelae from Kawa or the medical papyri).

- **Group:** A Group defines a number of physical objects which belong together for geographic reasons (e.g. the tombs of a specific cemetery like the Eastern Cemetery at Giza, or a papyrus archive like the Abusir Papyri).
- **Arrangement:** An Arrangement defines a closed association of finds (e.g. the objects from the tomb of Tutankhamun or the objects from a foundation deposit).
- **Scene:** This is an obsolete entry which was used for data imported from the previous system. Do not use it.
- **TCObject:** A Text Corpus Object is the physical ancient Egyptian artefact which bears your text (e.g. the Papyrus Harris 500 or the sphinx stele of Thutmose IV). Use this option if none of the other types are applicable.
- **ObjectPart:** An ObjectPart is hierarchically subordinated to another TCObject. Use this option when the carrier of your text consists of more than one physical artefact (e.g. a statue and its base, or several parts of a building).



Creating a Text

1. Select *a node* in the Corpus Navigator where you would like to place your Text. You can either add a Text to a TCObject or to an already existing Text.
2. Click  "Add Text" in the Corpus Navigator toolbar. A child-element will be added to the selected database object with the default title "BTS Text" (in order to see it you might have to open the parent-element, i.e. the TCObject or Text you chose in step 1).

3. Name your text in the *Main Tab* of the Passport Editor (the "Name" input field will appear red until it is filled out, and the default name of the database object will be "BTS Text").
4. Like with the TCObject, define the Type and, if applicable, also the Subtype of the database object. Provide as much information as possible by filling out the different tabs of the *Passport Data Editor*. The different Types are as follows:

   - **Text:** A Text is defined as a coherent entity. Your physical aretefact might contain several texts, e.g. Papyrus Harris 500 contains "The Doomed Prince", "The Taking of Joppe" etc. Each of these tales/poems receives its own database object "Text" subordinated to the TCObject "Papyrus Harris 500"; the order of these Texts in the physical artefact can be indicated by changing their SortKeys.
   - **Subtext:** Subtexts are parts of the same text that are related to each other but lack a defined order of reading (e.g. different figures and their respective inscriptions on a relief; the relief would be the TCObject, and the inscriptions its Subtexts).

     NOTE: Do not enter chapters or captions of a continuous text (e.g. the medical remedies in Papyrus Ebers) as Subtexts; these have to be segmented by annotations (see *Annotations, Rubra, Glosses, and Comments* on page 30).

Naming a TCObject / text

Creating a suitable name for each database object, in particular for the TCObject and the Text, is essential if you want to be able to quickly locate a specific text in the database. Select a concise name that is short and significant. If your text is known under different names only use one of them to name it; you can enter synonyms in the Synonym tab of the Passport Data Editor (see *Synonyms* on page 83), e.g. for the Text "Admonitions" you could also enter "Mahnworte des Ipuwer", "Klagen des Ipuwer", "The Dialogue of Ipuwer and the Lord of All" etc. as synonyms.

Defining the visibility

Define the visibility of your database object in the main tab of the *Passport Editor*. See also *User Roles Description*. A default visibility can be defined in the *Preferences*.

- reader
- group
- project
- public
- all_authenticated

NOTE: The default visibility applies to all newly created database objects, which also includes annotations, rubra, comments etc. A change in the visibility status of a parent database object does not change the status of any of its children; i.e. if your default visibility is "reader", you have to manually change all TCObjects, Texts, annotations, rubra etc. to "public" once you want to publish your text in the TLA.

Defining the review state

The display icon of your TCObjects and Texts differs according to the review state you selected in the main tab of the *passport editor*. A default review state can be defined in the *Preferences*. The icons shown above will get one of the following additions:

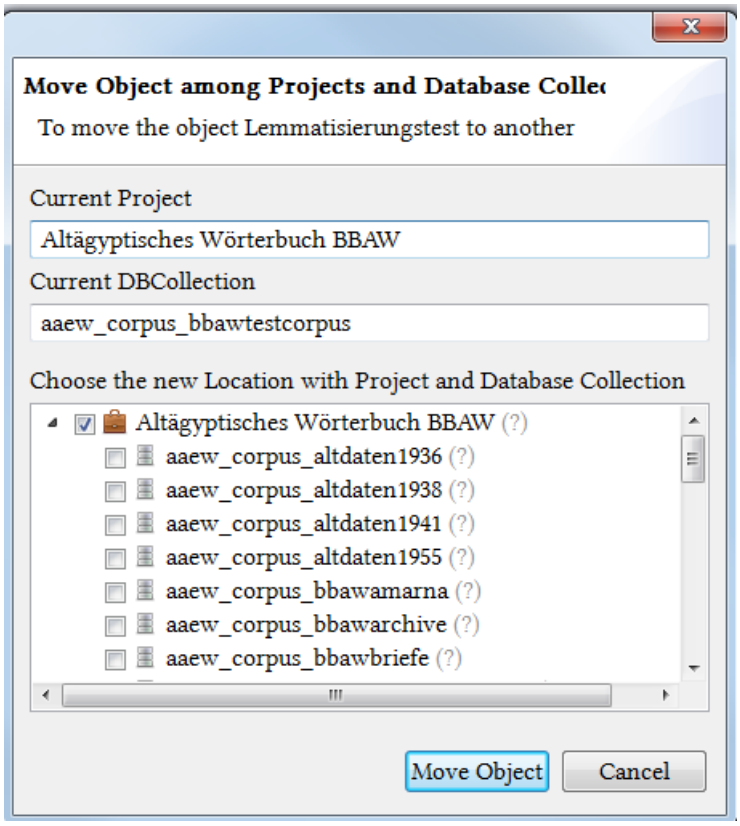
- new
- awaiting review
- awaiting update
- reviewed/published

NOTE: Like with visibility, the default review state applies to all newly created database objects, which includes annotations, rubra, comments etc. A change in the review state of a parent database object does not change the status of any of its children; i.e. if your default review state is "new", you have to manually change all TCObjects, Texts, annotations, rubra etc. to "published" once you want to publish your text in the TLA.

Moving database objects (TCObjects / Texts)

To change the physical location of a database object (marked in square brackets next to the name) from one project or corpus to another, right click the chosen item and select "Move among projects" from the menu. A window opens displaying the current physical location. Alter the entries (upper field for the project and middle field for a corpus in the project) as you see fit by clicking the checkbox in the lower field (see image below). This can also be done in the "Main" tab of the database object's Passport Editor by clicking the preferences icons next to the database object's corpus/project. Changing the physical location does not affect the position of the database object in the Navigator Tree. To change the database object's position in the Tree, you have to change its relationships in the *"Relation"s tab* of the Passport Data Editor.

NOTE: If you have accidentally created a database object in the wrong position and you do not have the rights to move it, please contact the administrator in Berlin: aegypt1@bbaw.de.



Deleting database objects (TCObjects/Texts)

There are two options to delete a database object from the database:

1. To delete a database object (TCObjects or Texts) select it and then click on "Delete". It will be moved to the bin ("Bin" tab in the Corpus Navigator), where you have the chance to restore it (right click the object and choose "Restore" from the menu) or to delete it permanently. All subordinate elements will be deleted as well. Upon closing or restarting BTS, all the items in the bin will be deleted permanently.
2. A database object can be deleted permanently (without moving it to the bin first) by either right-clicking the respective item and selecting "Delete Permanently", or by selecting the item from the Navigator Tree and then selecting "Delete Permanently" from the drop-down menu . Clicking on "Delete Permanently" will open a confirmation box in which you can confirm (or reject) the deletion.

Editing passport data

The Passport Editor is located in the bottom centre of the Text Corpus view. It is essential that you enter the metadata of your TCObjects, Texts, Subtexts, and Glosses correctly, since only complete and accurate metadata will allow effective search queries and statistical evaluation of the data.

Most entries in the passport data are controlled by thesaurus lists. These lists are composed of controlled vocabulary, such as dates, locations, provenances, etc.

Only select entries from the thesauri if you are certain that they are correct. If a fact is uncertain select "unbekannt" or "unbestimmt". You can always discuss questionable facts, e.g. the findspot of an ancient Egyptian object or the date of a text, in the Comment fields.

The thesauri are not complete yet. In case a Thesaurus entry you need is missing, please send a proposal to the BTS team in Berlin: aegypt1@bbaw.de.

For detailed descriptions of the passport editor fields and how they are used see *Passport Editor* on page 75.

Editing a text

The process of editing a text begins with entering the transliteration in the Text Editor Transliteration field. Make sure you have the right keyboard and font (see *install and configure the keyboard*) provided by the BBAW.

Once you have transliterated your text, you can then start lemmatizing each word of your transliterated text, which is one of the most important functions of BTS. Lemmatization is a lexical annotation of each word (regardless of its inflected forms). In a semi-automatic process each word is linked with a lemma entry in the integrated lemma list and therefore receives all of the lexical properties of that lemma entry, e.g. POS-label, base translation(s), bibliographical references etc. Inflected forms of the lemma, as they appear in your text, can be added by assigning *inflection codes*.

Furthermore, during the editing process you can enter a translation (in either German [de], English [en], French [fr], Spanish [es], Italian [it], Arabic [ar], or Russian [ru]) and hieroglyphic writings of each text word. You are also able to mark rubra and to add comments to the transliteration.

NOTE: The following order is not compulsory, except you can only enter translation, lemmatization, annotations, and hieroglyphs once you have typed the transliteration.

Transliteration

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

1. Segmentation of a text

The text has to be split into sentences according to ancient Egyptian syntax. Start and end each sentence with the sentence marker "§". There is no "space" between "§" and the following/preceding word.

Rules for the segmentation of sentences:

- Main and subclauses belong together as one sentence.
- The emphatic construction is one sentence (e.g. *pr.n =j m pr =j h#.n =j m sp#.t =j jrj.n =j m##.t tp t#*).
- Protasis and apodosis of a conditional clause are one sentence (e.g. *jr ḏd=f nj #nḫ=f pw*).
- Relative clauses (*n.tj*, *jw.tj*) belong to the superordinate clause.
- Subjunctive clauses and clauses with *wn.t*, *n.tjt*, or *jw.tjt* belong to the superordinate clause.
- Prepositional subclauses belong to the superordinate clause (e.g. *ḫr m-ḫt hrw.w 3 sw#w ḥr nn* + main clause + *r rdj.t* ...).
- Adverbial clauses belong to the superordinate clause, if the subordination is clear.
- Continuative forms (e.g. *mtw=*) are segmented into separate sentences.

- Direct speech forms a separate sentence.

Logical phrases and formulas are treated as sentences:

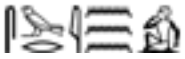
- Headings, labels, and notes are one sentence.
- Tables are segmented according to headings, lines, and columns. We recommended repeating headings and repeatedly read signs in ⟨⟨...⟩⟩.
- Offering formulas and (short) prayers are treated as one sentence.

NOTE: Sentence boundaries can be modified later, but the translation of the modified sentences will be lost as a result.

2. Transliteration

Transliteration follows the BTS conventions (see *System of Transliteration* on page 102). Do not use the transliteration system established by Wolfgang Schenkel. These characters are not valid in the BTS text editor, but you can use them in e.g. Comments. You may also use Coptic, Greek, Hebrew etc. in Comments as long as the characters are available in unicode and are supported by the BBAWLibertine font. Coptic script (unicode) is allowed in the BTS text editor, e.g. for Glosses, but since there is no Coptic lemma list you cannot lemmatize Coptic glosses yet.

To enter transliteration signs, you need to switch the keyboard layout by pressing "CRTL" + "Shift" (Win XP, Win 7) or "Windows key" + "Space bar" (Win 8, Win 10). For the keyboard layout see chapter *Keyboard layout* on page 9.

Transliteration in BTS represents the **written forms** as they appear in the text, not as they would appear in the dictionary, e.g.  has to be transliterated *swrj*, not *zwr* (see *System of Transliteration* on page 102).

3. Structural signs

Structural signs are used to note morphological properties of a lexical entry and changes caused by inflections of words in the texts (see *Structural signs and conventions* on page 104). Structural signs for lexical and inflectional morphology show:

- prefixes
- suffixes
- endings
- stem modification
- compound words

The **dual and plural endings** are transliterated with ".w" or ".wj/.tj" if written phonetically. When marked graphically, they are transliterated with ".pl" or ".du". When the plural and dual endings are written both phonetically and graphically they are transliterated with both options: ".w.pl" or ".wj/.tj.du". For further details see chapter *Structural signs and conventions* on page 104.

4. Sigla for textual criticism

Some sigla are used to indicate the condition of a text, and editorial corrections and restorations (textual criticism). BTS uses sigla to note damaged and lost parts in a text, emendations and additions of the editor, as well as ancient deletions, additions, and corrections of the texts.

- **Text-critical signs and brackets** follow BTS conventions (see chapter *Brackets* on page 107).
- **Damaged parts** (see chapter *Gaps, lacunae, and damage* on page 108).
  - A destruction is indicated by two hyphens **--...--**. E.g.: --rest of line destroyed--, --3Q-- (destruction of 3 scriptorial squares).

    NOTE: You cannot use the hyphen within the destruction marker, i.e. --...-...--- is not valid.

- If the number of words missing can be determined precisely (e.g. if the words are completely lost, but the determinatives are preserved), use three underscores in brackets "[___]". E.g.: "[___] [___]" for 2 missing words.

- **Illegible parts and spaces intentionally left blank**
  - If a word or a sequence of words is illegible or only partly legible, use underscores, e.g. "_b_"; "n_[_],t"; "[_]_[_]"; [___].pl etc. (see *Lemmatizing illegible words* on page 29).
  - Empty cartouches are transliterated with 3 underscores "___" and are lemmatized with lemma ID (WCN) 550225 (see *Lemmatizing empty cartouches* on page 29).
  - Parts of a text that were left blank for the later addition of a personal name and titles (e.g. on a coffin) are transliterated as descriptive information: "#3Q unbeschriftet#", "#5Q leer für Titel und Namen des Verstorbenen#" etc. (see below).

5. Sigla for textual structure

- **Sentence marker**

  Each sentence needs to be defined by sentence markers "§", e.g. §*jw =f sḏm*§

  NOTE: When you enter your transliteration, BTS will show each sentence as one long line. To produce this line break click  (Load Text Lemmata) or switch between the Sign Text Editor and the Transliteration Editor tabs.

- **Line Count**
  - Line counts following those in the physical object are created by #lc: ...#. The numbers (usually arabic numerals) are written in square brackets, e.g.: Line 1 = #lc: [1]#.

    Only use the line count of a modern edition if it follows the line count of the physical object, e.g. #lc: [A.2]#; #lc: [VI, 3]#; #lc: [12.4]#.

    For **columns** use "Kol.", eg.: #lc: [Kol. 1]#.

    If the line break in the original text occurs within a word, the line count is placed after that word.
  - For line counts in synoptic editions, which are used to align multiple versions of a text, use #para: ...#. E.g.: CT VI 106a = #para: CT VI 106a#. Line counts represent the lines and columns in the original text, while para(graphs) show a modern separation of the text.

  NOTE: You cannot use a colon between "#" more than once, e.g. #lc: [1:4]# is not valid.

  NOTE: You cannot use a colon directly after or directly before "#".

  NOTE: The line count provided by BTS at the left edge of the Text Editor is only temporary and refers to lines in BTS (not the original text). It changes at each line break.

- **Descriptive Information**

  Descriptive information is placed between "#", e.g. iconography which the inscriptions refer to.
  - For such iconography, use "#descr: #", e.g. #descr: Amun, thronend#
  - Other descriptions can be added freely between two "#", e.g. #3Q sind leer gelassen# or #3Q left empty#. See also above for spaces which were intentionally left blank.

6. Ambiguities

Ambiguities have to be noted:

- if a group of hieroglyphs can be transliterated and interpreted in different ways.
- if a group of hieroglyphs can be lemmatized differently.
- if a group of hieroglyphs can be encoded with different inflection codes.

Ambiguities are entered as: "%case 1: ...| case 2: ...| case 3: ...%". You can input as many cases as you need. Be careful not to type a space in front of the vertical stroke.

E.g. %case 1: rd.du| case 2: w#r,t.du%; %case 1: sḏm.n =f| case 2: sḏm n =f%

NOTE: Sentence separators, extra-textual information, and destruction markers, e.g. "§", line counts (#lc: ...#), and --2Q--, are not allowed within ambiguities.

7. Using Templates

It is possible to use templates to speed up the transliteration process. You can create your own templates by right-clicking in Text Editor and selecting "Content Assist" or by pressing "CRTL+Spacebar". The position of the cursor when you click or press (i.e. is it within a sentence/word or outside a sentence marked by §§) determines what set of templates you can select from. You can alter these positions by changing the "Context" of your templates (for more details see chapter *Templates* on page 45).

8. Copy&Paste functions

BTS supports copy&paste within the same text as well as between different texts.

- You can enter the complete transliteration of a text out of an external source (e.g. a MS Word document) by copy&paste as long as it follows the rules of BTS grammar. The transliteration used in MS Word should be in the unicodefont BBAWLibertine.
- You can copy your transliteration, parts of it, or extra-textual information and paste it anywhere in the same or another text. This will not include any of the text's lemmatization.
- If you want to **copy&paste your transliteration as lemmatized tokens**, use the features "Copy with Lemmata" and "Paste with Lemmata". This feature copies and pastes the transliteration including lemma information, inflection codes, hieroglyphs, and translation. It does not copy any annotations, comments, or rubra.
  - This feature works for single words and phrases as well as for whole sentences or groups of sentences. Select the token, the sentence, or the set of sentences you would like to copy. Right-click on it and select "Copy with Lemmata".
  - Proceed to the text where you want to insert the selected elements. Right-click on the position and select "Paste with Lemmata":
    - To **insert a sentence or a set of sentences** after an existing sentence, place the cursor behind the "§" sign and select "Paste with Lemmata".
    - If you paste the sentence(s) in front of the "§" sign, the selected sentences (without their translation) will be pasted into the existing sentence.
    - To **insert a word or a phrase** within an already existing sentence, place the cursor at the respective position within the sentence and select "Paste with Lemmata". If you want to insert a word/phrase at the end of a sentence, be sure to place the cursor in front of the "§" sign.

      NOTE: Copying a word or phrase with Lemmata and pasting it behind a "§" sign will paste the complete sentence, from which that word/phrase was copied, after the selected sentence.

      NOTE: It is not currently possible to "paste with Lemmata" at the beginning of a sentence directly after the "§" sign. If you want to insert a word/phrase at the beginning of a sentence, enter a dummy word first, paste the word/phrase after the dummy, and delete the dummy word afterwards.
    - "Copy & Paste with Lemmata" of words and phrases is not restricted to sentences. You can copy the last part of one sentence and the beginning of the following sentence, and paste both into another sentence.
  - Summary:
    - **Pasting text after the "§" sign** will always paste the copied elements with translation (even if you have only copied parts of the respective sentence(s)).
    - **Pasting text in front of the "§" sign** will always paste the copied elements without translation.

NOTE: You are not allowed to "Paste with Lemmata" into an empty text. You will first need to enter a dummy text and press "Load Text Lemmata" or switch to the Sign Text Editor and back. After pasting your text you can then delete the dummy.

NOTE: The sentence you want to copy, in addition to the sentence in, before, or after which you want to paste the copied sentence must all be active. Activation is shown by the sign directly to the left of the sentence. It might take some time or a switch between database objects, before the sentence is activated (compare note on *translation* below).

9. System grammar check

An automatic grammar checks the validity of your transliteration, i.e. BTS follows an internal logic according to which specific signs can only occur in specific combinations. E.g. words cannot be left without an ending ("nb.") or with two full stops ("nb.."); brackets cannot be closed before they have been opened ("n]b[") or interlaced with other kinds of brackets ("{n[b}]"). Incorrect inputs are marked by an error warning, for details see chapter *Grammar check* on page 37.

Translation

You can enter the translation of individual sentences in the field "Sentence translation" of the Text Editor. This window will remain deactivated (greyed out) during transliteration, and until you press the button "Load Text Lemmata" or you have switched between the Text Editor and the Sign Text Editor tabs.

Make sure you have selected the right language in the drop-down menu on the right (): German (de), English (en), French (fr), Spanish (es), Italian (it), Arabic (ar), or Russian (ru). The default language can be set in the *Preferences*. Language input currently runs either left to right, or right to left, but you cannot have text containing both directions within the same translation (e.g. a translation in Arabic cannot have a phrase running left to right within it).

In the standard view only one line of text will be visible. You can extend the Text Editor window and scroll up/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 (this usually needs refreshing, e.g. by clicking in the Corpus Navigator and reopening the selected text). Clicking on a sentence here will highlight it and the corresponding transliterated sentence will be underlined in the "Transliteration" subsection. You will have to enter the translation sentence by sentence.

Within an ancient Egyptian grammatical sentence, it is possible to segment the modern translation by using the ENTER key. Enter only one translation for each sentence; the choice of language is not intended for multilingual translations of a single text.

We recommend entering a readable and understandable translation in the modern language, while still maintaining the meaning of the ancient text.

NOTE: As the translation is entered sentence-by-sentence, changing the boundaries of a sentence after translating can result in the loss of that translation; please make sure before you start translating that you are happy with your text's segementation.

Using transliteration signs in the translation

You can use transliteration signs in your translation. This might be necessary if there are only traces of a word preserved or if there is no translation available, e.g. "*j#.t*-tree". In this case, write the transliteration between two "$" signs so that the system knows to transform the text into cursive in the TLA, e.g.: $j#.t$-tree.

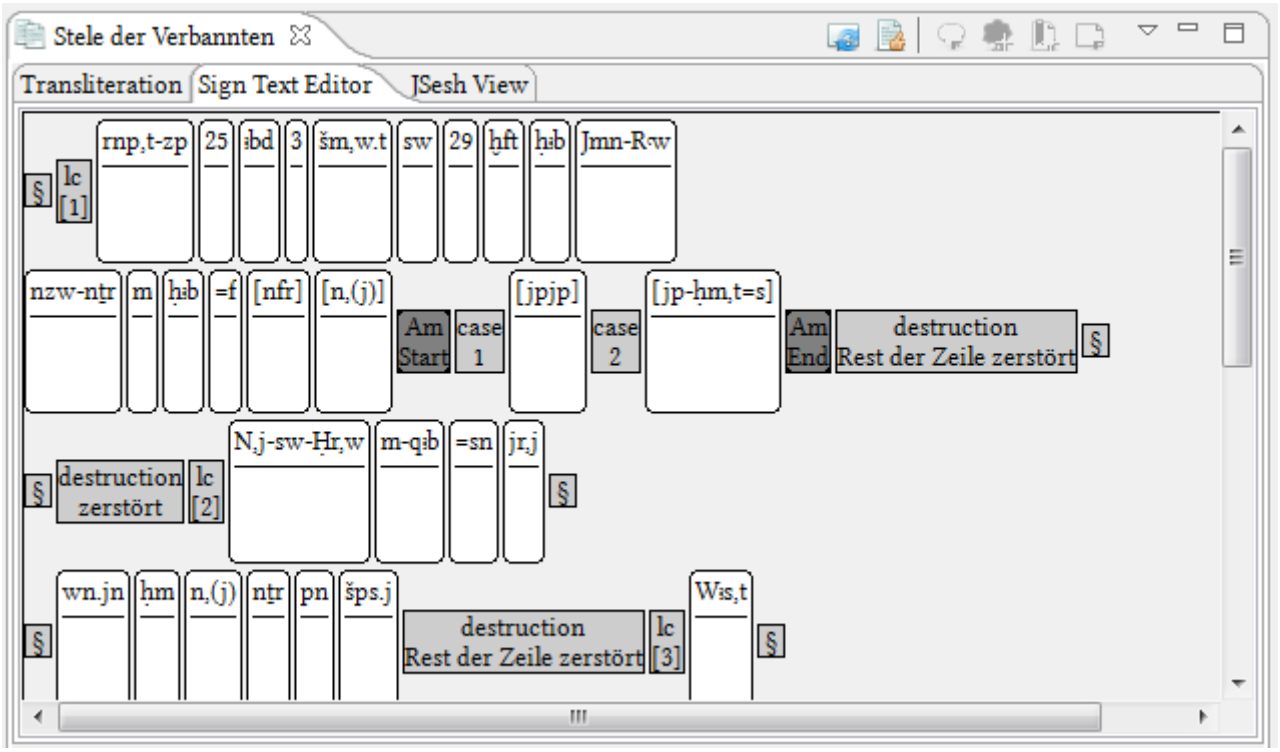
NOTE: Before you enter your translation, make sure that the relevant sentence is active. This is indicated by the sign in the Text Editor directly to the left of the relevant sentence. It might take some time or a switch between database objects, before the sentence is activated. If the sign does not show up, your translation will not be saved (compare note on *Copy with Lemmata* above).

Lemmatizing

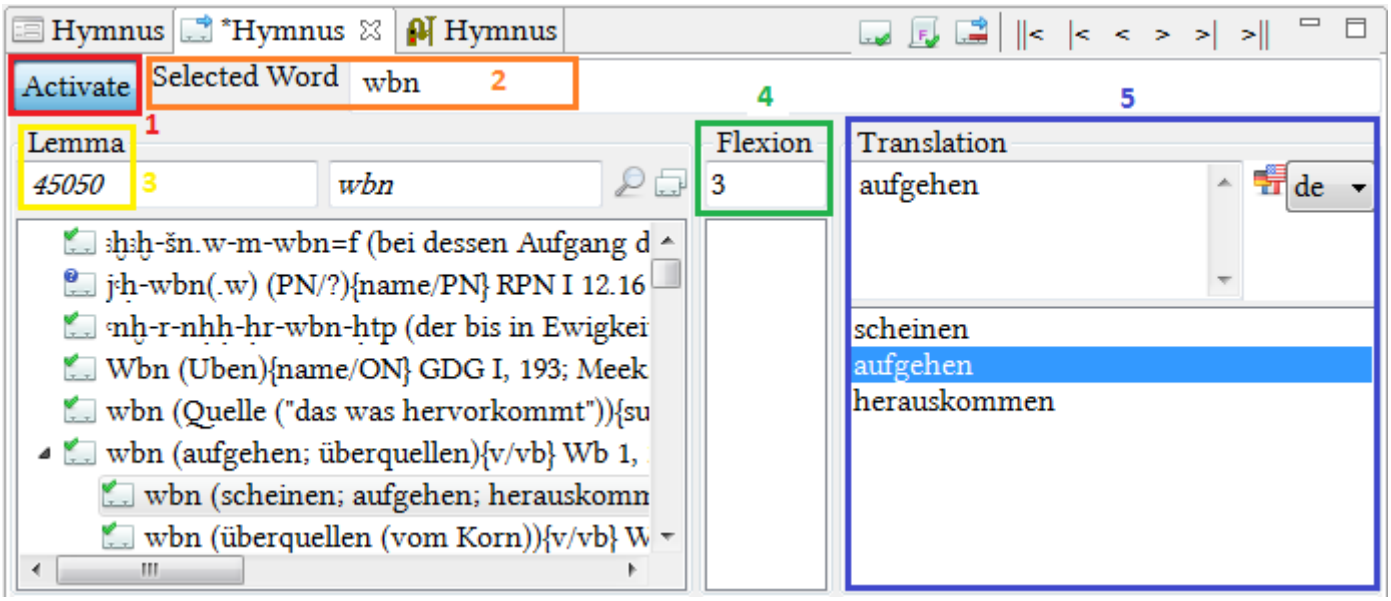
Lemmatization is one of the most important steps in the BTS text editing process and is used in almost all queries and analyses done in the database, e.g. if you want to find references for a specific lemma, make collocation analyses, or search for word combinations etc. It is therefore essential that you lemmatize your text correctly.

Opening and activating the lemmatizer

To lemmatize a transliterated text you need two tabs open: *Sign Text Editor* (default location: top centre) and *Lemmatizer* (default location: bottom centre; note that the title of this tab changes as soon as you select a database object in the Navigator tab). Only non-grey 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 the Lemmatizer (grey = deactivated; blue = activated).

   NOTE: You should always deactivate the Lemmatizer after you have finished the lemmatization to avoid unintentional lemmatizations.
2. "Selected Word" displays the transliteration of the 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 should modify it in the "Selected Word" field; the change will be updated in the Sign-Text-Editor and the Transliteration tab automatically. Note that the lemmatizer will search for lemma according to your transliterated token, ignoring any text after a full stop ".", which means you may have to manually search for tokens that contain this character (e.g. ḥm.t-nṯr).

NOTE: If you make changes to an already lemmatized token in the text editor, the token might loose its lemmatization, especially if you add a character to the beginning or the end of the word.

3. The Lemma field shows the results of the system's search based on your transliterated token; it shows the lemma number (WCN) from the word list (WL) and the transliteration of the lemma which has been selected in the below list. To lemmatize a token, select the appropriate suggestion from the list below. The default setting in Preferences/Preferences/Lemmatizer allows you to activate the function "automatically select the first lemma proposal". This feature enables you to navigate through the proposals via the arrow keys on your keyboard.
4. In the field "Flexion" you can show the grammatical form of this word in this text by entering the appropraite code (see *Inflection Codes* on page 108).
5. In the field "Translation" you can choose one or several translations from the lower field (in the example above there is only one option); to choose several left-click and hold CTRL at the same time. If none of the options seems suitable, you can enter your own translation instead. Make sure you have selected the right language in the drop-down menu on the right; the only choices currently available are German and English.

Organization of the lemma list

The Lemmatizer provides a list of lemmas based on the parameters of your search (i.e. your transliteration). The entries are sorted alphabetically according to their Egyptological transliteration. Sublemmata are displayed as child-entries of their related (parent) lemmata. Each entry includes the transliteration, translation, word class, and bibliographical references of that lemma. The list is divided into two parts: at the beginning it displays the entries in which your search term occurs in the first position; entries in which your search term occurs in another position (e.g. composita) are shown in the latter part of the list.

NOTE: The list of results is limited to 500 items. If you cannot find your lemma in the list, specify or alter your search parameters; if you really cannot find it then use the TLA to find the word's lemma ID, which you can use in the section below.

There are two kinds of icons in the list:

-  This lemma has been revised and can be used for lemmatization.
-  This lemma has not been revised yet. This applies in particular to personal names from Ranke, Personennamen. If you would like to use this lemma, please contact the BTS team in Berlin (aegypt1@bbaw.de).

Finding the correct lemma

The lemmatizer automatically suggests lemmata whose transliteration exactly matches your lemma. If your lemma is not listed, click the magnifying glass  and search for it in the lemma list by entering the WCN (i.e. the ID), the transliteration, or the translation of the lemma. You can also filter the search results by using "Search for IDs" or "Search for Names only". Additionally, you can add wild cards/quotation marks by clicking the provided buttons in the search pop-up. For more details on the search function see *Performing Searches* on page 48.

Search for ID (WCN number)

To filter for a specific WCN you have to activate the filter "Search for ID", otherwise your search will fail because the (default) full text search does not search the "ID" field. (Those lemmata which have been imported from the previous BTS version will show up a full text search result, because in these cases the WCN appears as an external ID. This does not apply to lemmata created in this BTS version.)

Search for transliteration

If you use the filter "Search for Names only", BTS does not execute a full text search, but only a search in the names of the database objects. This does not mean names as in "Personal Names", but it is the standard description for what a database object is called when created, i.e. in this case it means the transliteration of the lemma (dictionary form). This box is activated by default, because otherwise BTS will make a full text search in the lemma list which would yield too many results.

Confirming the selected lemma

When you have found the correct lemma in the list, select it by left-clicking on it. Now select the specific translation for your text and click on  "Confirm current lemma editing and continue to next unlemmatized word". The program will automatically move to the next unlemmatized word.

NOTE: Due to technical reasons the confirmation button () does not always work. If this happens just press it a second time. Sometimes clicking this button  moves the program to the first unlemmatized word in the text, rather than to the next unlemmatized word.

Skipping lemmatization and navigating in the Sign Text Editor

If you do not want to lemmatize a word, e.g. because the lemma does not exist in the list or you are not yet sure about its identification, you can skip the lemmatization by either clicking on the next word in the Sign Text Editor or by using the ">" button ("move selection to next word"). You can also use these buttons to navigate through the text without lemmatizing. The button ">" brings you to the next word, ">|" to the end of the line, and >|| to the end of the text; the buttons "<", "|<" and "||<" work vice versa.

Encoding inflection

We recommend lemmatizing a text and then adding codes in the field "Flexion". If you decide to encode the inflection during the lemmatization process, type the appropriate code into the field "Flexion" either before or after you have selected the lemma, and then confirm with  . For details see *Encoding Inflection* on page 30.

Remove all lemma information

If you want to undo the lemmatization of a word, select the word and click on the button  "Remove lemma information" in the Lemmatizer toolbar. This will remove both the lemmatization and the encoded inflection.

Lemma does not exist

In addition to the "Wörterbuch der ägyptischen Sprache", the BTS lemma list contains words from other sources. If you have a new lemma, which is not yet present in the BTS lemma list, please contact the BTS team in Berlin: aegypt1@bbaw.de.

Before you send your proposal, please make sure that the lemma does not exist by checking:

- The transliteration of the lemma in the BTS might be different from your own (e.g. differentiation of s and z, weak consonants etc.).
- Beware of punctuation and structural signs.
- The word might be part of a composite-word.
- Your word might correspond to an already existing lemma with a different meaning.
- Your word list might not be indexed properly.

Lemmatizing idiomatic expressions and compound words

Idiomatic expressions and collocations

Some words 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 word itself has to be lemmatized as it is.

Example	**correct lemmatization**
jr̯i #h.w – to feel pain	1) *jr̯i (#h.w)* (WCN: 851959); 2) *#h.w* (WCN: 174)
rḏi j#.w – to praise s.o.	1) *rḏi (j#.w)* (WCN: 851491); 2) *j#.w* (WCN: 20360)
sḏm #š – to serve	1) *sḏm (#š)* (WCN: 150630); 2) *#š* (WCN: 40900)

Compound words

Compound words such as prepositions, nouns, proper names, titles etc. are connected by a hyphen "-" and are treated as one lemma, i.e. do not lemmatize *ḥm-nṯr* separately as *ḥm* and *nṯr* (see: *Structural signs and conventions* on page 104). This is because the lemma *ḥm-nṯr* has already been sub-lemmatized in the word list, so you do not need to do this again in your text.

Compound words separated by suffix pronoun or personal names

Sometimes titles, epithets, and other compound words might be split up by a suffix pronoun or a personal name. In this case, the separation has to be marked by "+", and the suffix or personal name is lemmatized normally. The first part of the compound word is lemmatized with the complete compound noun, the second part is left without lemmatization.

Example	correct lemmatization
ḥ#.tj-#+ M#ḥ +n-Nfr-wsj	1) *ḥ#.tj-#+* (WCN: 857144); 2) *M#ḥ* (WCN: 600439); 3) *+n-Nfr-wsj* (WCN: -)
rn+ =f +nfr	1) *rn+* (WCN: 94780); 2) *=f* (WCN: 10050); 3) *+nfr* (WCN: -)

Lemmatizing numbers

Numbers are transliterated as they appear in the original text, i.e. they are transliterated phonetically if they are written phonetically, and are written as numbers if they appear as numbers in the text. This paragraph helps you to lemmatize fractions and numbers that are not written phonetically.

WCN number	Name of lemma entry	
850814	*1...n*	cardinal number
863636	*gs*	1/2 (fraction)
600203	*r᾽.wj*	2/3 (fraction)
92610	*r᾽*	1/3 (fraction)
600569	*1...n + 1/ 2...1/n*	all other fractions (e.g. *r᾽-4*, *r᾽-5*, etc.) and rows of fractions (e.g. *1+1/2+1/6* etc.)
99026	*1/2*	1/2 (fraction of *ḫq#.t* and *jp.t*, written with part of Horus' eye)
600013	*1/4*	1/4 (fraction of *ḫq#.t* and *jp.t*, written with part of Horus' eye)
600014	*1/8*	1/8 (fraction of *ḫq#.t* and *jp.t*, written with part of Horus' eye)
600015	*1/16*	1/16 (fraction of *ḫq#.t* and *jp.t*, written with part of Horus' eye)
600016	*1/32*	1/32 (fraction of *ḫq#.t* and *jp.t*, written with part of Horus' eye)
600017	*1/64*	1/64 (fraction of *ḫq#.t* and *jp.t*, written with part of Horus' eye)
600235	*2...9.nw*	ordinal number constructed with *.nw* (e.g. *2.nw*)
852650	*mḥ-1/wa*	ordinal number *mḥ-1*
852649	*mḥ-2 ... n*	ordinal numbers *mḥ-2 ... 9*

WCN number	Name of lemma entry	
600236	*mḥ-10...n*	ordinal numbers *mḥ-10 ... n*

Lemmatizing empty cartouches

Empty cartouches, e.g. in Ptolemaic and Roman texts, are transliterated with 3 underscores: "___" and are lemmatized with lemma ID (WCN) 550225.

NOTE: Do not use this for damages or erased cartouches, e.g. an erased cartouche of Akhenaten, these should be entered as destruction (see xxx).

Blank parts of a text that were intended for the later addition of a personal name and titles (e.g. on a coffin), are noted as descriptive information between two "#", see *Transliteration* on page 20.

Lemmatizing illegible words

If you are able to determine the exact number of words missing in a lacuna or gap but cannot see enough to be able to lemmatize them, use "[___]" per word in your transliteration to indicate the number of lost words. If a word or a sequence of words is illegible or only partly legible, use underscores, e.g. "_b_"; "n_[_],t"; "[_]_[_]"; [___].pl etc. In some cases it might be possible to determine a missing word's class, number, and gender, and so there are entries in the lemma list for each of these options with which you can lemmatize the notes above. To do this you have to search the WCN number via the search function (see *Lemmatizing* on page 24); the following list shows the relevant WCN numbers.

NOTE: You can find this list in the lemma list by searching for "[Wort]" in the search function (full text search with both check boxes deactivated). The results will appear at the bottom of the list.

WCN number	Word Class
850831	word (undefined)
850834	adjective
850835	adverb
850839	particle
850849	non-enclitic particle
850848	enclitic particle
850838	pronoun
850845	personal pronoun
850846	relative pronoun
850847	interrogative pronoun
850844	demonstrative pronoun
850837	preposition
850840	number
850850	cardinal number
850851	ordinal number
850841	interjection
850833	substantive (undefined)
850843	substantive (fem.)

WCN number	Word Class
850842	substantive (masc.)
850836	verb
714337	personal name (undefined)
850817	personal name (fem.)
850816	personal name (masc.)
850818	personal name (undefined, incl. titles and affiliation)
850826	name of an object or an institution
850825	name of an animal
850819	name of a king
550225	empty cartouche
850822	name of a god
850820	toponym
850824	epithet of a king
850823	epithet of a god
850821	title or epithet of a private person

Encoding Inflection

To encode the inflection of a word (i.e. its grammatical form in this text), switch to the Sign Text Editor tab and activate the Lemmatizer.

Assign an inflection code to each word (token). The inflection codes apply to forms that are distinguished morphologically. It does not encode forms that depend on grammatical theory, e.g. there is no differentiation between morphological identical *sḏm=f*-forms. For a list of codes see *Inflection Codes* on page 108.

We recommend lemmatizing a text before filling out the field "Flexion" for each word. If you want to encode the inflection during the lemmatization process, type the appropriate code into the field "Flexion" before or after you have selected the lemma, and then confirm with  . If you choose to encode the inflection after you have finished the lemmatization, you can use the button  to move onto the next un-inflected word; you can also use the ENTER key to confirm and move on.

NOTE: The button  brings you to the next word with a default inflection code, i.e. if you defined "Default Inflexion = 3" in the preferences, the button brings you to the next word with inflection code 3, even if you already entered this code as the correct option.

Annotations, Rubra, Glosses, and Comments

BTS text editing tools include annotations, rubra, glosses, and comments which can be applied to a word or a sequence of words, and/or a sentence or several sentences.

NOTE: This function does not apply to single letters within a word, e.g. if in the pronoun *jn* the *n* was omitted and later added in red: *j((n))*, this *n* cannot be individually annotated.

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

- **Annotation** provides the extra-textual information for parts of a text, which may include bibliographical references and other metadata. Annotations are not limited to one fragment, and can be connected to more than

one section of a text. You can use annotations, for example, to divide your text into chapters (e.g. to define/ separate the remedies of a medical text or the maximes of Ptahhotep) and other forms of alignment. Annotations can be used for syntactic, stylistic, and prosopographic information. As a result, there are different types and subtypes of annotations so that one can distinguish between these types of information. If you need further types and subtypes, please contact the BTS team in Berlin.

NOTE: Annotations can only be used to separate specific parts of a text if the sequence of these parts is clear. To mark sections of a text where the sequence of the chapters is not clear or ambiguous (e.g. a Ptolemaic temple scene with a main text and various smaller texts describing specific parts of the scene), then you should enter these texts separately as **Subtext**s.

- **Gloss** is a semantic or phonetic explanation of a passage in a text made by an ancient scribe (not a modern comment!), which can be written above the word or in the margin.
- **Rubrum** is used to mark rubrum in the text.
- **Comment** is additional information on a text which can discuss problems with translating a phrase or a word (unlike annotations, comments cannot have metadata such as e.g. bibliographical information).

  The distinction between Annotations and Comments may seem arbitrary but is to allow a varied visibility and save locations of such additions. It also means that you can annotate database objects in a corpus in which you are a guest, without altering the original database object for other users.

Annotating a text

To annotate a text, use the buttons above the "Text Editor" tab. Highlight the sequence you want to annotate with your mouse: for a single word just place the cursor within the word; if the word only contains a single character, place the cursor directly behind that character. A single token can have multiple annotations, and one annotation can refer to multiple different tokens.

NOTE: If the buttons are deactivated, click somewhere outside of your text and then back into 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 line marking which part of the text the annotation refers to. You can then enter Passport Data for this annotation (i.e. extra-textual information).
-  **Add Rubrum**: Converts the selected part of the text into a rubrum, which is indicated by a red font colour in the text and a red bar on the right.
-  **Add Glosses**: Clicking on this button will add a "child"-element to your text in the corpora tree. The gloss can be edited like a regular text and can have passport data etc. Once it is created, it is labelled "BTS Text" until you rename it.
-  **Add Comment**: Adds a comment to the selected part of the text. This will be underlined in yellow.

You can also access 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. New annotations appear at the bottom of this list. Use the arrow on the right of each annotation to expand it and see more information about it as well as further editing options.

NOTE: All annotations on the transliterated tokens (including lemmatization) are anchored to the first and the last element of the token or the series of tokens. This means if you make changes to the first and the last element of the token(s), the annotations loose their link. If you need to make changes to an already lemmatized and/or annotated token, switch to the Sign Text Editor and make the changes in the field "Selected Word" (see also *Lemmatizing* on page 24).

Using transliteration signs in comments

You can use transliteration signs in comments. This might be necessary, for example, if you want to discuss a particular word(s) in a sentence. In this case, write the transliteration between two "$" signs, so that the system knows to transform that text into cursive in the TLA, e.g.: $sḏm$.

Deleting annotations

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

NOTE: You cannot delete any annotation via the "Undo" button.

Editing annotations

Once you have created an annotation, rubrum, gloss, or comment you can edit it by selecting it in the Annotation tab:

- Click to edit the content and the metadata of the annotation.
- Use to add another part of the text to the annotation. One annotation can refer to multiple parts of a text.
- Use to remove a current reference. This only removes the link between the annotation and the part of the text; it does not delete the annotation.

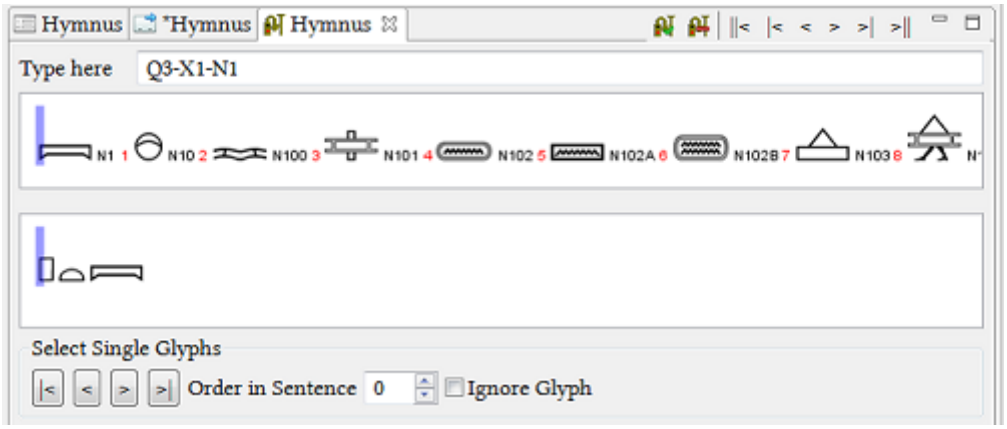
Using filters

You can use filters to hide or display specific types or subtypes of annotations, e.g. you can hide all rubra from the list or display only comments. Select the filter by clicking in the Annotation tab.

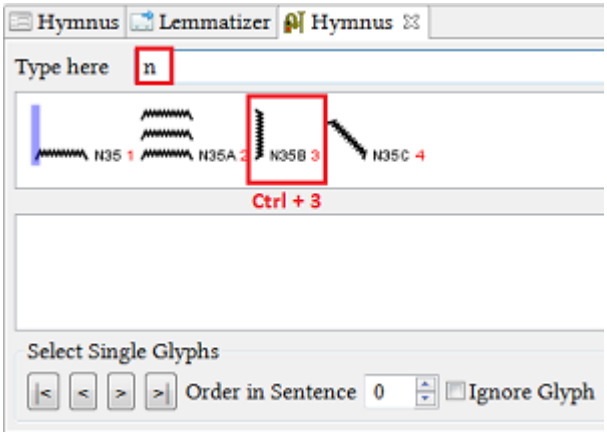
NOTE: When your text is loaded, BTS loads all annotations and filters them according to your filter settings, displaying the first 40 annotations. Annotations that are not displayed will appear in the list as soon as you click on the relevant annotated token in the Transliteration Editor.

Entering Hieroglyphs

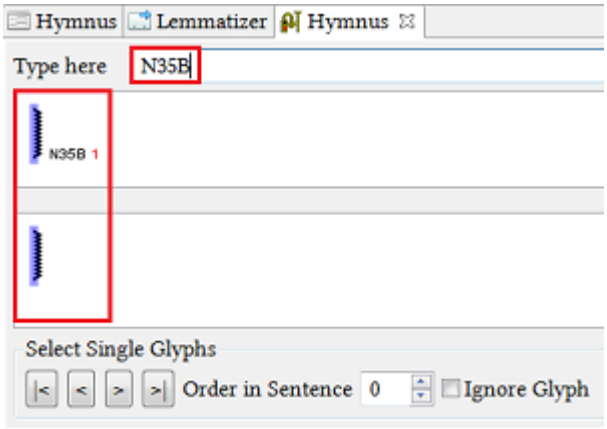
To enter or edit the hieroglyphs of your text, switch to the Sign Text Editor and then open the Hieroglyph Type Writer (HTW). HTW is based on JSesh application created by Serge Rosmorduc. Make sure you have switched your keyboard back to normal, if you have just been entering transliteration.



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" field - this is where the hieroglyphic 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. You can use both methods within a single word, as Manuel de Codage will automatically be rendered into Gardiner codes.
2. When entering the first letters of the transliteration of a lemma, the programme will show you a list of hieroglyphs to choose from. Every hieroglyph has a number in red next to it; the first sign (1) is selected by default unless you choose otherwise by pressing CTRL and the number of your chosen sign. E.g. in the following screenshot there are four options shown for the input 'n', if you wanted to select the N35B-sign you would have to press CTRL+3.



Afterwards, the corresponding Gardiner code will appear in the "type here" field and you will be able to continue inputing hieroglyphs normally. You could also type "N35B" directly into the "type here" field.

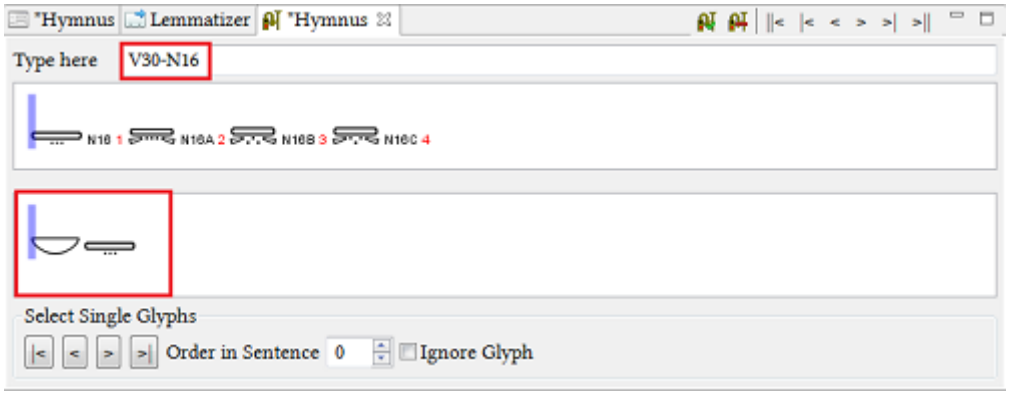


Separate the hieroglyphs of a word either by a hyphen "-" between the hieroglyphs (meaning all the signs will be written one after another) or group them according to the "Manuel de Codage" rules with "-", "*", and ":". For more details see *Grouping hieroglyphs* on page 37.

NOTE: Grouping with "&" is not allowed.

NOTE: Do not use the space bar to separate the signs because BTS will automatically replace spaces with a underscore (e.g. "M17 G53" will be rendered into "M17_-G43").

3. In order to confirm the input of the signs and finish the work on one word, either press ENTER on your keyboard, or click the icon of the scribal tool in HTW ( ). To move on to the next word, you can navigate using the following icons: ||< and >|| will bring you to the first and last word of the document respectively, while |< 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), while < and > will bring you to the previous and next word respectively. A tool-tip will be displayed on mouse-over for each icon. You can also simply click on a word in the Text Editor to move on to it, if that word is not the next/last one in the document/line/sentence.
4. After the input and confirmation of the signs, if you go back to that 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 sequence of numbers, select the already processed word.

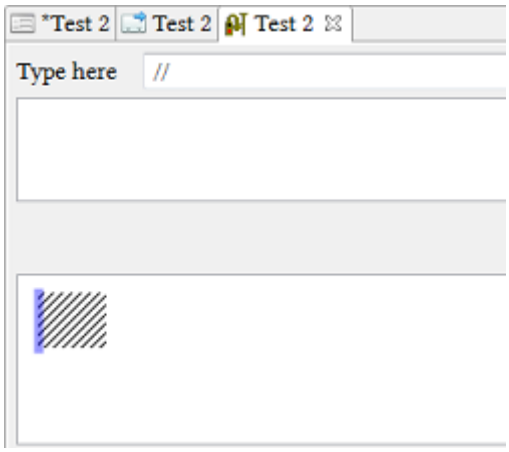


5. If you need to correct an already confirmed word, you can return to it by clicking on it in the Sign-Text-Editor or by using the previously described navigation icons. Make the alterations in the "Type here" input field and confirm it by pressing ENTER or by clicking on . If you need to delete the already entered hieroglyphs, you can simply use the BACKSPACE or DELETE buttons on your keyboard and confirm by pressing ENTER. You can also click on the "Remove Hieroglyph Data" in the toolbar in the top right corner.

Textual critisism

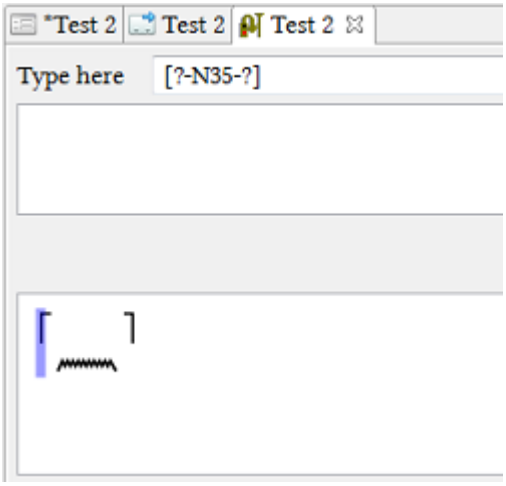
Shading (a complete destruction of a hieroglyph)

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 as the shading will always be same size (see screen-shot below). You can enter it by using "//".



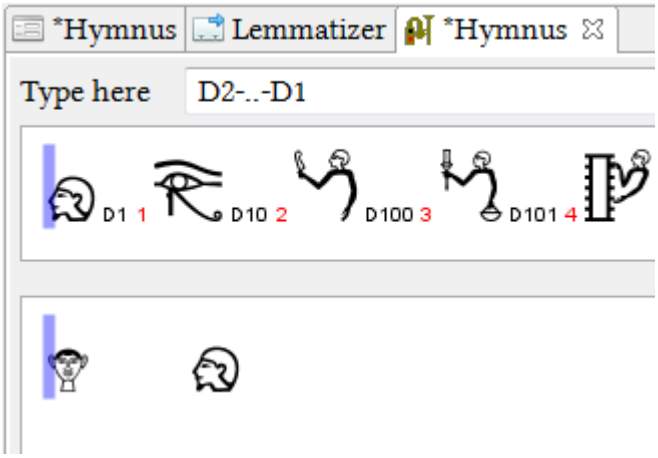
Partial Destruction

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). Enter each partially destroyed sign separately (i.e. only one sign is allowed in each set of brackets).



Missing Hieroglyphs

If a sign or a word is missing due to an omission by the scribe in antiquity, it should not be added to the hieroglyphic transcription. Only what is present in the text is to be encoded. If there is an empty space between two signs left in antiquity, encode it with '..', as in the example below:



Special signs and Haplography

Dots and other hieratic signs without hieroglyphic equivalents

Some hieratic signs like lines or dots which do not have hieroglyphic equivalents are available in the Ff group. For instance the dot (not verse point "O" or "o") is rendered by JSesh Code Ff110.

Cartouches

A cartouche  is to be entered with "<-...->", e.g.: <-G7->.

Serekhs

A serekh  is to be entered with "<S-...->", e.g.: <S-G7->. (S=Serekh).

***Ḥw.t*-sign**

A sign in a rectangular enclosure  is to be entered with "<H-...->", e.g.: <H-R8->. (H=*Ḥw.t*).

NOTE: For some signs there are Gardiner codes available in group O when enclosed by a *ḥw.t*-sign. Use these if applicable.

Haplographies

Haplographies are normally encoded where they first appear in the text. When they should appear again, encode them 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 appear for the second time: M23-X1 R4 X8 [&-[&-X8-&]-&] E15 R4.

Inversions

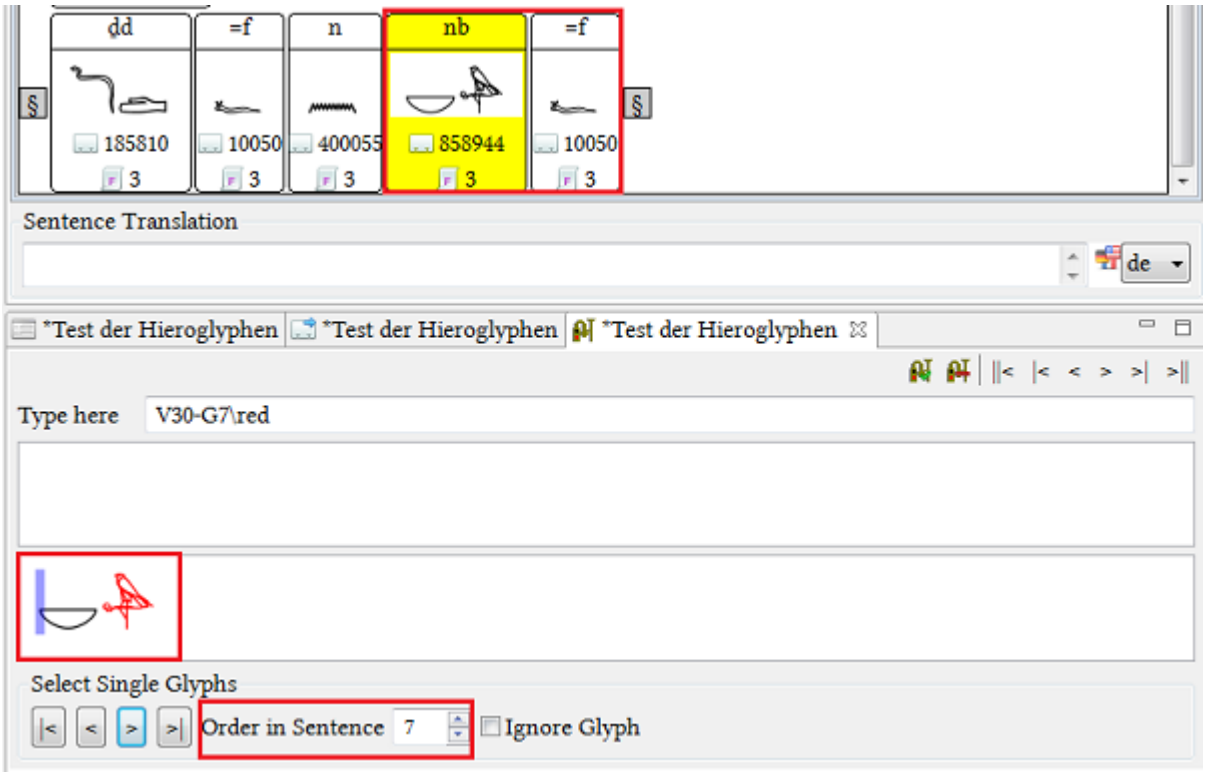
When the inverted words form a single lemma enter the sign-sequence as it appears in the script, e.g. in the title *ḥm-nṯr* or the preposition *ḥft* which is usually written with *t* before *f*.

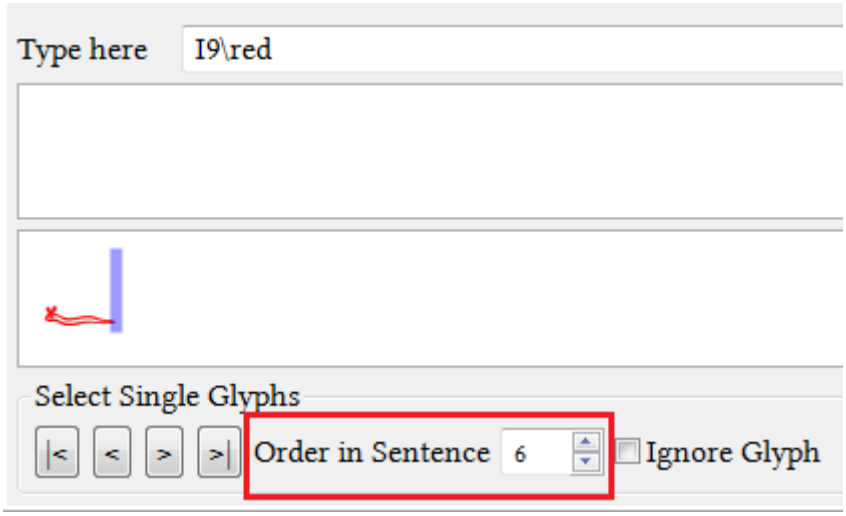
When the inverted words do not form a single lemma, e.g. an inverted writing of *mj R#w*, encode each word with the signs that belong to it. The inverted sign-sequence cannot be reproduced/depicted with the hieroglyphs, but use the option "Select Single Glyph" to mark such inversions (see below).

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

Select Single Glyphs

This function is available for the last two types of inversions. To mark the correct position of G7's determinative, select it using the buttons |<, <, >, and >|. 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

Grouping hieroglyphs is a useful, but not an essential, task of the text editing process. Encoding the grouping enables analyses on the strategies and use of grouping in texts. However, whether you encode the grouping or not, it is essential that you enter the hieroglyphs in the right sequence because this is crucial for all further analyses of the data and for searches for words by the order of hieroglyphic signs (e.g. if you find a sequence of two hieroglyphs in a damaged text and want to look for words that could fit the lacuna). For details on the encoding of hieroglyphs and hieroglyphic groups see *Guidelines for Encoding Hieroglyphs* on page 123.

1. If you decide not to group hieroglyphs, use a hyphen between the single hieroglyphs and encode the signs according to their sequence in the text. For the BTS sequence conventions see chapter 2.1 *Guidelines for the encoding of hieroglyphs*.

2. If you group hieroglyphs, you can also use ":" and "*". Grouping with "&" is not allowed, because this alters the sequence of hieroglyphs, e.g. "d&D" would produce the correct appearance of the hieroglyphic group but it would imply the sequence "d-D" for analyses in the database. Furthermore, it is crucial that you work with the photos or a facsimile of the original text. Publications containing hand- or computer-written hieroglyphs may show the hieroglyphs in a different order than the original text. If neither a photo nor a facsimile of your text is available, please refrain from grouping the hieroglyphs.

For further details on encoding hieroglyphs and hieroglyphic groups see *Guidelines for Encoding Hieroglyphs* on page 123.

Example:

H-t:p = 

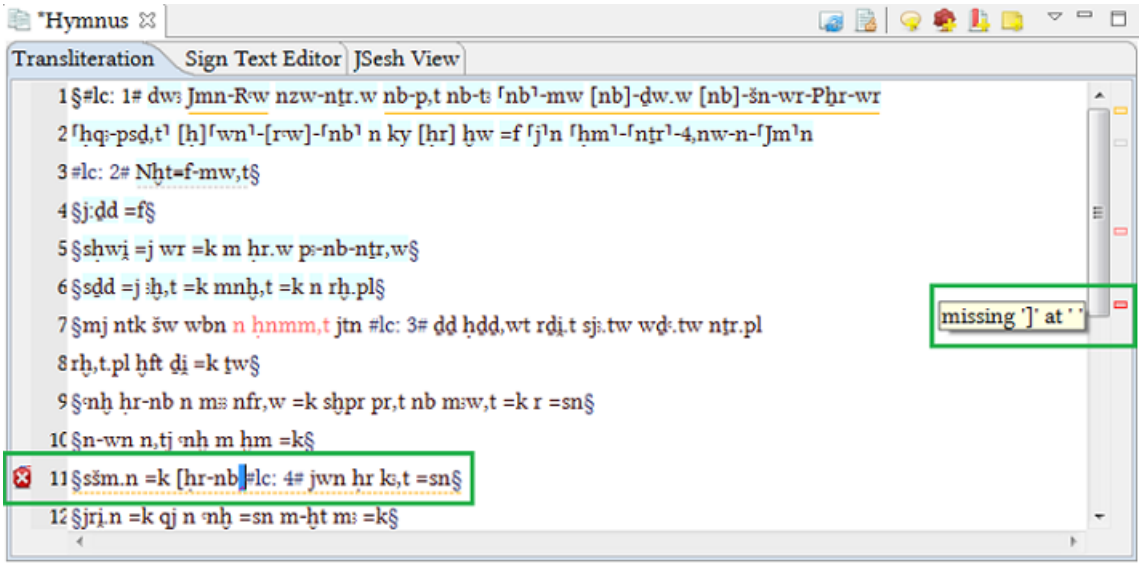
Q3*X1:N1 = 

NOTE: Due to technical reasons columns must be transcribed into lines.

Grammar check

BTS is capable of checking the transliteration for errors by using formal system grammar rules. This does not mean that it can recognize incorrectly selected lemmata or correct the errors for you. The grammar check follows an internal

logic according to which specific signs can only occur in specific combinations; it detects disagreements with this logic and marks them like this:



Errors are marked by:

1) either the sign or a red square on the left margin of the text (depending on your system).

2) a dark red rectangle in the right margin next to the scroll bar of the Transliteration tab - this can serve as a "bookmark" for errors which are not visible in the part of the text currently displayed in your window; click on the rectangle to jump to the relevant text passage.

3) a red wavy underscore under the relevant passage.

NOTE: Do not mix up the red rectangle in the right margin with the light red rectangles which show rubrum. Upon mouse-over on the rectangle, the tool-tip will be displayed explaining the cause of the error; if there are annotations, rubra, or comments linked to the same sentence, the mouse-over also provides you with this information. If you only mouse-over the underscored passage then the tool-tip will only show the error information.

NOTE: Some combinations of round brackets and double round brackets result in errors. For example ((n(,j))) is not valid in the BTS grammar. In these cases use the dummy sign "##": ((n(,j)##)).

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.

All grammar errors in the transliteration should be corrected before saving or switching to the Sign Text Editor, otherwise you might lose your data.

Saving your data

There is no auto-save function in BTS. Make sure you save your work at regular intervals, without errors in your transliteration, to avoid losing it.

The options for saving files are the following:

- The program will save your current database object automatically when you select a different database object.
- Save manually by clicking the buttons or in the toolbar. See *Toolbar* on page 67 for more information.
  - saves the changes in the currently selected window or tab.
  - saves all changes made in the current session.
- If you have not saved your data before leaving the program, clicking on "Exit BTS" or "Restart BTS" will trigger the warning: "Select the parts to save" .

NOTE: We recommend saving your work at regular intervals. If your operation system or BTS software glitches, you may lose your data.

NOTE: Saving might take quite a while and you might not be able to work during this time or a message "BTS is not responding" can pop up. This does not necessarily mean that the software has crashed.

NOTE: Newly created database objects will be automatically saved, but changing any of its data (including their names etc.) requires manual saving.

Data backup

If you work in the online mode, BTS will permanently synchronize your data with the server and produce backups. If you work in the offline mode and wish to backup your data, you can manually copy the relevant folder (C:\bts\dbdir \CouchDB\var\lib\couchdb if you chose the *standard directory*) and save it in another directory.

Configuration

BTS allows you to adjust various settings to suits your needs.

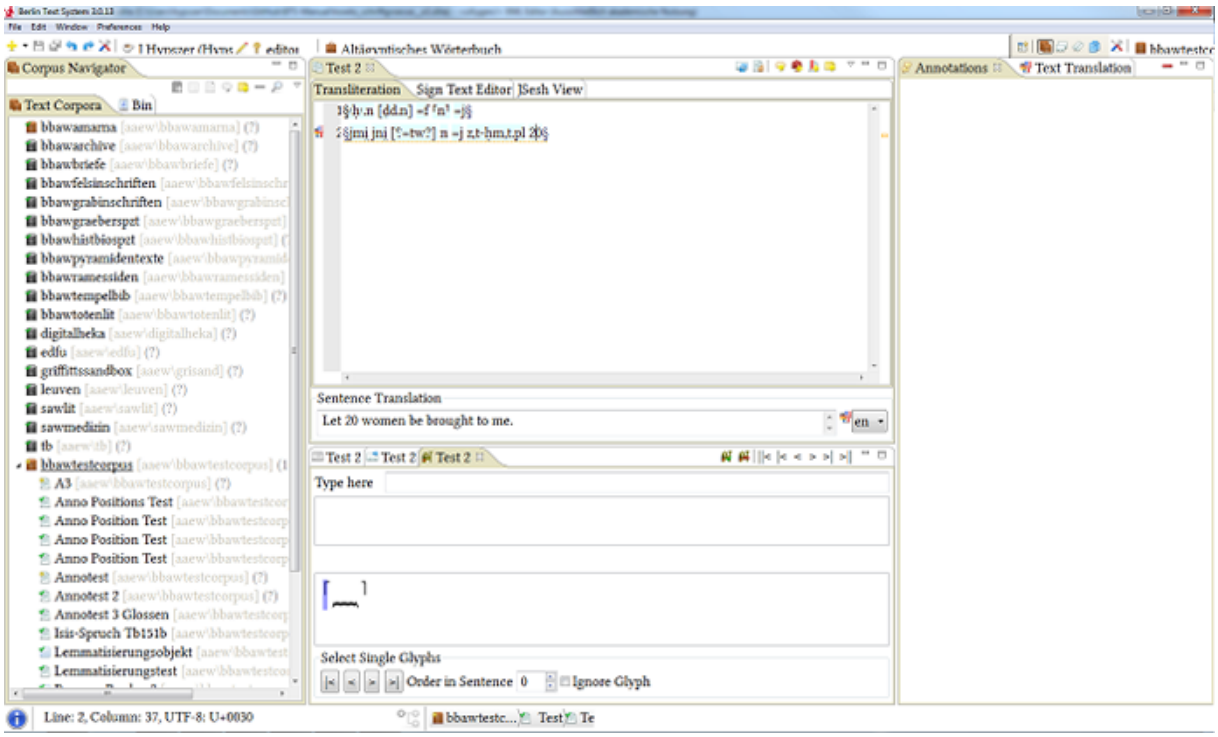
The features available for configuration are:

- Changing font size
- Adjusting display
- Defining Templates
- Setting personal preferences

NOTE: All changes in the configuration are valid on your local computer only. They are not saved to your user account, i.e. if you login on another computer, you will have to re-configure your settings.

Changing the font size

Changing the font size of BTS is quite simple. Select Window from the Menu bar. The first option in the drop-down menu will be "Switch Font Size/CSS Theme"; click on it to enlarge the font. There is not a list of font sizes to choose from; the font size will be enlarged/reduced by clicking on "Switch Font Size/CSS Theme". E.g. clicking on this option a second time will return the font to its original size and change the look of BTS, while the 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 "Switch Font Size/CSS Theme".



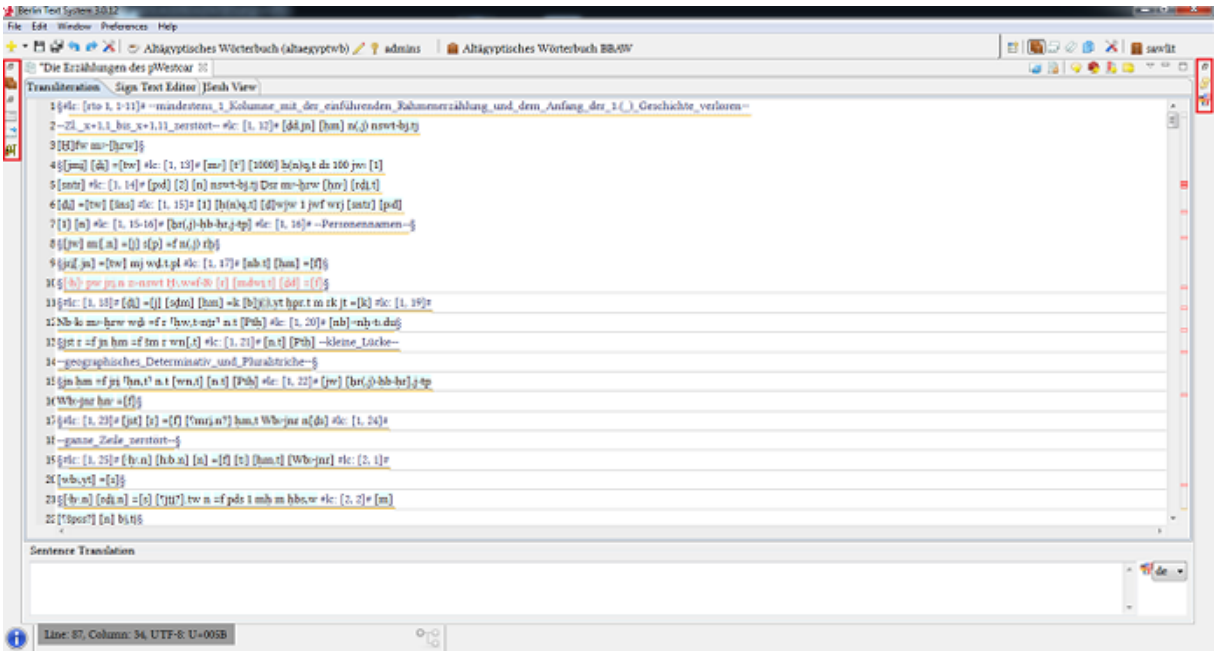
Adjusting the display

The location and display of individual tabs within BTS is flexible, but such changes in the display and arrangement of tabs cannot be saved, as every restart of BTS restores the default organisation.

Minimizing/Maximizing

Most tabs can be minimized/maximized by clicking the buttons: ▭ and ▢, respectively. When you have maximized/minimized one or several tabs of the Workspace (Corpus Navigator, Text Editor etc.), their respective icons will appear on the right or left side of the program window (see image below). For explanations of the icons see *Window* on page 62. To restore minimized tabs, click on the ▣ icon; clicking on "Open Text Editor" etc. in "Window" in the Menu bar is another way of restoring these tabs. Clicking on the tab's icons while the tab is minimized will open a small window for that tab, which can then be closed by clicking on the icon again.

This example shows the maximized Text Editor; other tabs are minimized and their icons displayed on the right and left (marked by a red rectangle).

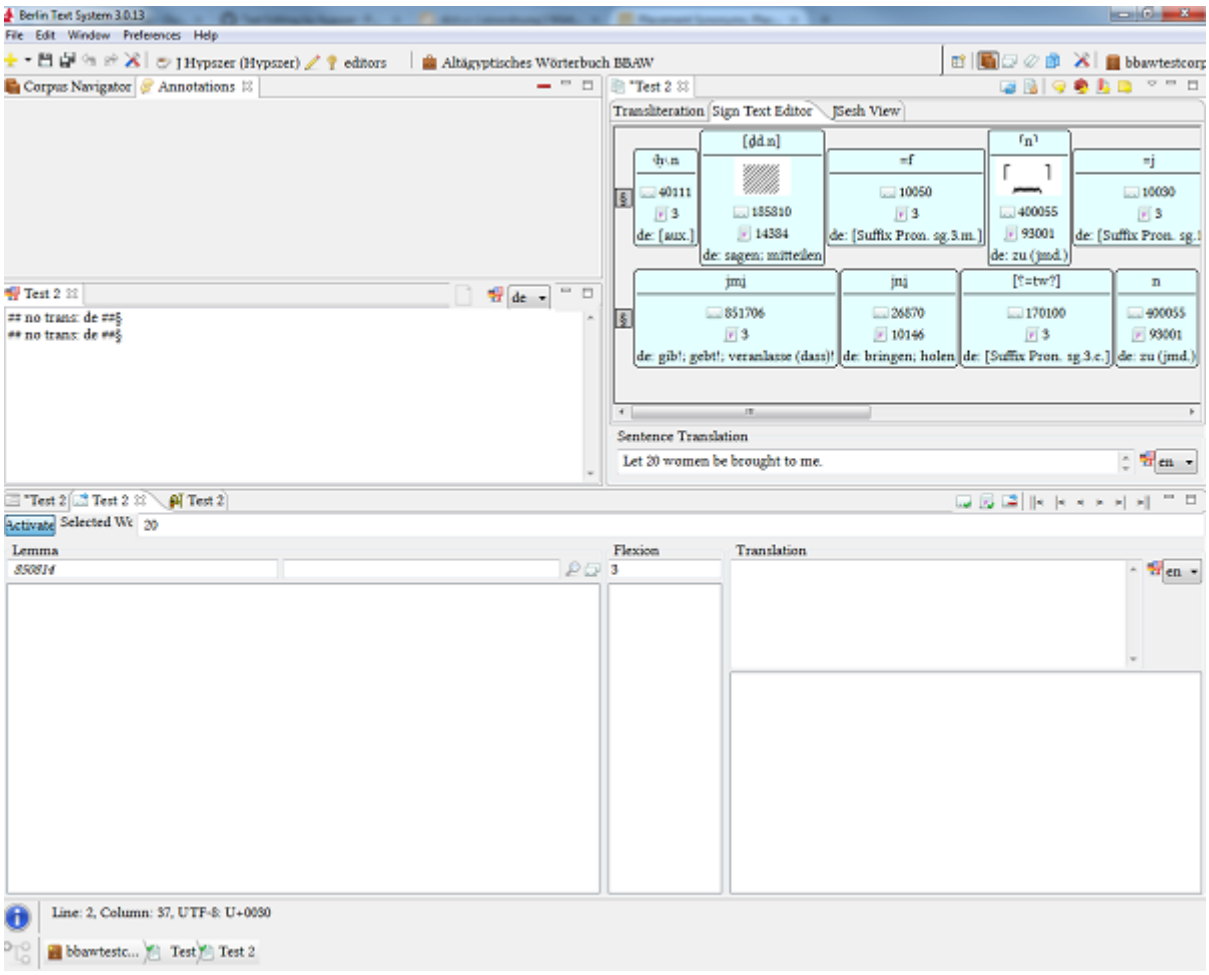


Closing Tabs

Apart from the Navigator Tree, most of the tabs can be closed by clicking ⊠. You can restore the closed tab via the dropdown menu "Window" in the Menu bar. Restarting BTS will also restore all closed tabs.

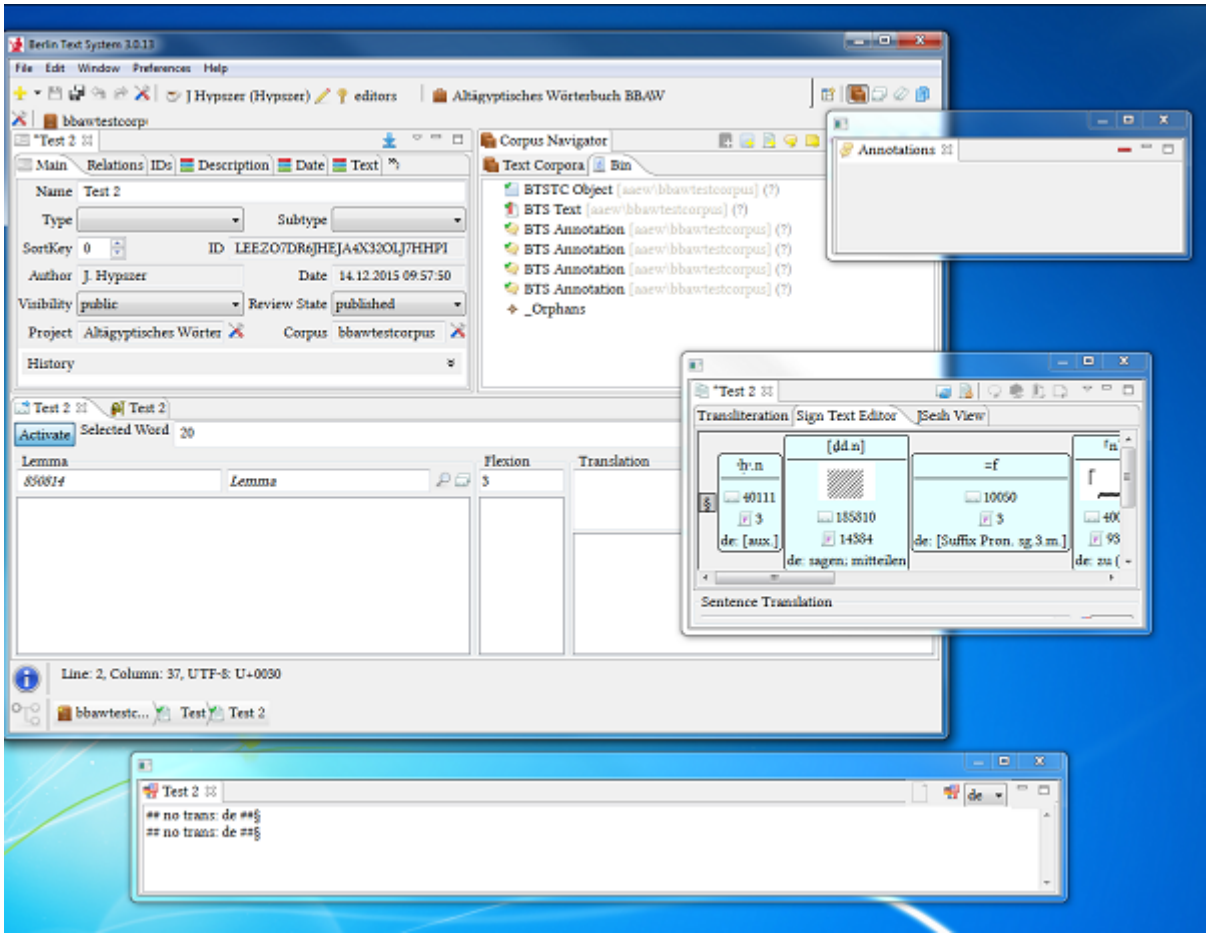
Moving tabs

If you do not 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 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 is no longer central.



It is also possible to pull an entire tab completely out of the program window. See screenshot below for an example. Tabs that have been removed from the program and now have individual windows cannot be put back into the main program window; to do this you have to restart BTS.

NOTE: When you remove the last window from the program window, all windows will disappear. You need to restart BTS to restore the display.



Preferences

To get to the "Preferences" window, click either the button in the left part of the Toolbar menu or on the drop-down entry " Preferences..." in the Menu bar/Preferences. For more details see BTS User Interface, chapter *Preferences* on page 63.

Expanding **"Berlin Text System General"** will present several options; those applicable to editing a text are the following:

Corpus Settings

Here you can choose the set of corpora you are going to work with. Every corpus that does not appear in the active corpora list on the right will not be accessed by BTS (this includes displaying them in the Navigator Tree and using them search queries). 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/from the active corpora list.

The check-box "Activate to select main working corpus" has a specific function. If it is activated all new database objects created in the "Corpus Navigator" window will be physically saved in that corpus. E.g. 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.

NOTE: You can only select a corpus as your "main working corpus" if you have the necessary rights to work in that corpus.

Corpus Navigator Settings

- Check box "Corpus Navigator sort by sort key". By default, all database objects on the same level have "0" as a sort key and are thus sorted alphabetically. Changing the SortKey in the passport data of the database object will change its position in relation to other database objects, with "0" at the top. See Passport Editor, chapter *Main* on page 76.
- "Default Visibility" applies to all newly created database objects. It defines the visibility status a corpus will receive by default when it is created. See also chapter *Description of User roles* on page 10.
- "Default Review State" applies to all newly created database objects. Like "Default Visibility", this defines the review state a corpus will receive by defaultwhen it is created.

Lemma List Settings

Here you can choose a lemma list (from a project) as your main one. All new lemmata will be saved in this project. You can currently choose between "Altägyptisches Wörterbuch BBAW" and "Demotic". If you select both, the two lemma lists will be combined in the "Lemma Navigator". If you work with texts in Demotic script, please select "Demotic" as your main working lemma list, otherwise select "Altägyptisches Wörterbuch BBAW".

Lemma Navigator Settings

- Check box "Lemma Navigator sort by sort key". By default all database objects on the same level have "0" as a sort key and are thus sorted alphabetically. Changing the "SortKey" in the passport data of the database object will change its position in relation to other database objects, with "0" at the top.
- "Default Visibility" applies to all newly created database objects. It defines the visibility status a lemma will receive by default when it is created. See also chapter *Description of User roles* on page 10.
- "Default Review State" applies to all newly created database objects. Like "Default Visibility", this defines the review state a lemma will receive by default when it is created.

NOTE: "Default Visibility" and "Default Review State" apply to all newly created database objects, including annotations, rubra, comments etc. There is not currently a way of transferring a change in a parent element's Visibility or Review State to its child elements. This means that if your Default Visibility is "reader", you have to manually change all TCObjects, Texts, annotations, rubra etc. to "public" once you want to publish your text in the TLA.

Lemmatizer

The Lemmatizer allows you to set a default inflection (the program's default inflection is "3") and activate the check box "Automatically select first lemma proposal"; the latter feature allows you to navigate through the proposed lemmata via the arrow keys of your keyboard. For more on grammatical rules see *BTS Grammar Rules* on page 102.

Project settings

Here you can choose your main working project from the drop-down menu. The field below gives you an option to select 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, to "Add All" from available to "Projects to be downloaded", and "Remove All" from "Projects to be downloaded" to "Available Projects". Next to the "Apply" button there is also a button that will restore default settings, called "Restore Default".

Remember me

Select the check box "Remember my login credentials on startup" to be logged in automatically when starting BTS. To deactivate this function unselect the check box.

Text Editor

- "Activate mouse-over pop-ups with information on lemmata" will display the lemmatization information about the selected lemma in the Text editor upon mouse-over.
- "Show line number ruler on left side". This check box activates the line numbering (according to the BTS window) in the *Text editor*.

Sign Text Editor

Allows you to choose which elements are displayed in the lemma-boxes inside the Sign Text Editor. Additionally, the line width can be adjusted by changing the number in the "Line width in pixel" field (this function is currently unavailable).

The applied changes will be visible once the "Sign Text Editor" tab has been refreshed.

Thesaurus Settings

Here you can choose a main working thesaurus (from a project). All new thesaurus entries will be saved there. There is currently only one working thesaurus available: "Altägyptisches Wörterbuch BBAW".

Thesaurus Navigator Settings

- Check box "Ths Navigator sort by sort key". By default all database objects on the same level have "0" as a sort key and are thus sorted alphabetically. Changing the "SortKey" in the passport data of the database object will change its position in relation to other database objects, with "0" at the top.
- "Default Visibility" applies to all newly created database objects. It defines the Visibility Status a thesaurus entry will receive by default when it is created.
- "Default Review State" applies to all newly created database objects. Like "Default Visibility", this defines the Review State a thesaurus entry will receive by default when it is created.

In the **"EgyDsl"** menu entry (Dsl = Domain Specific Language) you can change the appearance of your BTS. This includes applying different colours and scripts, as well as importing and editing templates.

Syntax Coloring

This feature does not work in the current version.

Templates

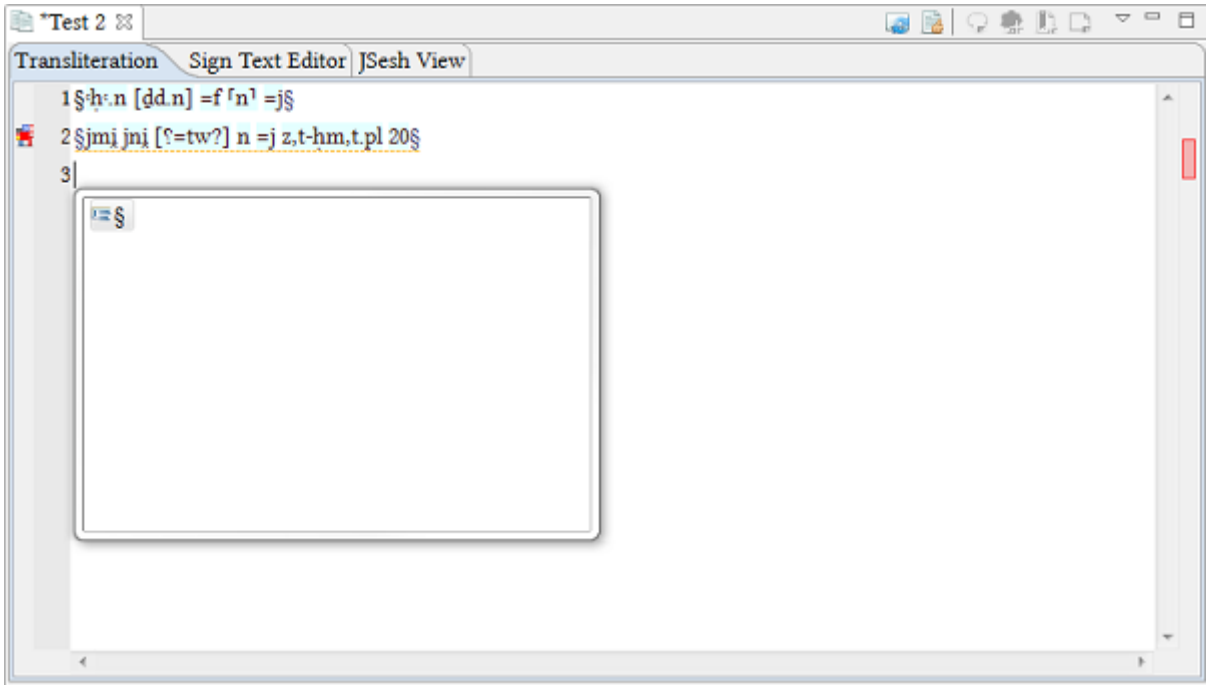
This window allows you to create templates to make the input of transliteration easier. For example, you can define short cuts for line counts. While transliterating, right-click and select "Content assist", and your template will be displayed at the end of the list. Double click it and it will be automatically inserted into the text. For a detailed description see chapter *Templates* on page 45.

GENERAL NOTE: To restore a default configuration, click the "Restore Default" button. To confirm your changes without closing the window click "Apply", to save and close click "OK". To reject all changes, click "Cancel".

Templates

A template is a pattern used to replicate letters, shapes, or designs in word processing, e.g. line count, ambiguities, plural- and dual-endings etc. You can use this function to speed up the input of transliteration.

Access the already-existing templates through the Content Assist (right-click in the Text Editor Transliteration field or press CTRL + Spacebar and choose it from the menu). The already-existing templates are essentially what you can find on the keyboard layout and type manually. Depending on the position of your cursor (i.e. is it within a sentence/ word or outside a sentence marked by §§) you will get a different set of templates to choose from. This is helpful if you are ever unsure about what can be inserted in a given position in the transliteration. In the example below, the position is in line 3, where no §§ have been added yet, hence the Content Assist gives you only one option: to enter §.

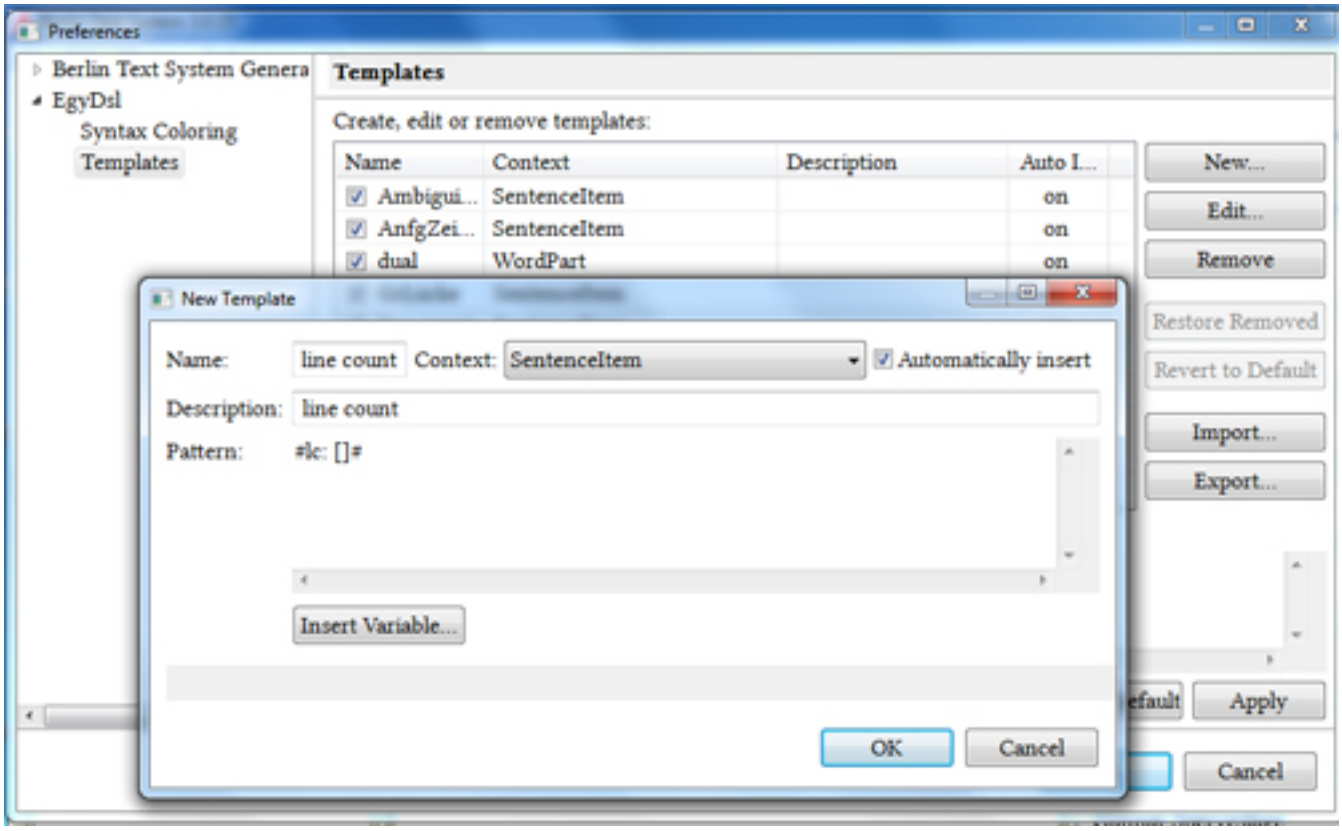


Creating a new template

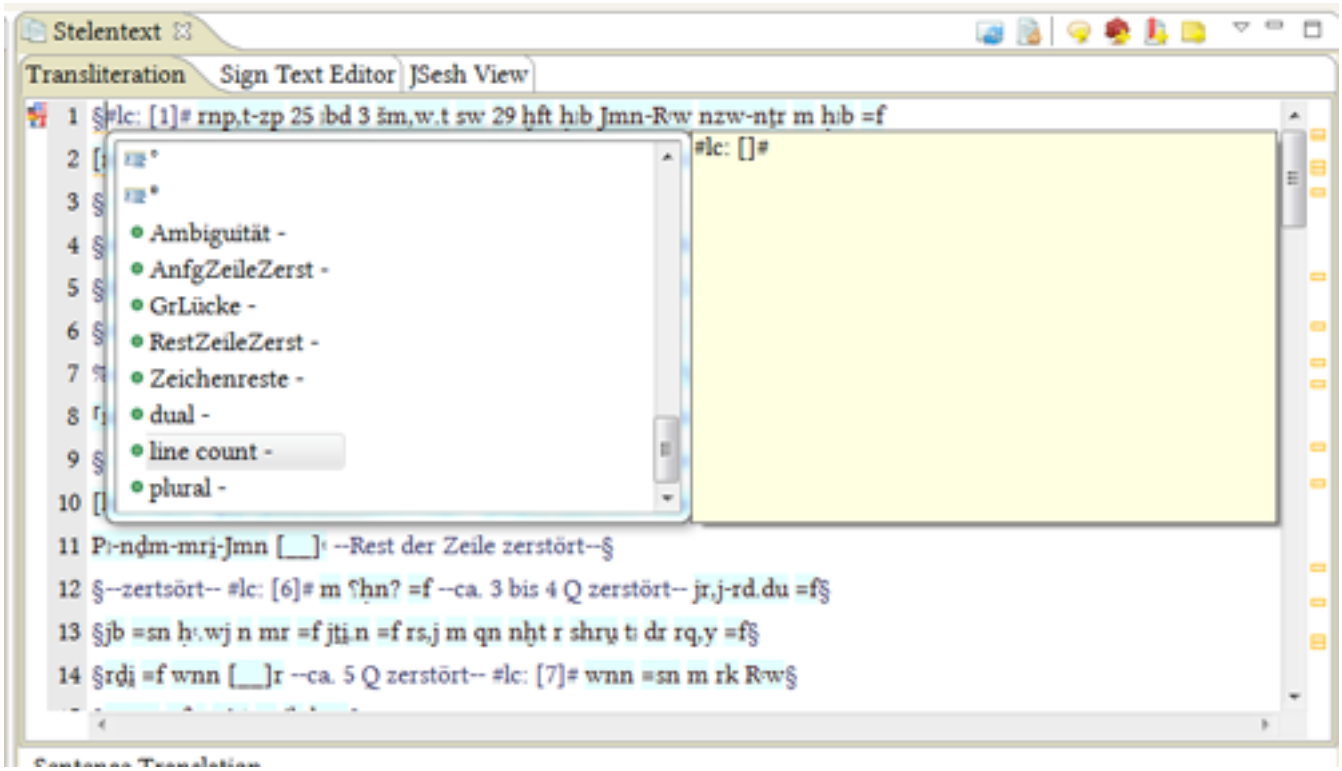
Select "Preferences" in the Menu bar, then expand "EgyDsl" and click on the entry "Templates". Clicking on "New..." will open a new window where you have to name your template and select its context from the drop-down menu; the context determines the position in the text in which this template can be displayed (i.e. SentenceItem or WordPart).

NOTE: Use "SentenceItem" for independent items (e.g. line count) and "WordPart" for dependent items (e.g. plural and dual endings). All other contexts should not be used.

You can add a short description to your template to explain what it does; this is not mandatory. The template's name and description will be displayed in the Content Assist. In the field "Pattern" enter the text which will be entered into the transliteration. The button "Insert Variable..." allows you to choose from some pre-set patterns which you can use for your template, e.g. brackets etc. The example below demonstrates how a template works:



When you are finished, click OK and the template will appear in the list and is ready to be used (you can edit or remove it at a later date if you want to). Right-click within the §§ signs and open the Content Assist (CTRL + Spacebar). Scroll to the bottom where the new template is located (using either the mouse or the arrow keys). Clicking on it once will display the pattern which will be inserted to the text; double-clicking (or ENTER) will add the template to the transliteration.



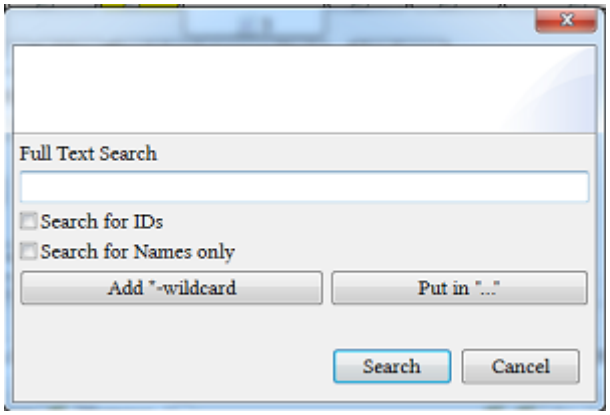
Changing your Password

Currently not available.

Performing Searches

The 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. Therefore, the search is performed on the name of the database object, its metadata, and its textual data (i.e. the transliteration, translation etc.). Spaces and hyphens between words in the search field are interpreted as separate words. The search terms are combined with the operator OR, so when you search for Papyrus Westcar, the program will look for "Papyrus" and "Westcar" separately, and present you with results that contain Papyrus and/or Westcar. If you want to search for whole phrases you will have to put it between quotation marks "...", e.g. "Papyrus Westcar".

Your search results will be organised alphabetically; if there are a lot of results, these will be collected into groups. The order of the results does not reflect the order of database objects in the Navigator Tree.

When you want to locate a specific database object within a project there are two options:

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". This will return only that database object; if you enter the same ID into a full text search, the search will return the child-elements of the database object with that ID.
2. You can refine your search by activating the check box "Search for Names only". This makes the search only look at the names of database objects.

Indexing the database

To index or re-index the database open the "Database Manager" by clicking Preferences/Open Database Manager in the Menu bar. The "Database Manager" window will open automatically each time you start BTS, if there are any errors in the index.

The "Database manager" window displays all available database collections in a list. The number of documents per collection is shown in the column "DB Doc Count".

Indexing

Indexing is a process which enables the search function in the database; the query is not done in the database itself (which would take time) but in the document 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 and red indicate that a problem has occured in this

corpus; additionally, the status of the corpus will be displayed in the "Status" column (OK- green, ERROR- red or INDEXING...- yellow). The column "Index Doc Count" shows the number of the already indexed documents in this corpus, and the "% indexed" column shows the percentage of the indexing process.

Re-Indexing

BTS indexes the databases itself automatically when it receives new data from the server, but sometimes this process produces errors and requires manual re-indexing, causing the "Database Manager" to open.

Databases that are not indexed successfully are marked either in yellow or red. If indexing was not successful for some corpora then you need to re-index them (see below options). This process may take a while, and the more databases you have to re-index the longer it will take. Sometimes re-indexing a database can take a few attempts, keep re-indexing until the colour changes to green. During this process you will not be able to use BTS.

Re-indexing has three options:

- Re-index all

- Re-index all non-OK (only re-indexes those collections with errors)

- 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" in the most right column.

Close

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

NOTE: We recommend re-indexing all databases that are either marked red or yellow, but especially the databases, word lists, and theasauri you will be working with.

NOTE: The items "_recplicator" and "_uses" cannot be indexed and are always marked in red. You do not have to re-index these items.

NOTE: Indexing and re-indexing is specific to the BTS on your computer, and not to your account, meaning that if someone already indexed the database before you, when you login the "Database Manager" is unlikely to open automatically with an error.

Revision History/Conflict Dialogue

Revision History

By right-clicking on a database object or by clicking Edit/Open Revision History  in the Menu bar, you can open the revision history of the selected database object in order to compare different versions and to restore a previous version.

The Revision History window is divided into two parts. The left side displays the master version, i.e. the current version. The right side shows the previous saved versions ("Select Compare Version").

In the lower part there are the usual tabs, e.g. Passport Editor and Egyptian Text Editor, for the database object. Select a past version by left-clicking to compare it to the current version. You can navigate between the tabs to see the changes made in the respective versions.

NOTE: The topmost version on the right is the latest one.

To restore a previous version right-click it in the list and apply "Replace current with Selected Revision".

Close the Revision History window by clicking "Close".

Conflict Dialogue

If two users work simultaneously on one database object, it is possible that they each produce different versions of the same database object at the same time. This is indicated by the icon  in the Navigator tree. The conflict dialogue solves the problem of which version is the preferred one.

NOTE: the addition of a padlock symbol to a database object's icon in the Navigator Tree shows which texts other users are currently working on, please try not to work on texts which are already in use.

The window is divided into two parts (as for the Revision History): the left side displays the current version; the right side shows the conflicting versions.

In the lower part there are the usual tabs, e.g. Passport Editor and Egyptian Text Editor, for a database object. Select a conflicting version by left-clicking to compare it to the current version. You can navigate between the tabs to see the changes made in the respective versions.

To remove a conflicting version, right-click it in the list and click "Remove Conflicting Revision".

NOTE: Due to technical reasons it might take several attempts to access the "Remove Conflicting Revision" button.

Apply your changes by clicking "Save and Close" or reject them by clicking "Cancel".

Advanced user guide

The following instructions are for users with advanced rights, in particular for Editors and Administrators. These users can learn how to edit, modify, and organise the data in BTS. Some topics here also apply to users with Researcher status, e.g. creating new text corpus objects, lemma entries, or thesaurus entries.

Creating a corpus

The following function is only available to users with global administrator rights. The detailed descriptions of the User Interface (UI) elements can be found in section *Text Corpus View* on page 69.

Creating a corpus

1. Click on the  "New Corpus" icon located above the *Corpus Navigator*. Alternatively, right-click on any corpus and select "Create New Text Corpus".
2. Choose a name and a prefix (the latter 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", this will allow other users to see your new corpus. Otherwise, it will remain in offline mode on your PC. After you have finished, click "OK"; if you want to cancel the creation, press the "Cancel" button.
4. Your new corpus will appear in the list of the corpora in the Navigator Tree.

Creating and modifying a database object (Text Corpus Object and Text)

The following functions are available to users with at least Researcher rights for a given corpus. Creating a Text Corpus Object (TCObject) and a Text are the basic steps for entering and editing a text in BTS. Before creating a Text you need to define the physical source of that text by creating a TCObject, which is the object on which your text is inscribed. Texts and TCObjects are therefore in a child-parent relationship, i.e. a Text is always linked to a specific TCObject, not vice-versa (see also *Glossary* on page 126).

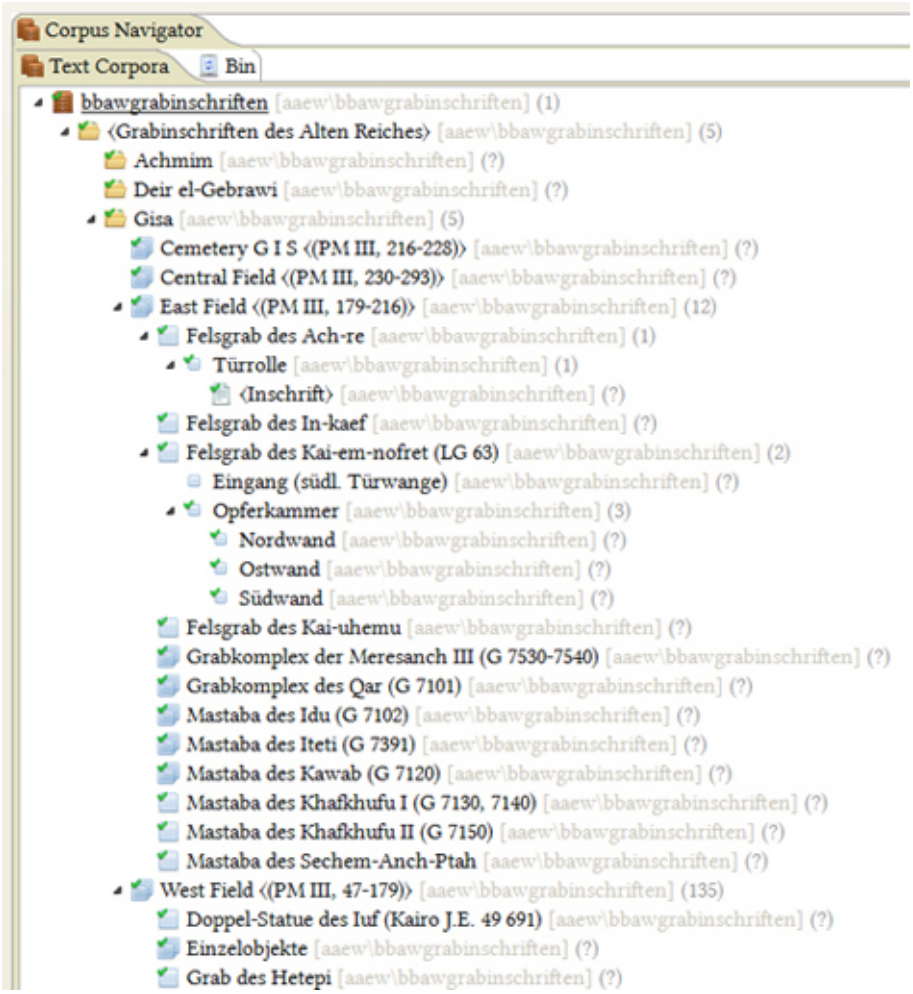
Creating a Text Corpus Object

1. Choose the corpus from the Corpus Navigator tree which you want your TCObject to belong to. You can either add an TCObject directly to a corpus or to another already existing TCObject within that corpus. Even though you can move database objects at a later date (see below), this process takes time and so try to maintain a logical organisation from the start (see image below).

   NOTE: New database objects are physically saved in your main working corpus (which you selected in the *preferences* option during installation), regardless of which corpus you chose in step 1. New database objects will appear in the corpus you chose in the Navigator Tree, but will not be physically saved there; positions in this Tree depend on the relationships between the database objects, not on their physical storage location.
2. Once you have selected your corpus/TCObject, click "Add Text Corpus Object". The newly created TCObject has the relation "PartOf" to the chosen corpus/TCObject.
3. Name your Text Corpus Object in the *Main Tab* of the Passport Editor (the "Name" input field will appear red). You can do this later if you prefer, but until it is named the database object will appear in the Navigator Tree with the default name "BTSTC Object".
4. Define the Type of the TCObject (there are no Subtypes so this field should not be used). Overall try to provide as much information as possible about the object by filling out the different tabs of the *Passport Data Editor*. The different Types are as follows:

   - **Caption:** The Caption is used to group physical objects under one heading for pragmatic reasons (e.g. the stelae from Kawa or the medical papyri).

- **Group:** A Group defines a number of physical objects which belong together for geographic reasons (e.g. the tombs of a specific cemetery like the Eastern Cemetery at Giza, or a papyrus archive like the Abusir Papyri).
- **Arrangement:** An Arrangement defines a closed association of finds (e.g. the objects from the tomb of Tutankhamun or the objects from a foundation deposit).
- **Scene:** This is an obsolete entry which was used for data imported from the previous system. Do not use it.
- **TCObject:** A Text Corpus Object is the physical ancient Egyptian artefact which bears your text (e.g. the Papyrus Harris 500 or the sphinx stele of Thutmose IV). Use this option if none of the other types are applicable.
- **ObjectPart:** An ObjectPart is hierarchically subordinated to another TCObject. Use this option when the carrier of your text consists of more than one physical artefact (e.g. a statue and its base, or several parts of a building).



Creating a Text

1. Select *a node* in the Corpus Navigator where you would like to place your Text. You can either add a Text to a TCObject or to an already existing Text.
2. Click  "Add Text" in the Corpus Navigator toolbar. A child-element will be added to the selected database object with the default title "BTS Text" (in order to see it you might have to open the parent-element, i.e. the TCObject or Text you chose in step 1).

3. Name your text in the *Main Tab* of the Passport Editor (the "Name" input field will appear red until it is filled out, and the default name of the database object will be "BTS Text").
4. Like with the TCObject, define the Type and, if applicable, also the Subtype of the database object. Provide as much information as possible by filling out the different tabs of the *Passport Data Editor*. The different Types are as follows:

   - **Text:** A Text is defined as a coherent entity. Your physical aretefact might contain several texts, e.g. Papyrus Harris 500 contains "The Doomed Prince", "The Taking of Joppe" etc. Each of these tales/poems receives its own database object "Text" subordinated to the TCObject "Papyrus Harris 500"; the order of these Texts in the physical artefact can be indicated by changing their SortKeys.
   - **Subtext:** Subtexts are parts of the same text that are related to each other but lack a defined order of reading (e.g. different figures and their respective inscriptions on a relief; the relief would be the TCObject, and the inscriptions its Subtexts).

     NOTE: Do not enter chapters or captions of a continuous text (e.g. the medical remedies in Papyrus Ebers) as Subtexts; these have to be segmented by annotations (see *Annotations, Rubra, Glosses, and Comments* on page 30).

Naming a TCObject / text

Creating a suitable name for each database object, in particular for the TCObject and the Text, is essential if you want to be able to quickly locate a specific text in the database. Select a concise name that is short and significant. If your text is known under different names only use one of them to name it; you can enter synonyms in the Synonym tab of the Passport Data Editor (see *Synonyms* on page 83), e.g. for the Text "Admonitions" you could also enter "Mahnworte des Ipuwer", "Klagen des Ipuwer", "The Dialogue of Ipuwer and the Lord of All" etc. as synonyms.

Defining the visibility

Define the visibility of your database object in the main tab of the *Passport Editor*. See also *User Roles Description*. A default visibility can be defined in the *Preferences*.

- reader
- group
- project
- public
- all_authenticated

NOTE: The default visibility applies to all newly created database objects, which also includes annotations, rubra, comments etc. A change in the visibility status of a parent database object does not change the status of any of its children; i.e. if your default visibility is "reader", you have to manually change all TCObjects, Texts, annotations, rubra etc. to "public" once you want to publish your text in the TLA.

Defining the review state

The display icon of your TCObjects and Texts differs according to the review state you selected in the main tab of the *passport editor*. A default review state can be defined in the *Preferences*. The icons shown above will get one of the following additions:

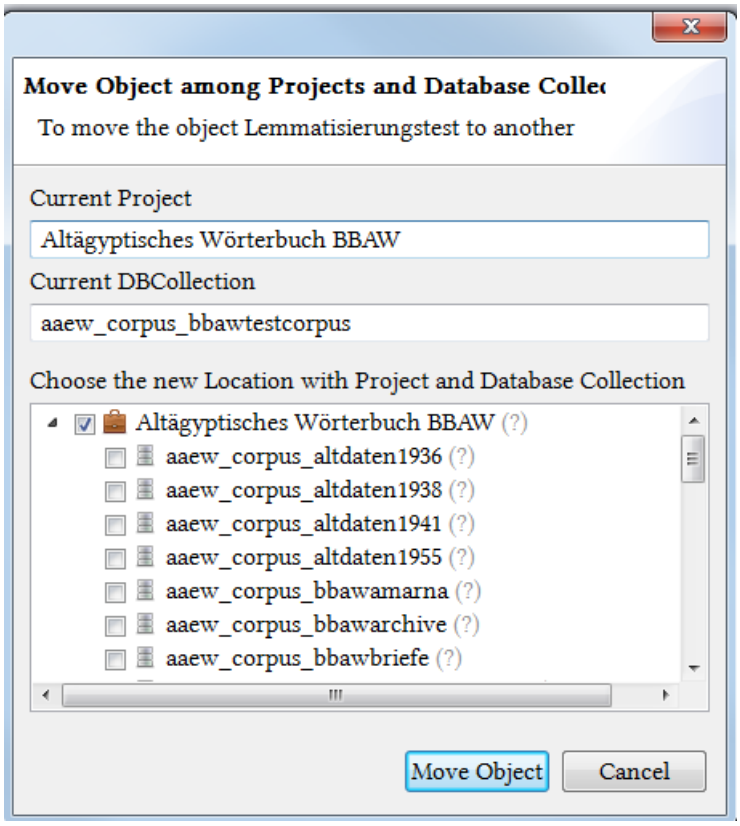
- new
- awaiting review
- awaiting update
- reviewed/published

NOTE: Like with visibility, the default review state applies to all newly created database objects, which includes annotations, rubra, comments etc. A change in the review state of a parent database object does not change the status of any of its children; i.e. if your default review state is "new", you have to manually change all TCObjects, Texts, annotations, rubra etc. to "published" once you want to publish your text in the TLA.

Moving database objects (TCObjects / Texts)

To change the physical location of a database object (marked in square brackets next to the name) from one project or corpus to another, right click the chosen item and select "Move among projects" from the menu. A window opens displaying the current physical location. Alter the entries (upper field for the project and middle field for a corpus in the project) as you see fit by clicking the checkbox in the lower field (see image below). This can also be done in the "Main" tab of the database object's Passport Editor by clicking the preferences icons next to the database object's corpus/project. Changing the physical location does not affect the position of the database object in the Navigator Tree. To change the database object's position in the Tree, you have to change its relationships in the *"Relation"s tab* of the Passport Data Editor.

NOTE: If you have accidentally created a database object in the wrong position and you do not have the rights to move it, please contact the administrator in Berlin: aegypt1@bbaw.de.



Deleting database objects (TCObjects/Texts)

There are two options to delete a database object from the database:

1. To delete a database object (TCObjects or Texts) select it and then click on "Delete". It will be moved to the bin ("Bin" tab in the Corpus Navigator), where you have the chance to restore it (right click the object and choose "Restore" from the menu) or to delete it permanently. All subordinate elements will be deleted as well. Upon closing or restarting BTS, all the items in the bin will be deleted permanently.
2. A database object can be deleted permanently (without moving it to the bin first) by either right-clicking the respective item and selecting "Delete Permanently", or by selecting the item from the Navigator Tree and then selecting "Delete Permanently" from the drop-down menu . Clicking on "Delete Permanently" will open a confirmation box in which you can confirm (or reject) the deletion.

Creating a lemma entry

This option is only available to users with Researcher rights for a lemma-list. If you have a lemma which is not yet present in BTS, please send a proposal to the BTS team: aegypt1@bbaw.de.

1. To create a new lemma, open the *Lemma View*. On the left you will see the *Lemma Navigator* which shows a list of available lemmata, grouped alphabetically.
2. Click on in the Lemma Navigator Toolbar.
3. In the *Lemma Editor* add a transliteration for your lemma (see below).
4. You can add hieroglyphs by opening the *Hieroglyph Type Writer (HTW)* and following the instructions on how to enter hieroglyphs for a text.
5. You can enter a translation for your lemma in the field below (make sure to choose the language of your translation beforehand).
6. Add information on transliteration, part of speech, and review state in the main tab of the Passport Editor.
7. Add a bibliographical reference in the *Passport Editor*.
8. To add an annotation or a comment to a lemma, click "Add Annotation" or "Add Comment" in the Toolbar of the Lemma Navigator.
9. To delete a lemma entry, use the "Delete" button in the Lemma Navigator Toolbar. It will move the entry to the "Bin" tab, where you can manually delete it permanently. Closing or restarting BTS will also permanently delete any entries in the bin.

Transliteration

The lemma transliteration section is identical to *Text Editor*. Transliterate the lemma in this field between the "§" signs (so that the "§" marks the beginning and the end of the lemma), otherwise the lemma will not be valid.

Compound-word-lemmata: If you want to enter a lemma that consists of multiple words (e.g. as in the title *ḥm-nṯr Imn*), use "space" between each word and a hyphen "-" between each compound of a compound word. You can then split these words into multiple tokens (but still have it as one lemma entry). Do not enclose each word individually with "§", but the whole word instead (so §*ḥm-nṯr Imn*§, not §*ḥm-nṯr*§ §*Imn*§).

The reason behind splitting the lemma into multiple tokens, is that when you search for a part of the lemma, the whole lemma will appear in the results. It also means you can sub-lemmatize the tokens within the lemma word.

Example: typing §*ḥm-nṯr Imn*§ means you can sub-lemmatize the lemma into *ḥm-nṯr* and *Imn*, and also *ḥm-nṯr* into *ḥm* and *nṯr*.

Sign-Text

In the Sign-Text section every lemma appears as a single entity, no matter if it has multiple words or not. This allows you to sub-lemmatize each part of that lemma, in addition to the whole lemma itself.

Translation

Enter the translation for the complete lemma into this field. Select the language by left-clicking the drop-down menu marked by .

Creating a thesaurus entry

This option is available to users with researcher rights for a thesaurus. If you have a thesaurus entry which is not present in the BTS thesaurus list, please send a proposal to the BTS team: aegypt1@bbaw.de.

The main function of the Thesaurus is to provide a controlled vocabulary for the metadata of texts, (physical) objects, lemma entries, and thesaurus entries, e.g. dating, location, or materiality. For a detailed description of the individual elements in the Thesaurus view see *Thesaurus View* on page 95.

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" to create a new thesaurus entry. A root entry can stand on its own, while a child entry must always be dependent on a root entry.
3. Click on the newly created Thesaurus entry to edit its content. Its Passport Editor will appear in the middle of the screen.
4. In the Passport Editor you can give the entry a name (the default name is either "Thesaurus Root" or "Thesaurus Child"), define its type and subtype via the drop-down menus, and edit its visibility and review status.
5. Next you can fill in all available metadata into the Passport Editor. For a detailed description of the individual tabs and elements of the Passport Editor of the Thesaurus View, see *Passport Editor* on page 97.
6. To add an annotation or a comment to a Thesaurus entry, click "Add Annotation" or "Add Comment" in the Toolbar of the Thesaurus Navigator.
7. 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 delete it permanently. Closing or restarting BTS will also permanently delete any entries in the Bin.

Creating/Editing a project

This function is only available to users with global administrator rights.

Creating Project

Select "File"/"New"/"New Project" in the Menu bar. Selecting "New Project" will open the "Edit project name" window. To create a new project, enter "Project name", "Project prefix", and "Description"; the Project Prefix is the internal name of the project, under which it will be saved in the database; Description is optional.

NOTE: Do not use special characters, spaces, or capital letters in the Project Prefix. If you have entered invalid characters, the input field will turn red and the buttons "Next" and "Finish" will be inactive.

NOTE: We do not recommended clicking the "Finish" button until you have completed all of the below steps.

The button "Next >" leads to the "Project Connection Settings" window. Here you can enter "Connection Type", "Server URL", and "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/"; Database path should be left empty.

Clicking on the "Next >" button again will display a "Project Feature" window, where you can select the features "Corpus Data", "Thesaurus Data", "Wordlist Data", and "Abstract Texts Data". We recommend selecting all the check-boxes.

A further click on "Next >" leads to the "Project Database Collection" window, in which the newly created databases can be added or the existing ones edited. Editing includes changing the database name or activating/deactivating the synchronizing and indexing check-boxes.

Confirm the creation of your project by clicking 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".

Editing a project

The project properties can always be modified at a later date via "Edit"/"Edit New Project" in the menu bar. If you click on the "Edit current Project", a window appears, where you can edit the current project's properties with the same process as above.

Editing Updaters/Readers of database objects

To set and edit the *User Status* for the currently selected database object (corpus, text, lemma, thesaurus entry etc.) select "Edit" in the menu bar and click "Edit Updaters/Readers"; you can also right-click on the database object in the

Navigator Tree. To use this feature, your own user role within the selected corpus must be at least "Researcher" and your user status for the specific database object you want to edit must be "Updater".

On the lefthand side of the "Edit Updaters/Readers" window the Readers and Updaters of the current database object are shown. Click on and expand "Reader" or "Updater" to display them; clicking on the name of a user will display details on the righthand side.

On the right side you will find the definition of the user role and drop-down menus to select and assign users to that role. Select the user or user group from the appropriate drop-down menu. Click on "Assign role to user" or "Assign role to whole user group" to assign a user or a user group to that role. The selected user/user group will then appear under the relevant status on the lefthand side.

To remove a user as Reader or Updater, select the user name on the lefthand side of the window and then click "Remove Role from User" at the bottom righthand side.

You can also undo and redo your changes via the respective buttons and at the top left of the window.

Click "Save and Close" to save your changes or "Cancel" to reject them.

Editing the configuration

This function is available to users with administrator rights only.

To open the configuration window, select "Preferences"/"Edit Configuration" from the Menu bar.

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

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

1. Certainty: 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

Managing users and user groups

This function is available to users with global administrator rights only.

To open the user management function select "Open User Manager" from the drop-down menu "Preferences" of the Menu bar, which opens the window "User Management". Select the tab: "Manage Users and User Groups".

The tab "Manage Users and User Groups" allows you to create new accounts for users and add users, who can have a specific set of rights in the editing process, to project groups, .

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 a list of assigned users within that group; the last entry in the list "_Orphans" shows 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 be assigned and a comment included. 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 need to be entered here. In the third section, there is a drop-down menu, where you can choose existing users and add them to the group by clicking on "Add user to Group".

Clicking on a username allows you to modify the user information on the right side of the window, including fields such as "ID of User", "Forename", "Surname", "Email", "Website", "Description", "Web Description", "Siglum", and "Comment". The ID field shows the username which was given to this user during initial creation of that user; this name can no longer be edited. The check box "User is Database Administrator" can be checked. Required fields are marked by an asterisk (*).

Functions of the buttons in this tab:

 New Group

Adds a new group to your list of groups.

 Delete

Deletes and moves the selected user to the tab  "Bin".

 Undo

Undo the last action.

 Redo

Redo the last undone action.

 Edit updaters of selected database object

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

Organizing user roles and rights

This function is available to users with administrator rights only.

To open user role administration select "Open User Manager" from the drop-down menu "Preferences" of the Menu bar, which opens the window "User Management". Select the tab: "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. Clicking on a project, will show its data in the field on the right. The data include: 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 selected 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 between admins, editors, researchers, transcribers, or guest roles for the users. After selecting 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 when you expand the collection. On the right, "Role Name" and "User Role Definition" (a description of tasks and rights) will appear and 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", which can be used to remove the selected role from the collection on the left.

4th Level: Users

Expanding (clicking on) a role will display the users who have been assigned this role. Clicking on individual users will make their first name and surname appear on the right; 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 a new project.

 Delete

Deletes a project.

 Undo

Undo last action.

 Redo

Redo last undone action.

 Edit updaters of selected database object

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

Opening the Futon and Elastic Search Graphic User Interface

This feature is only available to users with administrator rights.

The administrator can open the Futon and the "Elastic Search" Graphic User Interface (GUI) via "Window"/"Open Futon" or "Window"/"Open ES GUI", respectively, in the Menu bar.

Open Futon

Futon is a web-based GUI which provides a basic interface to the majority of the functionality of CouchDB. This is a "backdoor" to the 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.

For details see: http://docs.couchdb.org/en/1.6.1/intro/futon.html

Open ES GUI

This opens the "Elastic Search" GUI in your standard internet browser, allowing you to see the "backdoor" of the queries done in BTS.

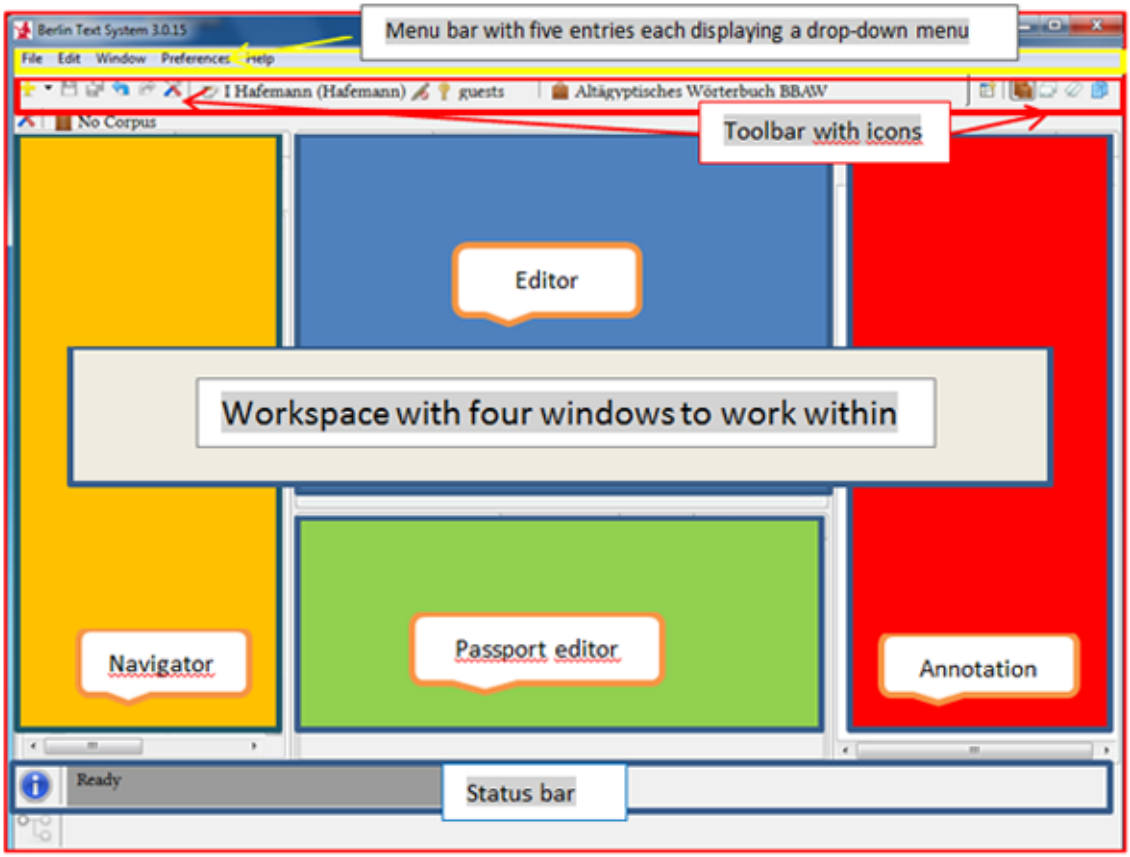
For details see: https://github.com/jettro/elasticsearch-gui

Overview of the BTS User Interface

This section provides a detailed description of the User Interface (UI) elements of the application. It can be used as a reference for the user guides.

The **Menu bar** and the **Toolbar** are located at the top of the program window. At the bottom of the program window is the **Status bar** . The area between the Toolbar and Status bar is called the **Workspace**.

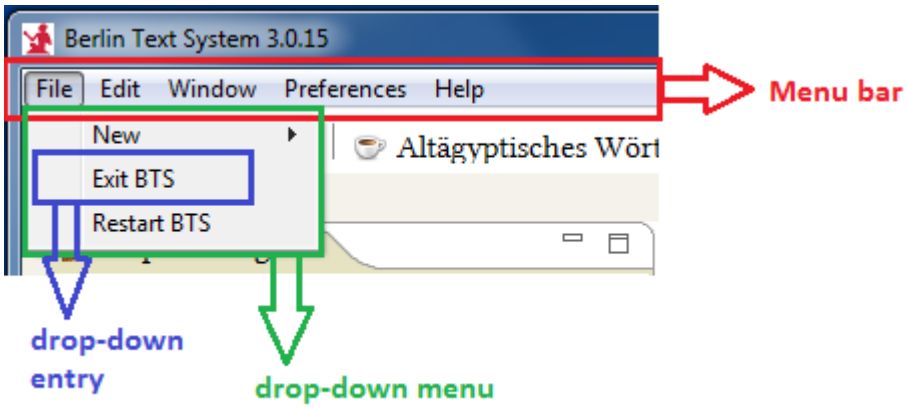
- The *Menu bar* allows you to file and edit new projects, to get access to different windows and to the preferences.
- The *Toolbar* offers quick access via icons to all functions, such as opening a context menu, saving and undoing work, displaying the name of the current project, and, via the right margin, opening one of the four different views to work in.
- The *Workspace* is the part of the BTS UI where all database records are entered and processed. The workspace contains different views according to what you want to do, i.e. whether you wish to edit texts (Text Corpus View), edit the lemma list (Lemma View), work on the thesauri (Thesaurus View), or create abstract texts (Abstract Text View); these Views can be accessed via the Toolbar. The workspace of each view is subdivided into four windows: the Navigator window (left/yellow), the Editor window (middle above/blue), the Passport Editor window (middle below/green), and the Annotation window (right/red).
- The *Status bar* at the bottom shows the path to the database object which you are currently working on.



Menu bar

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

There are five menu entries, each one displays a drop-down menu upon clicking.



File

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

New/New Project

This menu item is only available to users with administrator rights.

Selecting "New Project" will open the "Edit project name" window. To create a new project, enter "Project name", "Project prefix", and "Description". The Project Prefix is the internal name of the project, under which it will be saved in the database. Description is optional.

Exit BTS

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

Restart BTS

Click to restart the program.

Edit

The drop-down menu "Edit" contains the following:

Edit...

This function is currently unavailable.

Edit current Project

This menu item is only available to users with administrator rights.

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

Edit Updaters/Readers

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

Open Conflict Dialogue

If two users work simultaneously on one database object, it is possible that they each produce different versions at the same time. This is indicated by the icon ⚠ in the Navigator Tree. The conflict dialogue function solves the problem of which version is the preferred one.

Open Revision History

The Revision History function allows you to compare the historic changes made to a database object and to restore a previous version of it.

Window

The drop-down menu "Window" contains the following:

Switch Font Size/CSS Theme

There are two colours (blue and grey) and three font sizes available. Clicking on "Switch Font Size/CSS Theme" will switch between six combinations of these themes and fonts sizes. BTS will remember your personal settings for future sessions, but please note that these settings will be saved to the computer and not to your personal BTS account (i.e. if you switch computers, your individual settings and preferences will not transfer over).

Open Perspective

The window "Open Perspective" contains the options Lemma, Text Corpus, Thesaurus, and Abstract Text; select an option and click "OK" to switch to the relevant BTS View. The first time you select an option, it may take a while for the relevant View to appear.

Further options allow you to open particular sections of each View. The following windows can be opened:

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

Editing the configuration

This function is available to users with administrator rights only.

This feature allows you to edit the configuration of a particular project with regard to object types, revision status, visibility, options in the passport editor etc.

Opening the User Manager

This function is available to users with administrator rights only.

Clicking "Open User Manager" opens the user management window, which is divided into two tabs:

- The tab **Manage Users and User Groups** allows you to create new accounts for users and add users to project groups.
- The tab **Administrate User Roles and Rights** allows you to assign user roles to selected corpora and then users to these respective roles (i.e. Project -> Corpus -> User Role -> User Name).

Opening the Database Manager

The "Database Manager" window displays all available database collections in a table; the number of documents per collection is shown in the column "DB Doc Count".

The "Database Manager" window automatically opens when you start BTS if there are any problems with the index. To work with the databases and perform search queries, the databases have to be indexed properly. Re-index all databases that are shown in yellow or red (see *Indexing the database* on page 48).

Preferences

To get to the "Preferences" window, click either the button  in the lefthand side of the Toolbar menu or on the drop-down entry "  Preferences..." in the "Preferences" part of the Menu bar.

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

Berlin Text System General

Expanding the "Berlin Text System General" will show the following:

Abstract Text Settings

Abstract Texts are currently not available. Once they are implemented, you can set your personal settings here.

Configuration

The only option currently available is "Altägyptisches Wörterbuch (AAEW) (10)". Click "Apply" to use this configuration or "Restore Default" to go back to the default configuration; in each case the choice is the same.

Corpus Settings

Here you can choose the corpora you are going to be working with. Every corpus that does not appear in the active corpora list on the right will not be accessed by BTS (this includes displaying it in the Navigator Tree and including it in search queries). To activate a corpus, select it in the list on the left and 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 your active corpora list.

The check-box "Activate to select main working corpus" has a specific function. If it is activated, all new 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, even though in the Corpus Navigator it is displayed as a part of Corpus 2. This is because the Navigator Tree shows the relationships between database objects, which is separate from their physical save location.

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 in relation to other objects, with "0" at the top. See Passport Editor, chapter *Main* on page 76.
- "Default Visibility" applies to all newly created database objects. It defines the Visibility Status a corpus will receive by default when it is created. See also chapter *Description of User roles* on page 10.

- "Default Review State" applies to all newly created database objects. As with "Default Visibility", this defines the Review State a corpus will receive by default when it is created.

Lemma List Settings

Here you can choose your main working lemma list (from a project); all new lemmata will be saved in this project. You can currently choose between "Altägyptisches Wörterbuch BBAW" and "Demotic". If you select both, the combined lemma list will be displayed in "Lemma Navigator". If you work with texts in Demotic script, please select "Demotic" as your main working lemma list; otherwise, select "Altägyptisches Wörterbuch BBAW".

Lemma Navigator Settings

- Check box "Lemma 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 in relation to other objects, with "0" at the top.
- "Default Visibility" applies to all newly created database objects. It defines the Visibility Status a lemma will receive by default when it is created. See also chapter *Description of User roles* on page 10.
- "Default Review State" applies to all newly created database objects. As with "Default Visibility", this defines the Review State a lemma will receive by default when it is created.

NOTE: "Default Visibility" and "Default Review State" apply to all newly created database objects, including annotations, rubra, comments etc. A change to a parent-element will not transfer to any of its children, which means if e.g. your Default Visibility is "reader", you have to manually change all TCObjects, Texts, annotations, rubra etc. to "public" once you want to publish your text in the TLA.

Lemmatizer

The Lemmatizer allows you to set a default inflection (the program's default inflection is "3") and activate the check box "Automatically select first lemma proposal"; the latter feature allows you to navigate through the proposed lemmata via the arrow keys of your keyboard. For more information on grammatical rules see *BTS Grammar Rules* on page 102.

Project settings

Here you can choose your main working project from the drop-down menu. The field below gives you an option to select 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, to "Add All" from available to "Projects to be downloaded", and "Remove All" from "Projects to be downloaded" to "Available Projects". Next to the "Apply" button there is also a button that will restore the default settings, called "Restore Default".

Remember me

Select the check box "Remember my login credentials on startup" to be logged in automatically when starting BTS. To deactivate this function unselect the check box.

Text Editor

- "Activate mouse-over pop-ups with information on lemmata" will display the lemmatization information about the selected lemma in the Text editor upon mouse-over.
- "Show line number ruler on left side". This check box activates the line numbering (according to the BTS window) in the *Text editor*.

Sign Text Editor

Allows you to choose which elements are displayed in the lemma-boxes inside the Sign Text Editor. Additionally, the line width can be adjusted by changing the number in the "Line width in pixel" field (this function is currently unavailable).

The applied changes will be visible once the "Sign Text Editor" tab has been refreshed.

Thesaurus Settings

Here you can choose your main working thesaurus (from a project). All new thesaurus entries will be saved there. There is currently only one working thesaurus available: "Altägyptisches Wörterbuch BBAW".

Thesaurus Navigator Settings

- Check box "Ths Navigator sort by sort key". By default all database 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 database object will change its position in relation to other database objects, with "0" at the top.
- "Default Visibility" applies to all newly created database objects. It defines the Visibility Status a thesaurus entry will receive by default when it is created.
- "Default Review State" applies to all newly created database objects. Like "Default Visibility", this defines the Review State which a thesaurus entry will receive when it is created.

Restore Default

Click this button to restore the default settings.

Apply

Click here to confirm your changes.

OK

Confirms your changes and closes the window.

Cancel

Closes the window without saving the changes.

EgyDsl

In the "EgyDsl" menu entry (Dsl = Domain specific language) you can change the appearance of your BTS. This includes applying different colours and scripts, as well as importing and editing templates.

1. Syntax Coloring

This feature does not work in the current version.

2. Templates

This window allows you to create templates to make the input of transliteration easier. For example, you can define short cuts for line counts etc. While transliterating, right-click a word and select "Content assist"; your template will be displayed at the end of the list. Double click the template and it will be automatically inserted into the text. For a detailed description see the chapter *Templates* on page 45.

New...

Displays a pop-up window with the following options:

- Name: Enter the name of the template (this is not the output that the template will give, only a label).
- Context: Choose the context where your template can be used. E.g. while your mouse is position inside a word in a text, the Content Assist will only allow you to use templates that have the context "WordPart". There are only two options you should use here:
  - SentenceItem: For templates inside a sentence.
  - WordPart: For templates inside a word.
- Automatically insert: This function is currently unavailable.
- Description: Enter an explanation of your template (optional).
- Pattern: Enter the text you want your template to insert; i.e. the input you enter here will appear in your text after clicking on this template in the Content Assist during transliteration. You can use the button "Insert Variable..." to insert predefined states e.g. brackets etc. into your template.

Edit

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

Remove

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

Restore Removed

Currently unavailable.

Revert to Default

Currently unavailable.

Import

If you have a previously made template (.xml) file, click this button to locate it in your browser, click the file and press "open" to import the template into BTS.

Export

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

Restore Default

Click this button to delete all templates from the list.

Apply

Click here to confirm your changes.

OK

Confirms your changes and closes the window.

Cancel

Closes the window without saving the changes.

Opening Futon

This menu item is only available to users with administrator rights.

Futon is a web-based Graphic User Interface (GUI) which provides a basic interface to the majority of the functionality of CouchDB. This is a "backdoor" to the 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.

For details see: http://docs.couchdb.org/en/1.6.1/intro/futon.html

Opening ES Graphic User Interface

This menu item is only available to users with administrator rights.

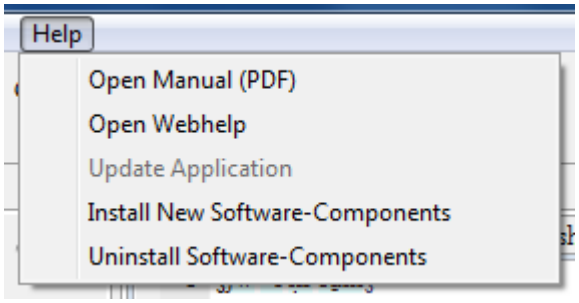
It opens the "Elastic Search" Graphic User Interface (GUI) with your standard internet browser, allowing you to see the "backdoor" of the queries done in BTS.

For details see: https://github.com/jettro/elasticsearch-gui

Changing your Password

This function is currently unavailable and should not be used.

Help



Open Manual (PDF)

Clicking on this will open a PDF version of the user manual.

Open Webhelp

Clicking on this will open a HTML version of the user manual.

Update Application

Searches for available software updates.

Install New Software-Components

Select software to add to your BTS.

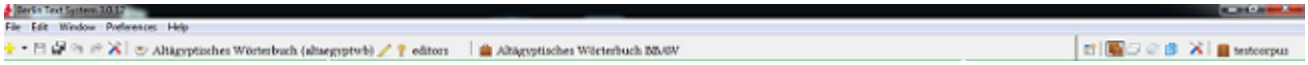
Uninstall Software-Components

Click on this to see which parts of the software are currently installed. Select a specific path and click "Uninstall" at the bottom of this window to uninstall those parts of the program.

NOTE: This does not uninstall BTS. To do this you have to delete all files from the installation path manually (see *Update/Uninstall BTS* on page 8).

Toolbar

The Tool bar displays several icons; tool-tips appear upon mouse-over.



New

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

Here you can choose between creating a new corpus, a text corpus object, a text, or an annotation. If you do not select a corpus in the Navigator window beforehand, the options in this context menu will be disabled.

Save

Save the changes you made in the current active window or tab. If you have not made any new changes to the database object, this icon will be inactive (grey). If you attempt to close the program, a window will ask you to save any changes which have not already been manually saved.

NOTE: There is no auto-save function in BTS; the program will automatically save your file when you click on another database object, but make sure you also manually save your work regularly to avoid data loss!

Save all

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

Undo (Ctrl+Z)

Undo the last action(s). The Undo-button only applies to changes in the Text Editor and can only undo actions which you have done during the current session. Once you have switched to another database object, this feature will no longer be available. Newly created database objects cannot be deleted by using this button.

Redo

Reverse the last "undone" action; this only applies to changes in the Text Editor.

Preferences

This option is available in two places on the Toolbar (left and right) and leads to Preferences (see *Preferences* on page 62).

Next to the cup icon is the name of the current user. Next to pencil and key icons is this user's role in the selected corpus/database object; the default role is "Guest" until you select a corpus/database object.

displays the name of the current project.

Open Perspective...

A pop-up window will appear with the list of the four possible Workspace Views (Text Corpus, Lemma, Thesaurus, and Abstract Text). Select the appropriate View and confirm with "OK" to open it.

You can also open the *Text Corpus*, *Lemma*, *Thesaurus*, and *Abstract Text* Views by clicking on their respective icons located on the righthand side of the Toolbar.

NOTE: The Abstract Text view is currently unavailable. In the future it will compile the different witnesses of a single text (e.g. Sinuhe) by e.g. displaying the concordance of paragraphs. The metadata concerning the "abstract text" can be entered in this View, e.g. the bibliographical references for each witness.

To the right of the icon you can see your main working corpus. When you start BTS "No Corpus" is displayed. To set your main working corpus, click on the Preferences icon and go to *Corpus Settings*.

Status bar

The status bar is located at the bottom of the BTS program.


The position of the currently selected database object in the Navigator tree is displayed to the right of this icon.


To the right of this icon, is a status message detailing, e.g. the position of your cursor in a selected text (line number, column (= position in line), unicode) or the number of database objects which have been suppressed because you do not have the necessary rights to see them. Clicking on the icon will display a window with the last 25 status messages.

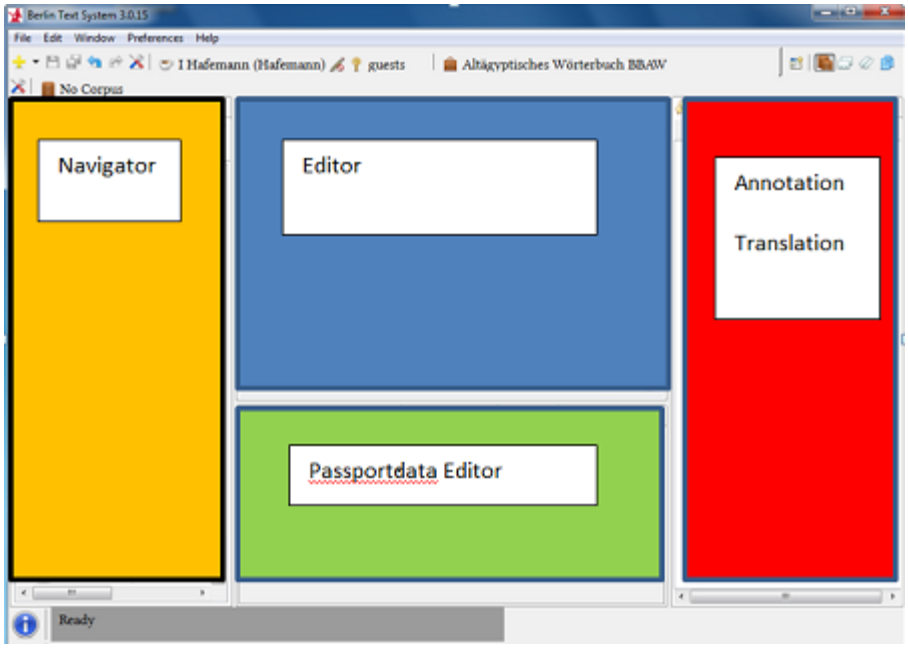
Workspace

The workspace is a central part of the BTS User Interface, and is located between the toolbar and the Status bar. The contents of windows and the tabs change according to which of the four different working Views you are in: the Text Corpus View, the Lemma View, the Thesaurus View, and the Abstract Text View. You can switch between these four Views via the five icons on the righthand side of the Toolbar or via the pulldown menu "Window" in the Menu bar.

The Workspace normally has the same subtabs in all four Views:

- Left: Navigator (yellow)
- Top Middle: Editor (blue) - not available in Thesaurus View

- Top Middle: Passport Data Editor (green)
- Right: Annotation and Translation (red) - Translation only available in Text Corpus View



Common features

The BTS Workspace consists of dynamic windows, which can be maximized/minimized or dragged out of the main BTS program window. Each window can contain multiple tabs, which can be moved from one window to another, or opened in a separate window.

Sub-tabs cannot be moved independently of the tab to which they are assigned. For example, the "Passport Data Editor" tab can be grouped together with the "Annotations"/"Translation" tabs, or it can be dragged out of the BTS User Interface into a separate window; however, the sub-tabs of "Passport Data Editor" (Main, Relation, IDs etc.) cannot be moved separately. The resulting arrangement will be saved for the current View mode, but restarting the program will undo these changes and restore the default window arrangement. See also *Introduction to the BTS User Interface* on page 15.

NOTE: When you remove the last window from the main program window, all windows will disappear. You will need to restart BTS to restore the windows.

The icons common to all windows are as follows:

▭ minimizes a window (and places the window's icon on the icon bar on the left- or righthand side of the Workspace).

▢ maximizes a window. All other windows are automatically minimized.

❐ restores a window to the default (non-maximized/-minimized) view.

☒ closes a window. If you close a window, you can restore it via the dropdown menu "Window" in the toolbar or by restarting BTS.

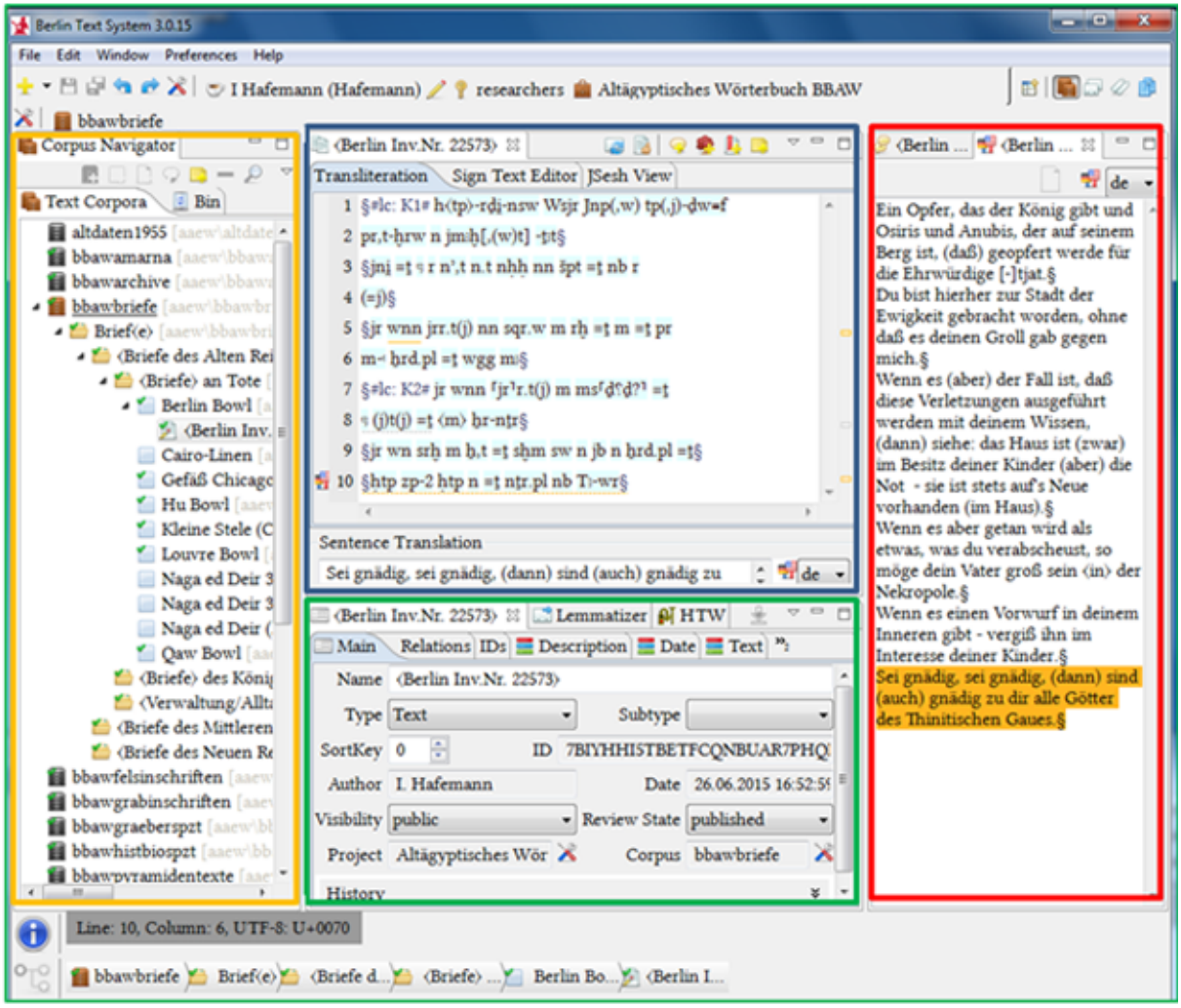
Text Corpus View

Text Corpus is the default View of the BTS Workspace. Here you can add, organize, and rearrange database objects in the Corpus Navigator tree. You can work on Text Corpus Objects (TCObjects) and Texts, including editing transliteration, translation, lemmatization, hieroglyphs, and their metadata.

This chapter provides a general description of the Text Corpus Workspace. For step-by-step instructions on how to enter a new text see *General user guide: How to edit a text* on page 15.

The content, structure, and functions of the four windows are as follows:

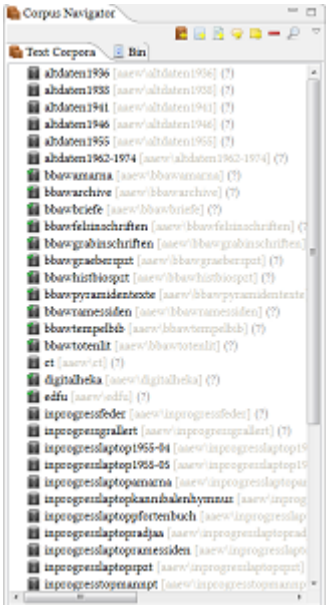
- "Corpus Navigator" window (**yellow**) on the left: Use this to navigate in the Corpus Navigator Tree and organize database objects.
- "Text Editor" window (**blue**) in the top center: There are three subtabs: (1) Transliteration (with a field for language selection), (2) Sign Text Editor, and (3) JSesh View.
- "Passport Data Editor", "Lemmatizer", and "Hieroglyphic Type Writer" (**green**) tabs are grouped in one window in the bottom center; each tab has its own sub-tabs.
- "Annotation and Translation" window (**red**) on the right: Use this to annotate words or parts of the texts, noting different linguistic and metalinguistical properties and comments. You can also show a whole "Text Translation" in this window.



NOTE: In the default view, even though some of the tabs, e.g. "Passport Data Editor", "Lemmatizer", and "HTW", are grouped together into one window, they can be rearranged and moved independently. As soon as you select a TCObject or a Text in the Corpus Navigator, the titles of these tabs as well as those of the "Text editor", "Annotation", and "Text Translation" tabs will change to the name of that database object.

Corpus Navigator

The Corpus Navigator tab is located on the lefthand side of the Text Corpus View. Here you can see the position of the text in the Corpus Navigator tree, which is arranged hierarchically. You can navigate through the Tree by clicking on the database objects or via the "up" and "down" arrow keys on your keyboard, using the "right" and "left" arrows to expand/close an entry in the Tree (called a node). Only one text can be open at a time in the Text Editor.



Next to its name, the physical save location of the database object is displayed in square brackets. The number of elements it contains is shown afterwards in round brackets.

(brown) notes any active corpus in the Tree, for which you have the Updater or Reader status.

(black) notes any other corpus which the user has the user right to see (but not edit etc.).

There is the option to filter the Navigator Tree to e.g. only show active corpora, for further details see below. For activating and deactivating corpora use the Corpus Settings, see *Preferences* on page 43.

Corpus Navigator has two sub-tabs: "Text Corpora" and "Bin". When you open a search dialogue, a third tab will appear with the results of that search. The tab "Text Corpora" is activated by default. In the "Bin" tab you can find your deleted Texts and TCObjects. Please note that opening the "Bin" tab can take up to a minute to load when you first click on it after installing BTS; afterwards it should work much faster.

At the top of the Corpus Navigator there are several buttons. Two of them, and , are also available in other windows, see *Common features* on page 69.

Corpus Navigator-specific buttons are the following:

Create New Text Corpus

Click to create a new corpus (only available to administrators).

Add Text Corpus Object

Adds a "child" (a lower level) element to the currently selected database object. It receives a default title "BTSTC Object"; select the newly created element by clicking it and use the Passport Editor to rename it and enter its metadata.

NOTE: The child-element is physically saved into your main working corpus, while its location in the Navigator Tree is determined by its relationships with other database objects.

 Add Text

Adds a Text as a child-element to the selected database object. It is called "BTS Text" until you rename it in the Passport Editor.

NOTE: The physical location where the child element is saved is the main working corpus you chose in the *Preference Settings*.

 Add Annotation

Adds an annotation to the selected node.

 Add Comment

Adds a comment to the selected node.

 Delete

Deletes the selected database object from the Corpus Navigator tree and moves it into the "Bin" tab. In the Bin you can either restore it or permanently delete it by right-clicking and selecting the appropriate option. Note that you are only allowed to delete your own database objects, texts etc.

NOTE: This only deletes the selected database object. All child-elements (e.g. Subtexts, Annotations, Comments, Rubra, Glosses etc.) remain in the database as "Orphans" and are still accessible via the Search Dialogue. If you want to delete both a parent node and its children, you have to delete all child-elements before deleting the respective parent database object.

 Open Simple Search Dialogue

Opens a search dialogue, which allows you to search for specific database objects, phrases. etc.

Drop-down menu " **"**

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

- Delete Permanently: Use this option to delete an item permanently (i.e. it will not be moved to the Bin). Clicking on "Delete Permanently" will open a confirmation dialogue.
- Restore: Click to restore an item from the Bin.
- Move Object among Projects: Allows you to change the physical location of the given database object and move it to another corpus. Only Editors and Administrators are allowed to do this.
- Open Conflict Dialog: If two users work simultaneously on the same database object, it is possible that they produce different versions of the database object at the same time. The conflict dialogue solves the problem of which version is the preferred one (see *Edit* on page 61).
- Open Revision History: See *Edit* on page 61.
- Edit Updaters/Readers: See *Edit* on page 61.
- Filter: Allows you to filter the corpora in the Navigator Tree:
  - Filter by Project/Creator/Updaters/Review Status/Visibility/Types by clicking the relevant check boxes; to undo the filter, unselect the checkboxes.
  - Only active text corpora: Displays only active corpora, marked by .
  - Filter only invalid texts: Displays all texts that do not comply with the formal system grammar.
  - Filter only incomplete texts: Displays all texts, for which either lemmatization, encoding of inflection, hieroglyphs, or translation have not been entered at all or incompletely.

Icons in the Corpus Navigator tree

There are several icons that represent different types of database object in the Corpus Navigator Tree. These are combined with smaller ones to define the Review State or to provide a warning:

- **Caption:** The Caption is used to group a set of physical objects under one heading for pragmatic reasons (e.g. the stelae from Kawa or the medical papyri).
- **Group:** A Group defines a number of physical objects which belong together for geographic reasons (e.g. the graves of a specific cemetery like the Eastern Cemetery at Giza, or an papyrus archive like the Abusir Papyri).
- **Arrangement:** An arrangement defines a closed association of finds (e.g. the objects from the tomb of Tutankhamun or the objects from a foundation deposit).
- **Scene:** This is an obsolete entry that was used for data imported from the previous project. Do not use it.
- **TCObject:** The Text Corpus Object is the physical ancient Egyptian artefact which bears your text (e.g. the Papyrus Harris 500 or the sphinx stele of Thutmose IV.).
- **ObjectPart:** ObjectPart is hierarchically subordinated to TCObject. Use it when the carrier of your text consists of more than one physical artefact (e.g. a statue and its base, or several parts of a building).
- **Text:** A Text is defined as a coherent entity. Your physical artefact might contain several texts, e.g. Papyrus Harris 500 contains "The Doomed Prince", "The Taking of Joppe" etc. Each of these tales/poems receives its own database object "Text", which are then subordinated to the TCObject "Papyrus Harris 500. The order of these Texts within the physical artefact can be indicated by changing their SortKeys.
- **Subtext:** Subtexts are parts of the same text that are related to each other but lack a defined order of reading (e.g. different persons and their respective inscriptions on a relief; the relief would be the TCObject, and the inscriptions its Subtexts).

The review state is displayed as follows, these icons are combined with the icons above:

- new
- awaiting review
- awaiting update
- reviewed/published

These icons mark warnings in combination with the icons above:

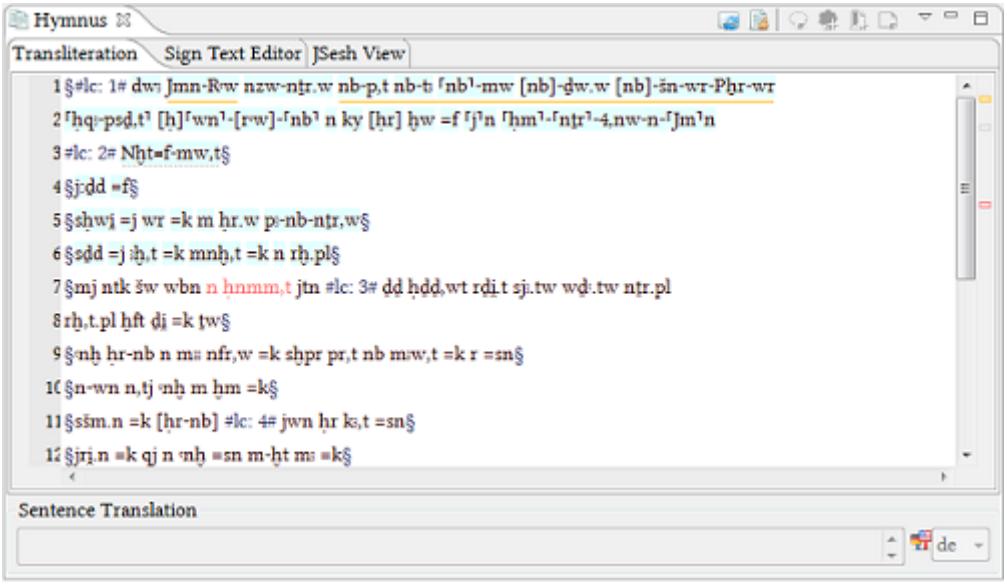
- : This marks a conflict between versions.
- : This marks that another user is currently working on this database object. Please try not to work on a database object that is already in use.
- The pen marks the database object which you are currently working on.

Text Editor

The Text Editor window is located in the top middle of the Text Corpus View. It allows you to create digital editions of Texts and Subtexts in BTS format. The Text editor is only active after you have selected a Text/Subtext in the Text Corpus Navigator. In the Text Editor you can transliterate your Text/Subtext (via the Transliteration tab), translate it sentence by sentence (in the Translation field), and enrich your transliteration with hieroglyphs (via the HTW tab). The Sign Text Editor displays a detailed view of every token (word) in your transliteration and is used with the Lemmatizer during lemmatization.

This chapter provides a general description of the window. For step-by-step instructions of how to enter a new Text see *Editing a text* on page 20.

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



Transliteration

Here you can enter or modify the transliteration of the text. Please be aware of the *BTS Grammar Rules*; incorrectly entered text will trigger an error, underlined in red and marked by a red square on the righthand margin.

Sign Text Editor

The "Sign-Text-Editor" provides the tokenized presentation of the text, with each token in a separate box. Initially only the transliteration is displayed there; the Lemma ID, inflection code, Lemma Translation, and hieroglyphs of each token can be made visible by changing your preferences via the Menu bar: "Preferences"/"Preferences"/"Berlin Text System General"/"Text Editor"/"Sign Text Editor".

Hieroglyphs can be added in the  "Hieroglyph Type Writer" tab. The hieroglyphic values entered here are automatically added to their respective tokens in the "Sign-Text-Editor" sub-tab. The same addition occurs when you ascribe a lemma number and inflection code to each token after successful lemmatization.

JSesh View

Displays a the complete hieroglyphic version of your text (similar to the full "Text Translation" tab in the "Annotation and Translation" window). A "dot" marks the end of the sentences, as separated in the "Transliteration" and "Sign Text Editor" tabs with "§" signs. Due to technical reasons, longer texts cannot be properly displayed yet.

Toolbar of the Text Editor

There are several buttons in the Toolbar above the "Text-Editor" window, which can be used in all three of the tabs ("Transliteration", "Sign Text Editor", and "JSesh View"). We recommend only using these buttons in the "Transliteration" tab, as we cannot guarantee that they will work properly in the other tabs.

 **Load Text Lemmata**

Click this button once you have finished transliterating your text; it will tokenize your words and apply the sentence borders so that you can add a translation, lemmatize the words, and transcribe the hieroglyphs in the next steps.

NOTE: This does not save your transliteration.

 **Check Text Lemmata, Flexcodes...**

Checks how complete a text's lemmatization, translation, and hieroglyphic transcription is.

Add Annotation

Adds an *Annotation* to the part of your text currently highlighted by your mouse. This part will then be underlined with a grey dotted line.

Add Rubrum

The active token(s) is marked as a rubrum and will appear red in the text.

Add Glosses

Adds a gloss as a child-element of your text, which you can then edit separately.

Add Comment

Adds a comment to the part of your text currently highlighted by your mouse. This part will then be underlined in yellow.

You can also access these functions via the drop-down menu which appears when you click on the arrow on the righthand side of the window.

Additionally, when an annotation, rubrum, and comment is created, a small rectangle will appear on the right margin of the Text-Editor with the corresponding colour (grey/red/yellow). Clicking on the rectangle will bring you to the relevant part of the text.

Sentence translation

At the bottom of the Text Editor there is a field where you can enter a translation of each sentence. This is deactivated until you either select a lemma in the Text Editor or click somewhere in a sentence, and until you press "Load Text Lemmata". Remember to switch the keyboard layout from "AAeW" back to standard when you enter your translation.

The translation can be entered and modified in all three tabs "Transliteration", "Sign Text Editor", and "JSesh View".

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

Passport Editor

The Passport Editor is located in the bottom middle of the Text Corpus View. It contains the metadata of the selected database object. It is divided into different subsections which are organized in tabs. These categories vary depending on the type of the database object, i.e. TCObjects have different tabs compared to Texts.

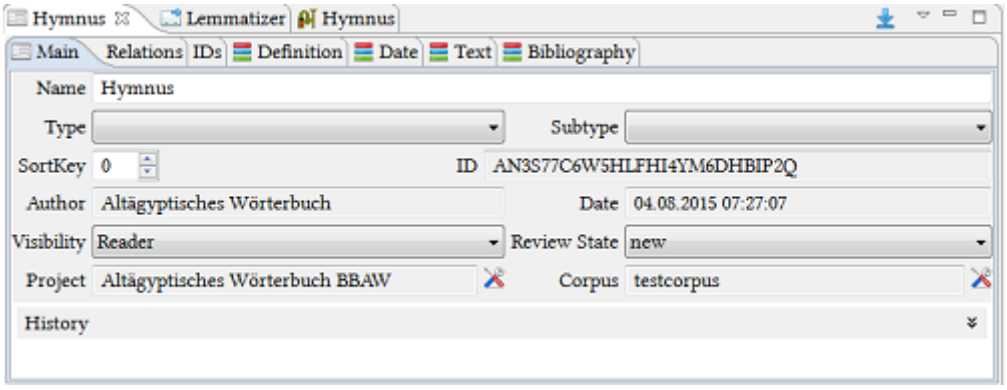
If you are working on a child-element and want it to have the same metadata as the parent-element, click "Inherit Passport Data" in the top right corner of the Passport Editor. Note that the parent data will only be copied into empty fields of the child-element; if the fields were already filled out, their content will not be changed.

The option "Inherit Overwrite Passport Data", available via the drop-down menu " ", allows you to overwrite the already existing metadata of the child-element with the metadata of the parent-element.

NOTE: Both inheritance procedures apply to all tabs at once, not just the active one.

NOTE: Make sure that all entered metadata is correct, otherwise you might inherit errors in the child-elements.

NOTE: The inheritance functions cannot be undone.



Main

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

- **Name:** Enter or change the name of your TCObject or Text. Anything between < and > will not appear in the pathfinder.
- **Type:** Choose a type (e.g. TCObject, ObjectPart, Text, Subtext, etc.). For the definition of the types see *Creating and modifying a database object (Text Corpus Object and Text)* on page 16.
- **Subtype:** This field should not be used.
- **SortKey:** By default, all database objects on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a "SortKey" in the Passport data of a database object will change its position in relation to other database objects, with "0" at the top.

  NOTE: If your database object is in a polyhierarchical position, changes in the Sortkey apply to all of its relationships.
- **ID:** Displays the ID of the database object, which is generated automatically by BTS and cannot be changed.
- **Author:** Displays the author (i.e. creator) of the database object, which is assigned automatically.
- **Date:** Displays the date of creation of the database object, which is assigned automatically.
- **Visibility:** Define or change who can see the database object (public, project, group, reader, or all_authenticated). See also *Description of User roles* on page 10.
- **Review State:** Define or change the Review State of the database object (published, reviewed, awaiting-update, awaiting-review, new, or transformed awaiting update).
- **Project and Corpus:** This field displays the name of the project or corpus in which your database object is saved. By clicking on you can move the database object to another project/corpus. You can only move the corpora or projects for which you have the necessary rights. Note that only the physical save location of an object will change (shown in the Navigator tree in square brackets after the database object's name), and not its position in the hierarchical tree. (If you want to change the position of an item in the hierarchical tree then you have to change the relationships of that database object. See *Relations* on page 76 below.)
- **History:** Click to see all historic changes to the selected database object. Information includes the username of the editor and the date of that version. To close this information, change to another "Corpus Navigator" object. To restore a previous version of a database object, use the "Open Revision History" function (see *Revision History/ Conflict Dialogue* on page 49).

Relations

The Relations tab gives information on the relationships between the database objects. The default setting is the relationship between the selected database object and its parent database object/corpus ("Part of"). BTS supports polyhierarchies, meaning that database objects can have more than one parent-element; this allows different viewing rights for the same database object.

Relation

Choose an option from the drop-down menu:

- PartOf: Your current item is part of another item (i.e. it is a child-element).
- 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. You will use them in the Lemma View.

Object: Displays the name of the database object which your current database object has a relationship with. You cannot enter text into this field but can use the search function described below.

Search Object: Search for the database object you want to establish a relation with. The search may take a few seconds before the results are displayed.

Open Object in Passport Editor: Displays the passport data of the related database object.

Add Relation: Click it to add more relationships for your database object. BTS allows polyhierarchy; one item can have more than one parent-element. Related items do not have to belong to the same corpus.

Remove Widget: This removes a relationship from your database object.

NOTE: If the last relation is removed, the database object will remain in the database as an "Orphan" and is still accessible via the Search Dialogue.

NOTE: If a database object has more than one relation, it is displayed in each respective position in the Navigator Tree (along with all of its child-elements). This does not mean that the database object has been duplicated as the physical save location of a database object is separate from its relationships. To delete one of these relationships, use the "Remove Widget" button in the Relation tab. Do not delete the database object itself, unless you want to permanently remove it from display in the Navigator Tree.

IDs

This tab allows you to enter external IDs of your database object to establish links with other external projects and databases. By default a button will be displayed; click it to add an external ID.

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

  If a provider you need is missing, please send a proposal to the BTS team in Berlin: aegypt1@bbaw.de.
- **Type:** Enter the type of the external ID, if appropriate.
- **External ID:** Enter the external ID.

  Example: The papyrus Oxford, Ashmolean Museum 1984-55 Ro is mentioned in the Trismegistos project: http://www.trismegistos.org/hhp/detail.php?tm=56143. Select trismegistos as the Provider, and enter 56143 as the External ID.
- **Add Identifier:** Add another link to your database object, including a "Provider", "Type", and "External ID".
- **Remove Widget:** This removes the link from the database object.

Description

This tab is used for recording your work (this is optional but advised); the fields are as follows:

- **Line count:** Explain how the text's lines are counted (this only applies to Texts).
- **Protocol:** Enter the dates of your work (e.g. when you first entered transliteration etc.); enter dates in the format: Work, DD Month YYYY.

- **Description:** Use this field to provide a more thorough definition of the (physical) object/text, for cases where its name is not sufficient. Usually this field remains blank.

  NOTE: Please still make sure that the name of the database object is sufficient to identify it and that its passport data is filled out as completely and accurately as possible.

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

Findspot

This tab allows you to enter data concerning the findspot of the ancient Egyptian artefact which bears your text.

This tab is divided into two sections: "Place" which denotes the last findspot of your artefact, and "Former Place" which denotes any past findspots of that artefact.

For example, a royal mummy from the Valley of the Kings cache would have this location as its "Place" and its original tomb as its "Former Place".

For example, the Pantheon obelisk (PM VII, 409) found in 1374 under Santa Maria sopra Minerva, re-erected in 1711 opposite the Pantheon. Therefore select, the following entries: the Place is Pantheon with a Certainty of "certain"; the Former Place is Santa Maria sopra Minerva with a Certainty of "certain"; and a second "Former Place" is Heliopolis, and as this is the objects original location you select the check box Is_Origin with a "probable" for the Certainty.

NOTE: If the artefact is in situ, then its Findspot (or at least one of the Findspots if the artefact moved around in antiquity) will be the same as its Present Location.

Place

- **Place:** Displays the name of the selected thesaurus entry (i.e. findspot) which you can choose using the search function below.
  - **Search Object:** Select the findspot from the Thesaurus.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
- **Comment:** Add a comment on the findspot.
- **is_origin:** Select this check box if this findspot is the original, ancient location of the artefact.
- **Certainty:** Choose between "Certain", "Probable", and "Uncertain". Clarify your decision in the comment field.

Former place

- **former_place:** Displays the name of the selected thesaurus entry which you can choose using the search function below.
  - **Search Object:** Select the former place from the Thesaurus.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
- **Comment:** Add a comment on the findspot.
- **is_origin:** Select this check box if the selected findspot is the original, ancient location of the artefact.
- **Certainty:** Choose between "Certain", "Probable", and "Uncertain". Clarify your decision in the comment field.

Both the "Place" and "Former Place" sections have "Add"/"Remove Entry Group" buttons which do different things depending on whether they appear to the right of a "Place" section or a "Former Place" section;

- **Add Entry Group:** In the "Place" section, this button will add another full findspot entry (i.e. with a "Place" and "Former Place" section; use this if your artefact is made up of mutliple fragments, each with their own different findspots. In the "Former Place" section, this button will only add another "Former Place", which allows you to enter multiple past locations if your artefact has changed location during its life. Thus you can enter the findspot information for fragmentary artefacts with complex findspot histories.

-  **Remove Entry Group:** In the "Place" section, this button will remove the full findspot entry (i.e. both its "Place" and "Former Place" sections), but in the "Former Place" section, this button will only remove that specific "Former Place".

Present Location

This tab allows you to enter the current location of the ancient Egyptian artefact which bears your text (i.e. is it currently in a museum or collection). This differs from the "Findspot" which is where the artefact was first discovered or located in antiquity, unless the artefact remains in situ (see below).

- **Location:** Displays the name of the selected thesaurus entry (i.e. location) which you can choose using the search function below.
  -  **Search Object:** Select the location from the Thesaurus.
  -  **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
- **Inventory Number:** Enter the museum/collection number of your artefact if known. This field can only contain one inventory number. If an artefact consists of several fragments with separate inventory numbers, you can add another field to the same entry group by using the following buttons:
  -  **Add widget:** Add another inventory number of the same artefact in the selected location.
  -  **Remove widget:** Removes the inventory number.
- **Comment:** Add a comment on the location.
- **in_situ:** Select this checkbox if the artefact is located in its original position in an archaeological site (in this case the "Present Location" and "Findspot" of an artefact would be the same).
- **is_present_location:** Select this checkbox if the selected location is the museum/collection where the artefact is currently stored.
-  **Add Entry Group:** Add another full "Location" section. Use this if the artefact was formerly stored in another museum/collection.
-  **Remove Entry Group:** Removes the entry group or clears the entry fields if there is only one entry group.

Date

This tab allows you to define the dating of the selected database object.

- **Date:** Displays the name of the selected thesaurus entry (i.e. date) which can be chosen using the search function below.
-  **Search Object:** Select the date from the Thesaurus.
-  **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
-  **Add widget:** Add another date to the artefact. This feature makes "from-to" dating possible (e.g. if your artefact dates to Dynasties 5-6); use the first date field for the earlier date and the second date field for the later date.
-  **Remove widget:** Removes the date.
- **Comment:** Add a comment on the date.
-  **Add Entry Group:** Add another full "date" section. This feature shows "either-or" dating (e.g. if your object dates either to the Old Kingdom or to the Late Period); use the first date section for the earlier date and the second date section for the later date.

-  **Remove Entry Group:** Removes the entry group or clears the entry fields if there is the only entry group.

  NOTE: Both types of dating systems can be used simultaneously, through combinations of Widgets and/or Entry Groups.

Object

This tab allows you to define the type of your artefact; this only applies to Text Corpus Objects (TCObjects).

This tab is divided into three parts: "Description of Object", "Technical Details", and "Archaeological and Cultural Context of Object". Each of these parts has a "Comment" field where explanatory information can be entered.

Description of Object

- **Type of Object:** Displays the name of the selected thesaurus entry (i.e. type) which can be chosen using the search function below.
  - **Search Object:** Select the type of your artefact from the Thesaurus (e.g. "Schriftrolle" for a scroll).
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
- **Object is component:** Displays the name of the selected thesaurus entry (i.e. the composite artefact) which can be chosen using the search function below.
  - **Search Object:** Use this option if your artefact is a part of another artefact. E.g. if you have a "lid" which is a component of a "coffin".
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
- **Owner:** Displays the name of the selected thesaurus entry (i.e. owner) which can be chosen using the search function below.
  - **Search Object:** Select the "owner" from the thesaurus; the owner is the agent of a social action (in sociological terms) and is organised here into social groups, e.g. if you have a private tomb, select "Privatmann" for its owner.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
- **Description:** Enter a description of the object.
- **Comment:** Allows you to write a comment on the object.

There are also **four check boxes** available. Select all those that apply to your artefact:

- **Model**
- **Imitation**
- **Miniature**
- **Skeuomorph**

Technical Details

- **Material:** Displays the name of the selected thesaurus entry (i.e. material) which can be chosen using the search function below.
  - **Search Object:** Select the material of your artefact from the Thesaurus.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
  - **Add widget:** Add another entry field, if your artefact is made out of different materials.
  - **Remove widget:** Removes the entry.
- **Dimensions:** Enter the size of your artefact (height, width, and length) in cm, dividing the decimals with a dot (not with a comma). If your artefact is 3-Dimensional, enter measurements from the frontal perspective.

- **Condition:** Displays the name of the selected thesaurus entry (i.e. condition) which can be chosen using the search function below.
  - **Search Object:** Select the condition of your artefact from the Thesaurus.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
- **Technique:** Displays the name of the selected thesaurus entry (i.e. manufacturing technique) which can be chosen using the search function below.
  - **Search Object:** Select the manufacturing technique of your artefact from the Thesaurus.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
  - **Add widget:** Add another entry field, if different techniques were used to produce your artefact.
  - **Remove widget:** Removes the entry.
- **Comment:** Add a comment on your artefact's technical details.

Archaeological and Cultural Context of Object

- **Grouping:** Displays the name of the selected thesaurus entry (i.e. archaeological context) which can be chosen using the search function below.
  - **Search Object:** Select the grouping of your artefact from the Thesaurus, e.g. if your artefact is grouped together with other artefacts in an archive.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
- **Cultural Context:** Displays the name of the selected thesaurus entry (i.e. cultural context) which can be chosen using the search function below.
  - **Search Object:** Select the cultural context of your artefact from the Thesaurus.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
  - **Add widget:** Add another entry field, if your artefact belongs to more than one cultural context., e.g. if your artefact was used in a ritual context, choose "Ritual".
  - **Remove widget:** Removes the entry.
- **Comment:** Add a comment on the cultural context of your artefact.

Text

The Text tab allows you to enter the metadata of your text (this only applies to Texts, Subtexts, and Glosses).

- **Secondary Inscription:** Select the check box, if your text is a secondary inscription, e.g. a graffito.
- **Language:** Displays the name of the selected thesaurus entry (i.e. language) which can be chosen using the search function below.
  - **Search Object:** You may select the language from the Thesaurus. We do not recommend using this field because the language is an intrinsic feature of the text itself and not metadata like the other information you can enter into the Passport Editor. Alternatively, you can use the comment field.
  - **Open Object in Passport Editor:** Displays the Passport Data of the selected thesaurus entry.
  - **Comment:** Add a comment on the language.
- **Script:** Displays the name of the selected thesaurus entry (i.e. script) which can be chosen using the search function below.
  - **Search Object:** Select the script from the Thesaurus.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
  - **Comment:** Add a comment on the script.

- **Texttype:** Displays the name of the selected thesaurus entry (i.e. text type) which can chosen using the search function below.
  - **Search Object:** Select the text type from the Thesaurus.

    NOTE: A thesaurus for this field is currently unavailable. Please use the comment field instead.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
  - **Comment:** Add a comment on the text type.

Bibliography

Enter bibliographical information here; the tab contains:

- **Bibliographical text field:** You can manually enter the bibliographical data here. Please only use this field to enter your bibliographical information as the below feature is currently unavailable. Divide your bibliographical items with ENTER, and at the end of each item, provide the following information separated with commas and surrounded in square brackets:
  - A for squeeze ("**A**bklatsch")
  - B for bibliography ("**B**ibliography")
  - F for facsimile ("**F**aksimile")
  - H for hand copy ("**H**andkopie")
  - K for comment ("**K**ommentar")
  - L for site plan ("**L**ageplan")
  - P for photo ("**P**hoto")
  - T for transcription from Hieratic ("**T**ranskription")
  - U for transliteration ("**U**mschrift")
  - Ü for translation ("**Ü**bersetzung")
  - The asterisk (*) marks the main reference you have used for your BTS edition.

  Examples:

  - D. Bidoli, in: MDAIK 28, 1973, 193-200 [P, Ü, K]
  - R. Drenkhahn, Die Elephantine-Stele des Sethnacht und ihr historischer Hintergrund, ÄA 36, 1980 [P, A, Ü, K]
  - H. Altenmüller, in: JEA 1982, 107-115 [Ü, K]
  - J. Murnane, in: CdE 58, 1983, 133-135 [K]
  - KRI V, 671-672 [*H]
  - F. Junge, Elephantine XI, AV 49, 1987, 55-58 [*P, Ü, K]
- **Bibliographical entry:** This feature is currently unavailable.
  - **Bib. Item:** Displays the name of the selected thesaurus entry (i.e. bibliographical item) which can be chosen using the search function below.
  - **Search Object:** You can select the bibliographical item from the Thesaurus.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
  - **Pages/plates:** Enter the pages/plate numbers for the bibliographical item and select the appropriate check boxes (see above).
  - **Comment:** Use this to comment on your bibliographical reference.
  - **Add Entry Group:** Add an additional bibliographical reference.
  - **Remove Entry Group:** Delete a bibliographiccal reference.

NOTE: The bibliographical thesaurus does not exist yet. Please use the "Bibliographical text field" instead.

Synonyms

This tab allows you to enter synonyms of the "Name" of the database object.

- **Synonym:** Enter a synonym of the "Name" of the database object in the Main tab.
- **Language:** Select the language of the synonym from the drop-down menu.
- **Add Entry Group:** Add another synonym in the same or another language. You can add as many synonyms as required.
- **Remove Entry Group:** Removes the synonym.

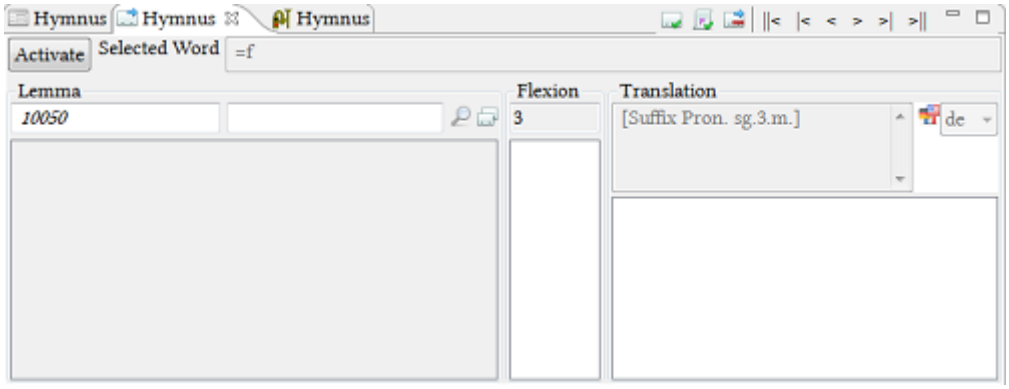
Example: Add the synonym "Eloquent Peasant" with the language "en" (English) to your text named "Der Beredte Bauer".

Lemmatizer

The Lemmatizer tab is used to reference a token (transliterated word) to its respective lemma entry in the Lemma list. It has several fields and a toolbar. Using the Lemmatizer is the most important step for enabling subsequent lexical searches in the database, the creation of word indexes, and other lexical analyses.

NOTE: You can only use the lemmatizer if the Sign Text Editor tab is open.

NOTE: After selecting the Lemmatizer tab or a text in the Text Corpus Navigator, the name of the lemmatizer will change to that of the selected text. Move your cursor over the tab header to see its original name.



- Activate: Click this button to activate the lemmatization (the button will turn blue), click it again to deactivate it once you are finished lemmatizing (the button will turn grey).

Text input fields

- **Selected Word**

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

  NOTE: Changing the transliteration in this field also changes your transliteration in the Text Editor.

- **Lemma**

  The section Lemma in the bottom left is composed of three fields. The Lemma-list is automatically generated based on the entry in the "Selected Word" field. Selecting a lemma from the list will display its ID "Word Corpus Number" in the Lemma field. The standard transliteration of the lemma is displayed in the field to the right of the ID.

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

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

- **Flexicon and Translation**

  The section **Flexicon** (bottom middle) and **Translation** (bottom right) 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; note this feature is not yet available for inflection) or manually entered (upper text box). Make sure you select the correct language for your translation by using the button on the right .

Toolbar

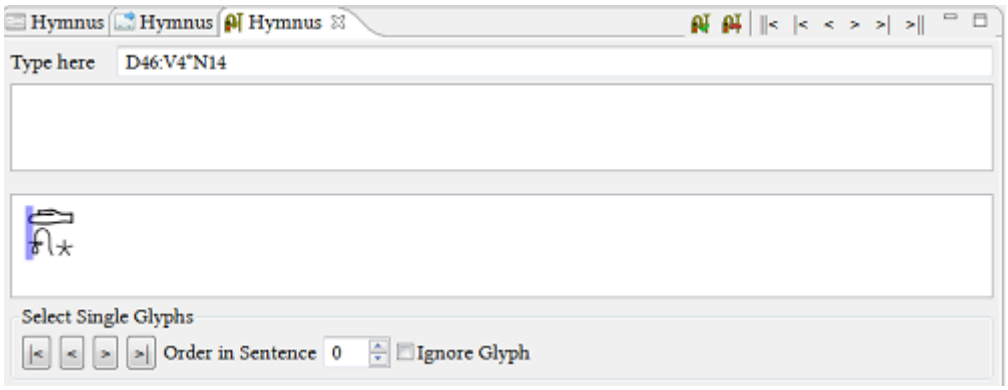
- Confirm current lemma editing and continue to the next unlemmatized word.
- Confirm current lemma editing and continue to next un-inflected word (i.e. the next lemma where the inflection code is the default value, which you can set in Preferences).
- Remove lemma information.
- Move to the beginning of the document.
- Move to the beginning of the sentence.
- Move to the previous word.
- Move to the next word.
- Move to the end of the sentence.
- Move to the end of the document.

Hieroglyph Type Writer (HTW)

The HTW tab allows you to enter or edit hieroglyphs for any transliterated text in the "Sign-Text-Editor". It is located by default in the lower part of the BTS UI, next to the Passport Editor and the Lemmatizer.

Note: After selecting the HTW tab or a text in the Text Corpus Navigator, the name of the HTW tab will change to that of the selected text. Move your cursor over the tab header to see its original name.

In order to use the HTW, you first need to open the "Sign Text Editor" and select the relevant token which needs hieroglyphs.



The HTW consists of the following sections:

Type here

Enter the hieroglyphs sign by sign using either the Gardiner codes or "Manuel de Codage" transcription of the token selected in the Sign Text Editor above. The field immediately below the "Type here" field will present various options to select from based on your input in "Type here".

Select and confirm each sign by pressing "CTRL" + the number (marked in red next to the respective sign) or, if the first option is the right one, then simply finish entering the number manually and continue after a hyphen with the next hieroglyph (the first option is selected by default). The second field at the bottom displays the hieroglyphic writing of the token. After confirming, this writing will appear within the selected token box in the "Sign Text Editor".

Select Single Glyphs

If you have an inverted writing of a token, use this feature to mark a single hieroglyph and assign a different position to it in the sentence.

- |< Move to the first sign.
- < Move to the previous sign.
- > Move to the next sign.
- >| Move to the last sign.
- Order in Sentence: Use the up/down arrows to set a number corresponding to the position of the sign in the sentence, if the suggested transcription does not correspond to the order of signs in the original manuscript.
- Ignore Glyph: Use this check box for e.g. a haplography to signal that the sign does not originally appear in the original manuscript.

Toolbar

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

 Confirm the current hieroglyphic input and continue to the next word. Pressing the "Enter" key also confirms the input.

 Remove hieroglyph data: Removes the hieroglyphic input of a token.

||< Move to the beginning of the document.

|< Move to the beginning of the line.

< Move to the previous word.

> Move to the next word.

>| Move to the end of the line.

>|| Move to the end of document.

Annotation and text translation

The annotation and text translation window is located on the righthand side of the default BTS UI in each of the four main Views.

Annotations

The Annotations tab contains the following :

Annotation

Rubrum

Comment

Glosse

Clicking on these options will display their content and the relevant part in the text will be highlighted in the "Transliteration" tab with different colours: red for rubra, yellow for comments, grey for annotations, and blue for glosses. Clicking on a specific annotation etc. will make the underlining of the relevant part of the text thicker. Additionally, for annotations, rubra, and comments, a small rectangle will appear next to the scroll bar of the Text Editor in the corresponding colour. Clicking on the rectangle will bring you to the relevant part of the text.

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

Add Current Text Selection as Reference: The selected part of the text is referenced to the current annotation, rubrum, comment, or gloss. This feature allows you to link multiple parts of text to a single annotation.

Remove Current Reference: The selected part of a text is removed from the current annotation, rubrum, comment, or gloss. This only removes the link and does not delete the annotation.

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

- Clicking on "Edit Annotation" will display the Passport Editor for annotations and rubra; each annotation has its own ID and its relationship with the chosen text is shown in the "Relations" tab.
- By clicking the "Edit Comment" button, a "Comment Editor" window will appear. You can enter or edit the title of your comment in the upper field and the content of your comment in the lower field. Below there is a section where you can see or edit the relationship of the comment to the text.

Delete: Will delete the currently selected annotation, comment, rubrum, or gloss.

Filter: Here you can filter the display, e.g. you can hide all rubra from the list or only show comments.

NOTE: When your text is loaded, BTS will load all annotations, filter them according to your filter settings, and then displays the first 40 annotations. Annotations that are not displayed will appear in the list as soon as you click on the relevant token in the Transliteration Editor.

To learn more about annotations see *Annotations, Rubra, Glosses, and Comments* on page 30.

Text translation

The "Text translation" section shows a full sentence-by-sentence translation of your text. If your translation does not appear, make sure you have selected the correct language . Sentences which have not been translated yet are marked as "## no trans: de ##§" / "## no trans: en ##§" etc. Clicking on a sentence will highlight it in the "Sign text editor", the "Transliteration" tabs, and the "Sentence translation" field. A mistake in the continuous translation can only be altered in the "Sentence translation" field, and not in the "Text translation" field.

Lemma View

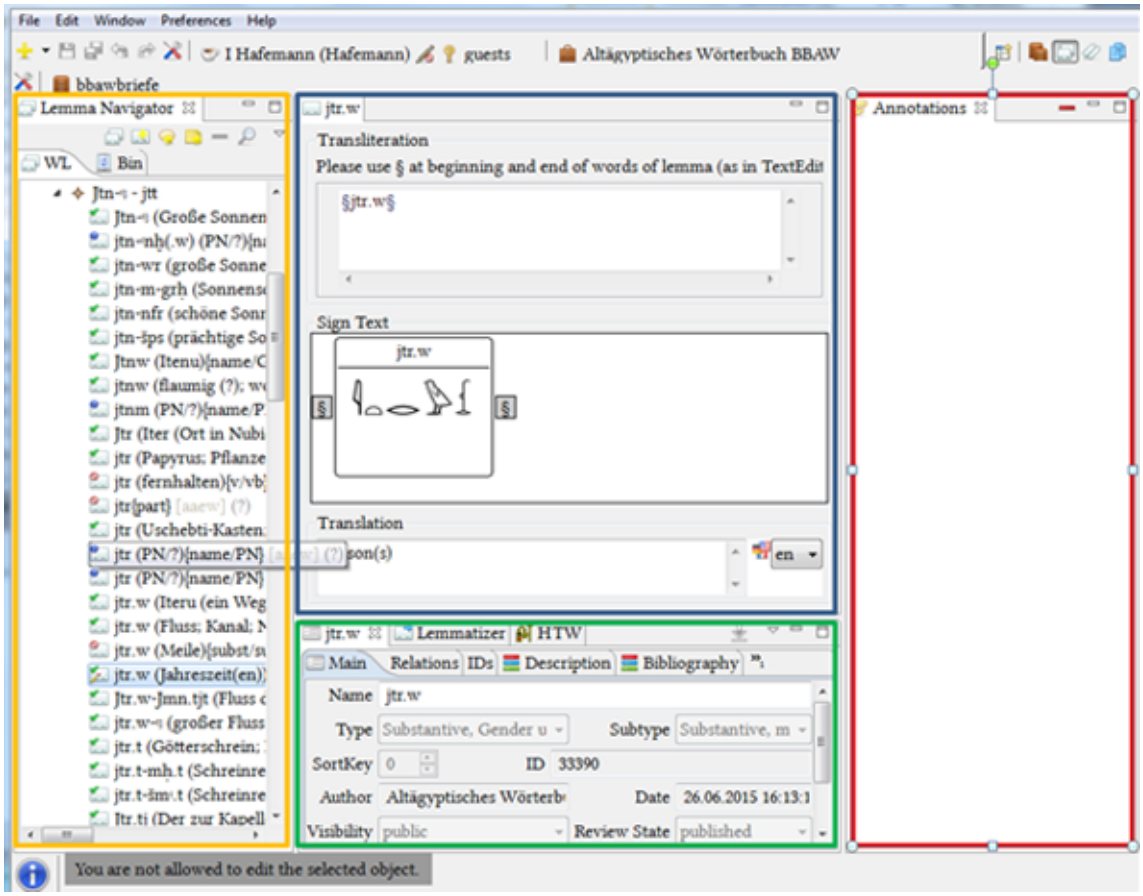
Lemma View can be activated by left-clicking the Lemma icon in the *Toolbar*. Any user can see the contents of the Lemma View, but the ability to modify it is restricted to certain *user roles*.

In the Lemma View, authorized users can add and edit lemma entries, including their transliteration, hieroglyphic spellings, and metadata.

NOTE: This chapter provides a general description of the Workspace with its windows and tabs in the Lemma View. For step-by-step instructions of how to enter or edit a new lemma, please refer to (*Creating a lemma entry* on page 55).

If a lemma entry you need is missing, please send a proposal to the BTS team: aegypt1@bbaw.de.

In the Lemma View there are four windows: Lemma Navigator, Lemma Editor, Passport Editor (including Lemmatizer and Hieroglyphic Type Writer), and Annotation.



Lemma Navigator

In the Lemma Navigator you can browse and organise the lemma entries. It is divided into two sub-tabs: "WL" (WortListe/Word List) and "Bin". Please note that loading the "Bin" tab may take up to a minute when you first open it after installing BTS; afterwards it should work 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. Entering the name of the lemma will automatically re-arrange its position in the alphabetically hierarchical tree. You may need to refresh the window.

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

Add Annotation: Adds an annotation to the selected lemma.

Add Comment: Adds a comment to the selected lemma.

Delete: This moves an entry from the WL to the Bin. Deleting entries that are in the Bin deletes them permanently.

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

WL

Here the lemmata are organised into groups in a tree. The label of a specific group shows the first and the last word in that group, sorted according to the Egyptological "alphabet". Click on a group to open its subgroups (if any), and continue until you reach the lemma root entries. Root entries can have child entries; to display these child entries simply click on the root entry.

Each lemma entry consists of an icon (indicating the Review State of the lemma, see below), transliteration, translation, word class, physical location of the database object, and the number of relationships.

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

The lemma is certain and confirmed.

The meaning of a lemma is uncertain/undefined.

The lemma is now considered to be incorrect and, when you expand this entry, the correct lemma should be displayed.

Roots

represents root entries; their Review State is indicated by the same small icons as above.

Bin

Root/child entries which have been deleted from the word list are moved to the Bin. The entries in the Bin are no longer grouped alphabetically. Deleting an item from the Bin will delete it permanently. Note the "Bin" may take some time to open after installing BTS.

Drop-down menu " ▽ "

Clicking the drop-down menu ▽ will display all the options present in the toolbar (see above) plus a few additional ones:

- Delete Permanently: Use this option to delete an item permanently (without moving it to the Bin). Clicking on "Delete Permanently" will open a confirmation dialogue.
- Restore: Restores a deleted lemma to its original position in the tree.
- Edit Updaters/Readers: Assign *user roles* for lemma entries (see *Edit* on page 61).

- Open Conflict Dialog: If two users work simultaneously on a database object, it is possible that they produce different versions of that database object at the same time. The conflict dialogue solves the problem of which version is the preferred one (see *Edit* on page 61).
- Open Revision History: Opens a list of the historic changes to the selected lemma (see *Edit* on page 61).
- Filter: Apply different filters to the available lemma list:
  - Filter by Project/Creator/Updaters/Review Status/Visibility/Types by clicking the relevant check boxes. To undo the filter, deselect the check boxes.
  - Filter only invalid Lemmata: This displays all lemma that do not follow the formal system grammar.

Lemma Editor

The Lemma Editor is located in the top centre of the Workspace when the Lemma View is active. It contains three sections:

Transliteration

The lemma Transliteration section is identical to that in the *Text Editor*. Transliterate the lemma in this field, making sure to enclose the lemma with the "§" signs ("§" marks the beginning and the end of the lemma), otherwise it will not be valid.

Sign-Text

In the Sign-Text section every lemma appears as a single entity, regardless of whether it is has multiple words or not. This means that you can sub-lemmatize every part of a lemma, in addition to the whole lemma itself.

Translation

Enter the translation for the lemma into this field. Select the language of your translation by left-clicking the drop-down menu marked by .

Passport Editor

The Passport Editor section is located in the bottom centre of the Text Corpus View. It contains the metadata of the selected database object, divided into different subsections (tabs). These categories vary depending on the type of the database object: Text Corpus Objects (TCObjects) have different tabs compared to Texts.

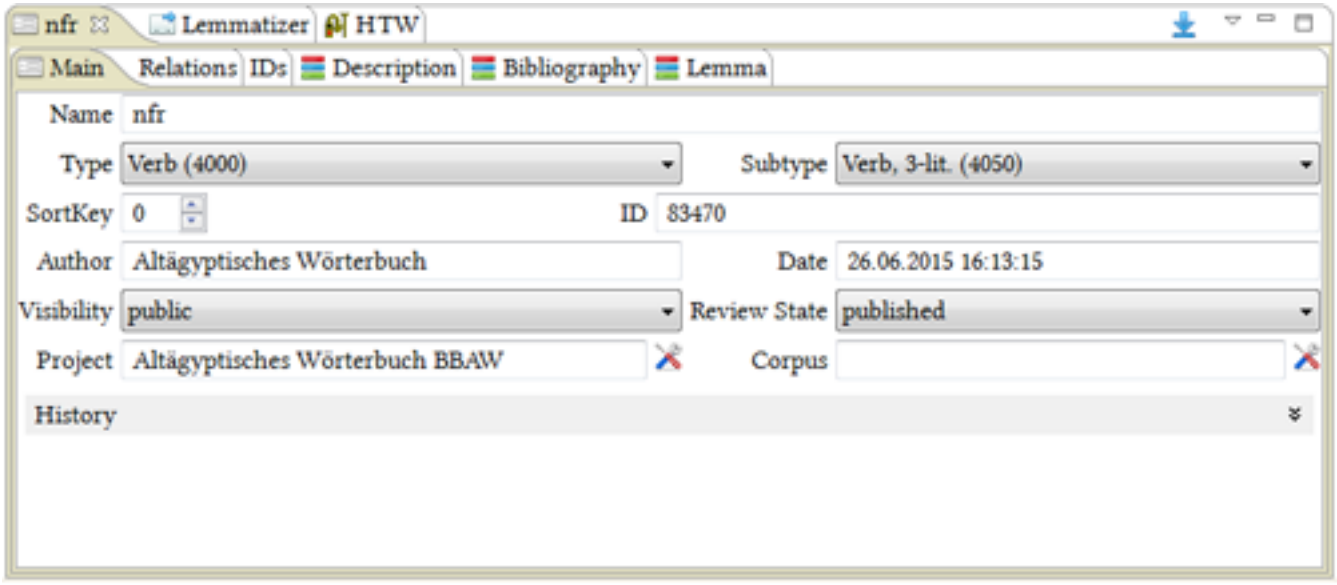
If you are working on a child-element and want it to have the same metadata as its parent-element, then you can click "Inherit Passport Data" in the top right corner of the Passport Editor. Note that the parent data will be only copied into the empty fields of the child data; if the fields had already been filled out in the child-element, then their content will not be changed.

The option "Inherit Overwrite Passport Data" is available via the drop-down menu " " and allows you to overwrite the already existing metadata in the child-element with that of the parent-element.

NOTE: Both inheritance procedures apply to all tabs at once, not just the active one.

NOTE: Make sure that all of the metadata is correct, as otherwise you might inherit errors in the child-elements.

NOTE: The inheritance functions cannot be undone.



Main

The Main tab contains general information about the lemma entry.

- **Name:** Enter or change the name (i.e. the transliteration) of the lemma.
- **Type and Subtype:** Select a type and subtype (e.g. substantive, adjective etc.).
- **SortKey:** By default all lemmata on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a "SortKey" in the Passport data of the database object will change its position in relation to other database objects, with "0" at the top.

  NOTE: If your database object is in a polyhierarchical position, changes in the sortkey apply to all of its relationships.
- **ID:** Displays the ID of the lemma, which is generated automatically by BTS and cannot be changed. For hieroglyphic and hieratic lemma, this ID will match that lemma's ID in the TLA, for demotic lemma, this ID will be that lemma's TLA ID with the addition of a "d" at the front, followed by an "m" if the TLA ID is a negative number, e.g. dm12345 or d12345.
- **Author:** Displays the author (i.e. creator) of the lemma; this assigned automatically.
- **Date:** Display the date of creation of the lemma; this assigned automatically.
- **Visibility:** Define who can see the lemma (public, project, group, reader, all_authenticated). See also *Description of User roles* on page 10.
- **Review State:** Enter or edit the Review State of the lemma; please only use these four options: published (lemma is certain and confirmed), published-awaiting-review (lemma is not yet confirmed), published-obsolete (is obsolete and will be displayed in publication), and obsolete (obsolete and will not be displayed in publication).

  NOTE: Obsolete lemmata are viewable in the Lemma Navigator but are not available during lemmatization.
- **Project and Corpus:** The field displays the name of the project or corpus in which your lemma entry is saved. By clicking on you can move the lemma to another project/corpus. You can only move the corpora or projects for which you have the necessary rights. Note that only the physical save location of a database object will change (which is shown in the Navigator tree in square brackets after its name), and not its position in the hierarchical tree which is determined by its relationships. (See *Relations* on page 91).
- **History:** Click to see all historic changes of the selected lemma. Information includes the username of the editor and the date of the change. To close this, click to another lemma. To restore a previous version of a database object, use the Open Revision History dialogue (see *Revision History/Conflict Dialogue* on page 49).

Relations

The Relations tab shows the relationships between the lemmata. The default setting is the relationship between the selected database object and its parent database object ("Part of"). BTS supports polyhierarchies, meaning that a database objects can have more than one parent element.

Relation

Choose between different types of relationships from the drop-down menu:

- PartOf: The lemma is hierarchically lower than another lemma, it is a sublemma of that lemma.
- Contains: The lemma is hierarchically higher than another lemma.
- Is composed of: The relationship between a compound word and its components. Please do not use this relation, but instead divide the compound word into its components in the Text Editor and sublemmatize them.
- Is cross-reference to: This references your lemma to another lemma.
- Referencing: Establishes a relationship between obsolete lemmata () and correct lemmata () .
- ReferencedBy: Defines the relationship between correct lemmata and obsolete lemmata.
- RootOf: The relationship between a lemma and its root.
- Successor/Predecessor: Sets the correlation of words between the Egyptian and Demotic word lists.
- Is cross-reference to: This option is not relevant at the moment.

Object: Displays the transliteration of the related lemma.

 **Search Object:** Search for a lemma which you want to establish a relationship with.

 **Open Object in Passport Editor:** Displays the passport data of the related lemma.

 **Add Relation:** Click to add more relations. BTS allows polyhierarchy, meaning one database object can have more than one parent-element.

 Remove Relation: This removes the relationship from the lemma.

NOTE: If the last relationship is removed, the lemma will remain in the database as an "Orphan" and is still accessible via the Search Dialog.

NOTE: If a database object has more than one relation, it is displayed in each respective position in the Navigator Tree (along with its children). This does not mean that the database object has been duplicated. To delete one of these relationships, use the "Remove Widget" button in the Relation tab. Do not delete the database object itself, unless you want to permanently remove it from display in the Navigator tree.

NOTE: When viewing lemmata and their relationships in the Navigator Tree, it is possible to display an infinite loop of relationships, so avoid excessively clicking the database objects.

IDs

This tab allows you to enter external IDs of your lemma to create links to other external projects and databases. By default a button will be displayed. Click it to add an external ID.

NOTE: Lemmata transferred from the project "Altägyptisches Wörterbuch" display here the ID from the project "Altägyptisches Wörterbuch" in the field External ID. In this case, the field type has the value aaew_wcn. For hieroglpyphic and hieratic lemma, this will be the same as their BTS ID; for demotic lemma, this will be their ID from the TLA (i.e. without the addition of "d" and "m").

- **Provider:** Select the provider (the external project) from the drop-down menu.

  If a provider you need is missing, please send a proposal to the BTS team: aegypt1@bbaw.de.
- **Type:** Enter the type of the external ID, if appropriate.

- **External ID:** Enter the external ID here.

  Example: The lemma *nfr* also appears in the Ramses project: http://ramses.ulg.ac.be. Select Ramses as the Provider, and 96274 as the External ID.

- **Add Identifier:** Add another set of information, including the "Provider", "Type", and "External ID".
- **Remove Widget:** This removes the external ID from the lemma.

Description

This tab is used for recording your work, including:

- **Description:** You can provide a more thorough definition of your lemma, for cases where its name is not sufficient for identification. Usually this field remains blank.

  NOTE: Please make sure that you name your database objects suitably and enter their passport data correctly.

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

Bibliography

Enter bibliographical information here. The tab contains:

- **Bibliographical text field:** Here you can enter the bibliographical data manually. You can only use this field for time being as the function below is unavailable. Divide your bibliographical items with a semi-colon ";".

  Example: Wb 1, 25; EAG § 159; Schenkel, Einf., 105; ENG §§ 59-64; JWSpG § 216

- **Bibliographical entry:** This feature is currently unavailable.
  - **Bib. Item:** Displays the name of the selected thesaurus entry (i.e. the bibliographic entry) which you can choose with the search function below.
  - **Search Object:** You can select the bibliographical item from the Thesaurus.
  - **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
  - **Pages/plates:** Enter the pages/plate number for the bibliographical item and select the relevant check boxes.
  - **Comment:** Use this field to comment on your reference.
  - **Add Entry Group:** Add an additional bibliographical section.
  - **Remove Entry Group:** Delete a bibliographical section.

NOTE: The bibliographical thesaurus does not exist yet. Please use the "Bibliographical text field" instead.

Lemma

The Lemma tab provides information about different properties of the lemma:

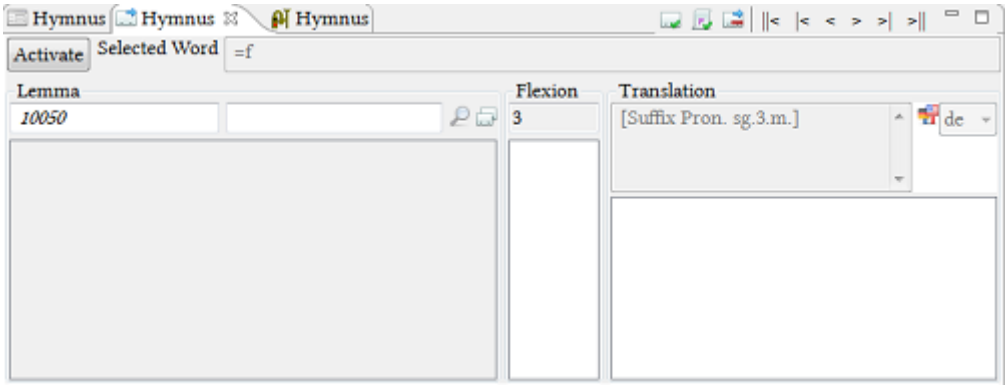
- **Comment:** Add any further comments on the Lemma which did not fit into any of the other subsections.
- **Comment (English translation):** Add any comments on the English translation of the Lemma.
- **Lsort, arb_vermerk, simplify, wclassnum, woart, word_class:** These are information tags inherited from the previous BTS version. Please do not use them for newly created lemmata.

Lemmatizer

The Lemmatizer tab is used to reference a token (transliterated word) to its respective lemma entry in the Lemma list. It has several fields and a toolbar. Using the Lemmatizer is the most important step for enabling subsequent lexical searches in the database, the creation of word indexes, and other lexical analyses.

NOTE: You can only use the lemmatizer if the Sign Text Editor tab is open.

NOTE: After selecting the Lemmatizer tab or a text in the Text Corpus Navigator, the name of the lemmatizer will change to that of the selected text. Move your cursor over the tab header to see its original name.



- Activate: Click this button to activate the lemmatization (the button will turn blue), click it again to deactivate it once you are finished lemmatizing (the button will turn grey).

Text input fields

- **Selected Word**

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

  NOTE: Changing the transliteration in this field also changes your transliteration in the Text Editor.

- **Lemma**

  The section Lemma in the bottom left is composed of three fields. The Lemma-list is automatically generated based on the entry in the "Selected Word" field. Selecting a lemma from the list will display its ID "Word Corpus Number" in the Lemma field. The standard transliteration of the lemma is displayed in the field to the right of the ID.

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

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

- **Flexicon and Translation**

  The section **Flexicon** (bottom middle) and **Translation** (bottom right) 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; note this feature is not yet available for inflection) or manually entered (upper text box). Make sure you select the correct language for your translation by using the button on the right .

Toolbar

- Confirm current lemma editing and continue to the next unlemmatized word.
- Confirm current lemma editing and continue to next un-inflected word (i.e. the next lemma where the inflection code is the default value, which you can set in Preferences).
- Remove lemma information.
- Move to the beginning of the document.

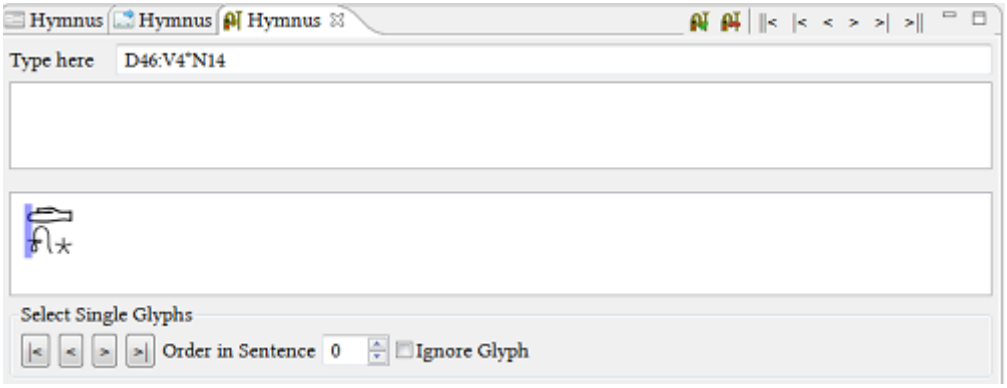
- |< Move to the beginning of the sentence.
- < Move to the previous word.
- > Move to the next word.
- >| Move to the end of the sentence.
- >|| Move to the end of the document.

Hieroglyph Type Writer (HTW)

The HTW tab allows you to enter or edit hieroglyphs for any transliterated text in the "Sign-Text-Editor". It is located by default in the lower part of the BTS UI, next to the Passport Editor and the Lemmatizer.

Note: After selecting the HTW tab or a text in the Text Corpus Navigator, the name of the HTW tab will change to that of the selected text. Move your cursor over the tab header to see its original name.

In order to use the HTW, you first need to open the "Sign Text Editor" and select the relevant token which needs hieroglyphs.



The HTW consists of the following sections:

Type here

Enter the hieroglyphs sign by sign using either the Gardiner codes or "Manuel de Codage" transcription of the token selected in the Sign Text Editor above. The field immediately below the "Type here" field will present various options to select from based on your input in "Type here".

Select and confirm each sign by pressing "CTRL" + the number (marked in red next to the respective sign) or, if the first option is the right one, then simply finish entering the number manually and continue after a hyphen with the next hieroglyph (the first option is selected by default). The second field at the bottom displays the hieroglyphic writing of the token. After confirming, this writing will appear within the selected token box in the "Sign Text Editor".

Select Single Glyphs

If you have an inverted writing of a token, use this feature to mark a single hieroglyph and assign a different position to it in the sentence.

- |< Move to the first sign.
- < Move to the previous sign.
- > Move to the next sign.
- >| Move to the last sign.

- Order in Sentence: Use the up/down arrows to set a number corresponding to the position of the sign in the sentence, if the suggested transcription does not correspond to the order of signs in the original manuscript.
- Ignore Glyph: Use this check box for e.g. a haplography to signal that the sign does not originally appear in the original manuscript.

Toolbar

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

 Confirm the current hieroglyphic input and continue to the next word. Pressing the "Enter" key also confirms the input.

 Remove hieroglyph data: Removes the hieroglyphic input of a token.

 Move to the beginning of the document.

 Move to the beginning of the line.

 Move to the previous word.

 Move to the next word.

 Move to the end of the line.

 Move to the end of document.

Annotations

The Annotation and Text Translation window is placed on the righthand side of the default BTS User Interface.

For each lemma entry an "Annotation"  and/or a "Comment"  can be entered. The relevant buttons are placed in the toolbar of the Lemma Navigator (on the lefthand side of the workspace). Each annotation or comment offers the following additional functions:

 **Add Current Text Selection as Reference**: The selected part is referenced to the current annotation or comment. This feature allows you to reference multiple parts of a lemma to a single annotation.

 **Remove Current Reference**: The selected part is removed from the current annotation or comment. This only removes the link and does not delete the annotation.

 **Edit Comment or Edit Annotation**: This opens a window where you can edit the content of the annotation or comment.

Clicking on "Edit Annotation" will display the passport editor for annotations. Each annotation will have its own ID and its relationship with the selected lemma will be shown in the "Relations" tab.

By clicking the "Edit Comment" button, a "Comment Editor" window will appear. Here you can enter or edit the title of your comment in the upper field and the content of your comment in the lower field. Below there is also a section where you can see and edit the relationship of the comment with the lemma.

 Delete: Will delete the selected annotation or comment.

To learn more about annotations see *Annotations, Rubra, Glosses, and Comments* on page 30.

Thesaurus View

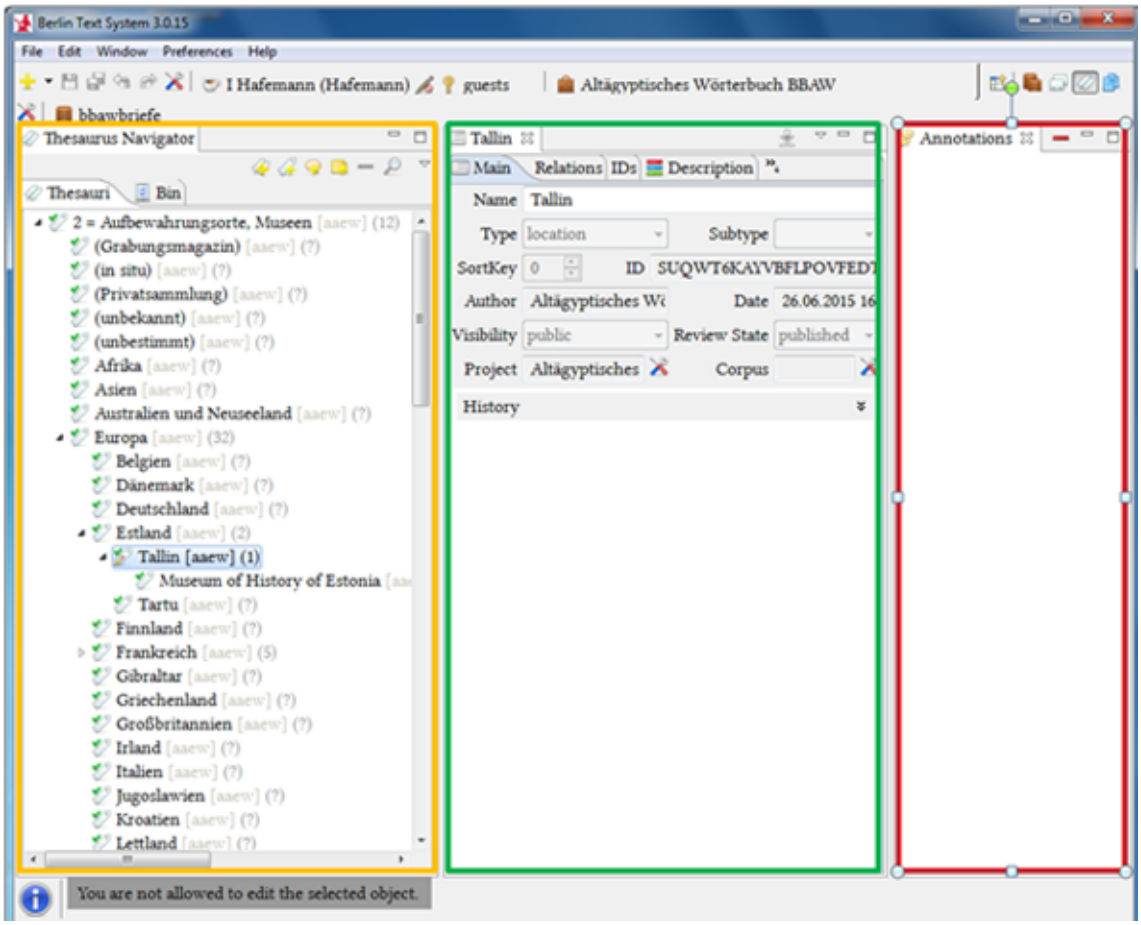
The Thesaurus View can be activated by clicking on the  "Thesaurus" icon in the *Toolbar*. A thesaurus contains a set vocabulary, which is used for the metadata of the database objects, such as date, location, provenance, etc. All terms of a thesaurus reflect a semantic network of concepts including relationships between synonyms, broader and

narrower (parent/child) contexts, and other related concepts. Thesaurus entries are offered in the Passport Editor window of the Text Editor and the Lemma Editor, and provide choices for the metadata of Text Corpus Objects, Texts, and Lemma entries. Any user can see the contents of the Thesaurus View, but the right to create or modify elements is restricted to certain user roles.

NOTE: This chapter provides a general description of the Workspace with its windows and tabs of the Thesaurus View. For a step-by-step instruction of how to enter or edit a new Thesaurus entry please refer to the relevant chapter in the User Guide section of this manual (*Creating a thesaurus entry* on page 55).

If a Thesaurus entry you need is missing, please send a proposal to the BTS team in Berlin: aegypt1@bbaw.de.

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



Thesaurus Navigator

The Thesaurus Navigator is located on the lefthand side of the Workspace in the Thesaurus view. The Thesaurus list contains a set vocabulary of unique concepts for describing database objects. Such metadata enables search queries on a global or local level of the database, and are attributed to the database objects in the Passport Editor.

Toolbar

The toolbar of the Thesaurus navigator contains the following:

 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 the selected root or another child entry.

 Add Annotation: Adds an annotation to the selected thesaurus entry.

 Add Comment: Adds a comment to the selected thesaurus entry.

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

 Search: Search the Thesaurus for specific entries.

Bin

Entries deleted from the Thesaurus Navigator tree appear in the  "Bin" tab, where they are listed individually. Deleting an item from the Bin will permanently it. Please note that the Bin may take a minute to open after you install BTS, but afterwards it should work much faster.

Drop-down menu " ▽ "

Offers all the options available in the Toolbar above, plus the following:

- Delete Permanently: Delete the selected entry permanently. Clicking on this will open a confirmation dialogue.
-  Edit Updaters/Readers: Assign user roles for thesaurus entries (see *Edit* on page 61).
-  Open Revision History: Opens the historic changes to the selected thesaurus entry (see *Edit* on page 61).
- Open Conflict Dialogue: If two users work simultaneously on a database object, it is possible that they produce different versions of that database object at the same time. The conflict dialogue solves the problem of which version is the preferred one (see *Edit* on page 61).
- Filter: Filter the corpora by Project/Creator/Updaters/Review Status/Visibility/Types by clicking the relevant check boxes. To undo the filter, unselect the check boxes.

Passport Editor

The Passport Editor section is located in the bottom centre of the Text Corpus View. It contains the metadata of the selected database object, divided into different subsections (tabs). These categories vary depending on the type of the database object, e.g. the tabs "Thesaurus: Date" and "Thesaurus: Coordinates" only apply to specific types of thesauri.

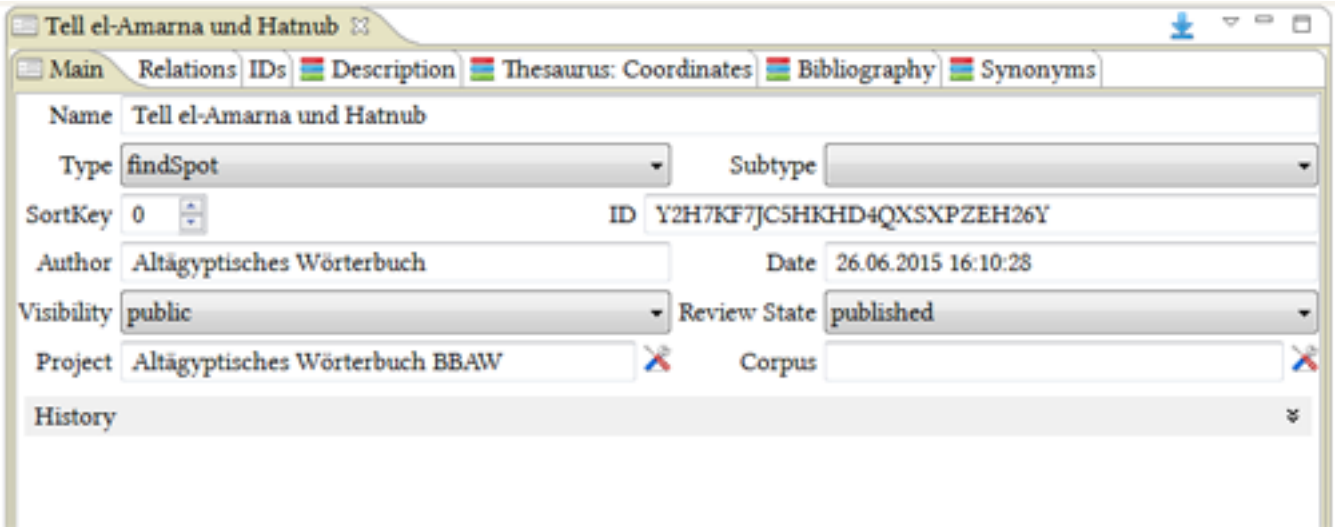
If you are working on a child-element and want it to have the same metadata as its parent-element, you can click  "Inherit Passport Data" in the top righthand corner of the Passport Editor. Note that the parent-element's data will be only be copied into empty fields of the child-element. If the child element's fields have already been filled out, then their content will not be changed.

The option "Inherit Overwrite Passport Data", available via the drop-down menu " ▽ ", allows you to overwrite already existing metadata in the child-element with that of the parent-element.

NOTE: Both inheritance procedures apply to all tabs at once, not just the active one.

NOTE: Be sure that all of the metadata is correct, otherwise you will inherit errors in the child-elements.

NOTE: The inheritance functions cannot be undone.



Main

The fields and drop-down menus give you several options for entering the technical information of your thesaurus entry.

- **Name:** Enter or change the name of your thesaurus entry.
- **Type and Subtype:** Select a type and subtype (e.g. language, date, script). The subtype only applies to certain types of thesauri, e.g. the location "Aufbewahrungsort".
- **SortKey:** By default all thesaurus entries on the same level have "0" as a sort key and are thus sorted alphabetically. Defining a "SortKey" in the Passport data of the thesaurus entry (database object) will change its position in relation to other database objects, with "0" at the top.

  NOTE: If your database object is in a polyhierarchical position, changes in the sortkey apply to all of its relationships.
- **ID:** Displays the ID of the thesaurus entry, which is generated automatically by BTS and cannot be changed.
- **Author:** Displays the author (i.e. creator) of the thesaurus entry; this is assigned automatically.
- **Date:** Displays the date of the creation of the thesaurus entry; this is assigned automatically.
- **Visibility:** Define who can see the thesaurus entry (public, project, group, reader, all_authenticated). See also *Description of User roles* on page 10.
- **Review State:** Enter or edit the Review State of the thesaurus entry (published, reviewed, awaiting-update, awaiting-review, new, transformed awaiting update).
- **Project and Corpus:** This field shows the name of the project or corpus in which your thesaurus entry is saved. By clicking on you can move the database object to another project/corpus. You can only move the corpora or projects for which you have the necessary rights. Note that only the physical save location of a database object will change (shown in the Navigator tree in square brackets after its name), and not its position in the hierarchical Navigator tree which shows the relationships of the database object. (If you want to change the position of an item in this tree then you have to change the relationship of your thesaurus entry. See *Relations* on page 98).
- **History:** Displays the historic changes to the thesaurus entry. Information includes the username of the editor and the date of the change. To close this, click on another thesaurus entry. To restore a previous version of the entry, use the Open Revision History dialogue (see *Revision History/Conflict Dialogue* on page 49).

Relations

The Relations tab shows the relationships of your thesaurus entry. The default setting is the relationship between the selected database object and its parent database object ("Part of"). BTS supports polyhierarchies, meaning that database objects can have more than one parent-element.

Relation

Choose between two options in the drop-down menu:

- PartOf: Your current entry is a part of another database object (i.e. it is a child-element).
- Is cross-reference to: This references your entry to another database object.

Object: Displays the name of the related thesaurus entry.

Search Object: Search for the thesaurus entry you want to establish a relationship with.

Open Object in Passport Editor: Displays the passport data of the related thesaurus entry.

Add Relation: Click to add more relationships. BTS allows polyhierarchy so one item can have multiple parent-elements.

Remove Relation: Removes a relation from the thesaurus entry.

NOTE: If the last relationship is removed, the thesaurus entry will remain in the database as an "Orphan" and is still accessible via the Search Dialog.

NOTE: If a database object has more than one relationship, it is displayed in each respective position in the Navigator Tree (with its children). This does not mean that the database object has been duplicated. To delete one of these relationships, use the "Remove Widget" button in the Relation tab. Do not delete the database object itself, unless you want to permanently remove it from display in the Navigator Tree.

IDs

This tab provides the option to enter External IDs of your thesaurus entry to establish links to other external projects and databases. By default a button will be displayed. Click it to add an External ID.

- **Provider:** Select the provider (the external project) from the drop-down menu.

  If a provider you need is missing, please send a proposal to the BTS team: aegypt1@bbaw.de.
- **Type:** Enter the type of the External ID, if appropriate.
- **External ID:** Enter the External ID here.

  Example: The town Armant is mentioned in the Trismegistos project: http://www.trismegistos.org/place/812. Select trsimegistos as the Provider, geoID as the Type, and 812 as the External ID.
- **Add Identifier:** Add another set of information, including "Provider", "Type", and "External ID".
- **Remove Widget:** This removes the External ID from the thesaurus entry.

Description

This tab is used for recording your work, including:

- **Description:** Here you can provide a more thorough definition of your thesaurus entry, in cases where its name is not sufficient for identification. Usually this field remains blank.

  NOTE: Please make sure that you name your database objects suitably and enter their passport data correctly.
- **Comment:** Write any additional comments which you may have on your work.
- **Numbering system:** Define the numbering system used in the relevant collection (this only applies to the thesaurus "Aufbewahrungsorte").

Thesaurus: Date

This tab allows you to define the dating of the selected database object. This tab only applies to the date thesaurus ("Datierungen"). Enter the date of your thesaurus entry in absolute numbers, as the system arranges the results of search queries in chronological order.

- **Beginning:** Enter the start date of the period, using negative numbers for periods before Common Era.
- **End:** Enter the end date of the period, using negative numbers for periods before Common Era.
- **Reference:** Enter a reference for the date.
-  **Add entry group:** Add a new section, if you want to add a chronology from another authority.
-  **Delete entry group:** Delete a section.

Thesaurus: Coordinates

This tab allows you to enter the coordinates of the place names in the thesauri ("Aufbewahrungsorte" and "Fundstellen").

- **Latitude:** Enter the latitude of the location.
- **Longitude:** Enter the longitude of the location.

Bibliography

Enter bibliographical information here; the tab contains:

- **Bibliographical text field:** Here you can enter the bibliographical data manually. Only this option is currently available for entering bibliographical information. Divide your bibliographical items with ENTER.
- **Bibliographical entry:** This feature is currently unavailable.
  - **Bib. Item:** Displays the name of the selected thesaurus entry (i.e. the bibliographical entry) which can be chosen using the search function below.
  -  **Search Object:** You can select the bibliographical entry from the Thesaurus.
  -  **Open Object in Passport Editor:** Displays the passport data of the selected thesaurus entry.
  - **Pages/plates:** Enter the pages/plate number for the bibliographical item and select the relevant check boxes.
  - **Comment:** Use this to comment on your reference.
  -  **Add Entry Group:** Add an additional bibliographical section.
  -  **Remove Entry Group:** Delete a bibliographical section.

NOTE: The bibliographical thesaurus does not exist yet. Please use the "Bibliographical text field" instead.

Synonyms

This tab allows you to enter synonyms for the "Name" of the database object.

- **Synonym:** Enter a synonym of the "Name" of the database object.
- **Language:** Select the language of the synonym from the drop-down menu.
-  **Add Entry Group:** Use this to add another synonym in the same or another language. You can add as many synonyms as required.
-  **Remove Entry Group:** Removes the synonym.

Example: Add the synonym "coffin" with the language "en" (English) to your entry "Sarg".

Annotations

The Annotation and Text Translation window is located on the righthand side of the default BTS User Interface.

For each thesaurus entry you can enter an "Annotation" and a "Comment". The relevant buttons are located in the toolbar of the Thesaurus Navigator (on the lefthand side of the Workspace). Each annotation or comment offers the following additional functions:

Add Current Text Selection as Reference: The selected part is referenced to the current annotation or comment. This feature allows you to reference multiple parts of a thesaurus entry to a single annotation.

Remove Current Reference: The selected part is removed from the current annotation or comment. This only removes the link and does not delete the annotation.

Edit Comment or Edit Annotation: This opens a window where you can edit the content of the annotation or comment.

Clicking on "Edit Annotation" will display the Passport Editor. Each annotation has its own ID and its relationship to the selected thesaurus entry is shown in the "Relations" tab.

By clicking the "Edit Comment" button, a "Comment Editor" window will appear. You can enter or edit the title of your comment in the upper field and the content of your comment in the lower field. Below there is also a section where you can see and edit the relationship of the comment with the theasuraus entry.

Delete: Will delete the selected annotation or comment.

To learn more about annotations see *Annotations, Rubra, Glosses, and Comments* on page 30.

Abstract Text View

The Abstract Text View connects all of the witnesses of a text which has a long textual tradition. It will compile the witnesses of a single text (e.g. Sinuhe) and display e.g. the concordance of paragraphs. The metadata concerning the "Abstract Text" can be entered here, e.g. the bibliographical references for each text witness.

NOTE: This feature is currently unavailable.

BTS Grammar Rules

System of Transliteration

BTS uses the following transliteration characters:

ʾ, #, j, y, i̯, ʾi, ï, i, #, w, u, u̯, a, e, b, p, f, m, n, r, l, h, ḥ, ḫ, ẖ, ḫ, z, s, š, q, k, g, t, t̲, d, d̲

#, J, Y, ʾI, I, #, W, U, A, B, P, F, M, N, R, L, H, Ḥ, Ḫ, Ḫ, Ḫ, Z, S, Š, Q, K, G, T, T̲, D, D̲

The following signs are not allowed in the transliteration but can used in comments, bibliography etc.:

ś, Ś, ḳ, Ḳ, ṭ, Ṭ, č, Č, č̣, Č̣

Written forms

The transliteration in BTS represents the written forms as they appear in the text. Please note:

- Consonants that are usually unwritten should be added in round brackets: "(...)", e.g. *r(m)t̲*.
- If phonetic complements indicate a consonant shift, like *d̲* > *d*, or *t̲* > *t* etc., this has to be shown in the transliteration, e.g. *bt̲n,w* > *btn,w*; *jt̲i* > *jṭi*; *msḏ̲i* > *msḏi*.
- Historic writings are transliterated as they appear in the text, e.g. *swrj* instead of *zwr* for  .
- Logographic writings without phonetic complements are transliterated traditionally, e.g. *rḏ̲i*, *z#*, *zẖ#,w*.
- Ptolemaic texts are also transliterated traditionally, e.g. *ḫp(r)*.

Transliteration-signs with variable conventions

The following list shows the conventions used in BTS. Please use the conventions in the lefthand column for your transliteration. Do not use the variants in the righthand column. Note that some signs, in particular ś, ḳ, č, ṭ, and č̣, are not valid in the BTS transliteration editor.

BTS convention:	**Comparison / Identification (do not use in BTS):**
j	*i, ʾi*: Strong radical (also used for nisba-endings in dual-endings)
i̯	*j* (weak)
y	*jj*, sometimes *j*: duplicated M17
u̯	*w* (weak)
s	*ś*
z	*s*
q	*ḳ*
t̲	*č*
d	*ṭ*
d̲	*č̣*

Reconstruction of weak consonants

Weak consonants

Weak consonants of the verba ult. inf. have to be transliterated as *i̯* and *u̯* respectively, even if they are followed by an inflectional affix (".*y*" or ".*w*", e.g. *mri̯.y =f*. For substantives derived from verbs of ult. inf. classes, you do not need to write the weak consonant, e.g. "*w#.t*" – "way".

Nisba- and Dual-Endings and Double-M17

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

The two strokes "Z4" are to be written as "*j*".

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

Unwritten Consonants

Conventions

The transliteration in BTS represents the written forms as they appear in the text. Nevertheless, we recommend determining any unwritten grammatical or phonetic elements, and (correctly) unwritten - but not weak - consonants by using round brackets "(...)". This helps the reader to understand your translation and makes it easier for you to lemmatize your text, as the lemmatizer will find the respective entries automatically.

Examples
ḥ(n)q,t
r(m)t̲
n(,j)
(j)m(,j)-r(ʾ)
jw =f (ḥr) sḏm
jw =f sḏm(.w)

NOTE: Dots and commas have to be written within the round brackets: *...(.w)*, *...(,j)*.

This means that whenever a strong radical is (incorrectly) unwritten, it has to appear in the transliteration. There are a few exceptions which are listed below.

Rules for the reflection of unwritten consonants

Grammar	**Yes (x) / No (-)**
Numerus	-
Infinitive	-
Passive (*tw/tj*)	x (by using "(...)", e.g. *sḏm.t(w)=f*)
Contigent	x (by using "⟨...⟩", e.g. *sḏm#.jn#=f*)
Passive (*sḏm.w=f*)	-
Prospective	-
Subjunctive	-
Imperative	-
Stative / PSP	-
Negative-complement	-
Participle	-

Relative form	-

Numerus

Ideographic writings of numerical data should not be represented phonetically but designated through ".pl" and ".du". For details see chapter *Structural signs and conventions* on page 104.

Rules for transliterating a text

Your transliteration should represent all phonetical and morphological information that can be gained from the text. It should represent damages to the text, and mistakes or corrections by the ancient scribes. We recommend transliterating the written form of any word, as long as there is no evidence that it has undergone considerable changes in its phonology.

Every phonological or morphological element which is a part of a written word should be reflected in the transliteration. Graphical elements without a phonological or morphological function must not be reflected (e.g. determinatives, cartouches, serekhs etc.).

Structural signs and conventions

Structural signs are used to denote the morphological properties of a lexical entry and changes caused by the inflection of words in the text.

Structural Signs

Structural Signs	
space	All words, including suffix pronouns, are separated by space.
:	Prefixes, e.g. *j:jr̯i =f*
=	Suffix-pronouns, e.g. *pr =f*
.	Endings (morph.), e.g. *rmṯ.w*
,	Endings (word formation), e.g. *nb,t*
!	Stem modification, e.g. *gmm! =f*
-	Linking compound words, e.g. *ḥm-nṯr*
~	syllabic writings, e.g. *g#~w#~š#*
	verse point
	reconstructed verse point
*	transliteration of cipher script (demotic), e.g. **mseh**
;	phonetic complements (demotic), e.g. *nḫt;ṯ*

Prefixes

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

Examples	
Morphology:	
correct: *j:jr̯i =f*	incorrect: *jjr̯i =f*
Word Formation:	

correct: *smn* (to make firm)	incorrect: *s:mn*

Suffixes

Suffixes are to be marked consistently by "=". Note the space between a word and "=". Lexically bound suffixes are also to be marked by "=", but to show that the suffix is included in the word (e.g. in personal names), do not enter a space before the "=".

Examples	
Morphological suffixes:	
correct: *sḏm =f*	incorrect: *sḏm=f*
Lexically bound suffixes:	
correct: *Ḥpr-ḏs=f*	incorrect: *Ḥpr-ḏs =f*

Endings

Morphological endings are marked by a dot "." (e.g. numerus endings, inflective infix/affix), and the endings of word formations by a comma "," (e.g. feminine ending). The endings of proper names have to be written at the end of the full name, regardless of whether a name consists of compound words and/or suffixes.

NOTE: The feminine ending *.t* is marked by a comma (",") if the word is noun. The endings of adjectives are treated as morphological endings and are thus marked by a dot ("."), e.g. *nb,t nfr.t*.

Examples	
Morphology:	*rmṯ.w* (men)
	jr.tj.du (both eyes)
	sḏm.n =f
	sḏm.ḫr =f
Word Formation:	*nb,t* (lady)
	mn,w (monument)
Proper Name:	*Jnỉ-jt(j)=f,j*
	Ḥpr-ḏs=f (he who came into being of himself)

Notation of Plural and Dual

Plural and dual endings are morphological endings and are thus marked by a dot ("."). Phonetically written plural endings are transliterated as "*.w*", "*.wj*", "*.wt*", and "*.tj*". Strokes and other ideographic writings of number are represented by either ".pl" or ".du". Both types can be used together, e.g. ".w.pl." or ".tj.du".

Dots and commas can be combined if both morphological and inflectional endings appear in one word, e.g.:

- *nh,t* - "sycamore" (sg.)
- *nh.w,t* (pl. phonetic)
- *nh,t.pl* (pl. ideographic)
- *nh.w,t.pl* (pl. phonetic + ideographic)
- *jm,j-rʾ-ḥm,pl-nṯr* (title, sg.)
- *jm,j**.pl**-rʾ-ḥm,pl-nṯr* (title, pl.)

Strokes and other ideographic writing are only represented by .pl and .du, if they mark "real" plurals or duals. Pluralisation written in collectives are treated as determinatives and are thus not transliterated, e.g.:

- *mnmn,t* - "cattle"

- *nfr(,w)* - "beauty"

Stem Modification

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

Compound Words

Examples
m-ḫnw
m-ḫt
ḥr-tp
Wnn-nfr
ḥm-nṯr-Jmn

Proper Names

Proper names are written with an initial capital letter, which includes when they appear within a compound word.

Examples	
Jn̲i-jt(j)=f,j	personal name
Ḥr,w	name of a god
ḥm-nṯr-Jmn	a title
ḥ#.tj-#-n-Nḫb	a title
Jwn,w	name of a place

Cartouches, Serekhs etc.

Cartouches "# ... #", Serekhs "# ... #", and enclosures of places names "# ... #" etc. are treated as determinatives and are thus not represented in the transliteration.

Verse Points

Verse points are represented in the transliteration (not hieroglyphic encoding) with the appropriate signs (see *Keyboard layout* on page 9). There has to be a space before and after the verse point.

- # - preserved verse point
- # - reconstructed verse point
- {#} - verse point deleted by the editor

Sigla for textual criticism

Some sigla are used to indicate the condition of a text, and editorial corrections and restorations (textual criticism). BTS uses sigla to note the damaged parts and lost signs in a text, as well as emendations and additions of both the modern and ancient editors/scribes.

Brackets

Only consonants of words or full words that are lost or partially damaged are to be put into the brackets ("[ ]"/"# #"), and only if those signs are an intrinsic part of the writing. This means that the consonants which act as complements of fully existing ideograms should not be surrounded by brackets. If a word is partially destroyed but is still fully readable (e.g. if a determinative or a complement is lost, but the word is clearly written) then there is no need for a bracket, as long as there is no ambiguity, e.g. due to homography.

- Example 1: *nfr* written  has to be transliterated as "*nfr*", not "*nf[r]*".
- Example 2: *nfr* written  has to be transliterated as "*#nfr#*".

Table of brackets available in BTS

(...)	Correctly unwritten consonants/words or an abbreviation which has been expanded by the editor
#...#	Partly damaged or otherwise unclear consonants/words
⟨...⟩	Consonants/words erroneously omitted by the ancient scribe, and restored or corrected by the editor
{...}	Consonants/words considered erroneous and superfluous by the editor
[...]	Consonants/words missing from the original text due to lacuna, and restored by the editor
#...?	Consonants/words with doubtful reading
⟨⟨...⟩⟩	Haplography
((...))	Ancient additions to the text (above line or beside column)
{{...}}	Ancient deletions
[[...]]	Ancient reconstructions over deletions

NOTE: For ⟨...⟩ use the font BBAWLibertine, do not use <...> from your normal keyboard as these will not be valid.

NOTE: ((...)) is not to be used for glosses, please use the Gloss function.

General rules for using brackets

- Brackets must always come in pairs. You have to close each bracket which you have opened. Usually the system will do this automatically, but for ⟨...⟩ and ⟨⟨...⟩⟩ it does not work. Pressing "CTRL+Spacebar" will show the characters which are allowed in the position of the cursor. For recurring elements, you can define a template in the *Preferences*.
- Brackets have to be surround each token (word), e.g. *[jw] [nfr]* (not: *[jw nfr]*).
- Brackets can be combined as long as the bracket opened last is the next one to be closed, e.g. *[ḫp(r)]*, *#ḫp(r)#*, *# [ḫ]p(r)?* etc. Interlacing different kinds of brackets is not valid, e.g. *#[ḫ?]pr*.

NOTE: Some combinations of round and double round brackets result in errors, even if they are valid. For example *((n(,j)))* is not valid in the BTS grammar. In such cases, use the dummy sign "##" (i.e. two "#"; see *Keyboard layout* on page 9), e.g. *((n(,j)##))*.

Gaps, lacunae, and damage

It is up to the editor to decide whether to reconstruct a word/phrase or not. If you are able to reconstruct the missing part(s), e.g. from parallel texts or recurring phrases, use *Brackets*. If you can reconstruct the lacuna's word class, then use a "representative" (see below).

General representation of gaps and lacunas

If words or even the number of missing words cannot be reconstructed, represent the lacuna with the following notations:

- The marker "--...--" with two hyphens is reserved for damaged parts and cannot be lemmatized.
- “--nQ--“ with “n” as the number of destroyed quadrats (see examples below).
- Complete destruction at the end of a line/column: “--Rest der Zeile/Kolumne zerstört--".
- Complete destruction at the beginning of a line/column: “--Anfang der Zeile/Kolumne zerstört--"-
- Complete destruction of the rest of the text: “--Rest des Textes zerstört--".
- If there are traces of signs that cannot be identified, use: "--Zeichenreste--".

Examples	
3 quadrats missing	“--3Q--“
1,5 quadrats missing	”--1,5Q--“
4 to 5 quadrats missing	"--4 bis 5Q--"

NOTE: Between two "--" you cannot write any further hyphens ("-"): write "--4 bis 5Q--", and not "--4-5Q--".

Representatives

If the number of words missing can precisely be determined (e.g. if the words are completely lost, but their the determinatives preserved), use three underscores in brackets "[___]". E.g.: "[___] [___]" for 2 missing words. These representations are treated as words by BTS and can be lemmatized.

In some cases, the missing word's word class, number, and gender can be determined. There are entries in the lemma list for each of these options; you have to search the WCN number via the magnifying glass (see *Lemmatizing* on page 24). For a list of the relevant WCN numbers, see *Lemmatizing illegible words* on page 29, or alternatively you can search for "[Wort]" (full text search with both check boxes deactivated) and the list will appear at the bottom of the results.

Inflection Codes

You should assign an inflection code to each word (token) as this allows the data to be analyzed grammatically. Uninflected forms, for example substantives in singular and status absolutus, get the (default) code "3".

The list of codes was developed for Old and Middle Egyptian; in most cases they also work for Late Egyptian, but not for Demotic. If inflection codes are missing, please contact the BTS team: aegypt1@bbaw.de.

Each section contains a table of inflection codes, sometimes with an introductory explanation and key to the table, and sometimes also some examples at the end.

Suffix conjugation

The forms of the suffix conjugation can be either unmarked, geminated, or a special form. The codes below only distinguish between written forms, i.e. forms that can be determined by their external appearance (*-.n-*, *-.w-*, *-.t-*, *-.tw-*, *-.jn-*, *-.ḫr-*, *-.k#-*, and combinations). Syntactical and semantic implications are not taken into account. Suffix pronouns are encoded as the last digit of the codes listed in the below sections; nominal subjects and lost subjects are encoded with a 0 as the last digit.

Prefixed forms of the suffix conjugation are encoded with 1 as the second digit of the codes listed below, e.g. 11021 = pref. SK.akt.kzl.1sg. For the encoding of complex verbal forms and negated forms of the suffix conjugation see the below tables.

Suffix conjugation (10000)

10000 -> suffix conjugation (SK)

11000 -> prefixed suffix conjugation

kzl = unmarked ("kennzeichenlos")

akt. = active

pass. = passive

spez. = special forms

last digit: 0 = nominal subject; 1-9 = pronominal subject (see: *Suffix pronouns and dependent pronouns* on page 121)

10020	SK.akt.kzl	*prḫi, rḏi, ḏi, sḏm, m#*
10040	SK.pass.kzl	
10100	SK.akt.gem	*ḏḏ , jrr , m##, wnn*
10120	SK.pass.gem=redupl	*sḏmm*.pass.
10140	SK.akt.spez	special forms: *jnt=f, m3n=f , jwt=f, pḥr.y* - 3gem.
10160	SK.pass.spez	final *j*, *y*, also 2 + 3rad, irregular forms.
10170	SK.*tw*-pass.spez	*jnt.tw*
10180	SK.*w*-.akt.kzl	*kjw.* 2inf
10220	Sk.*w*-.akt.gem	*sfḫḫ.w*/caus 2gem
10240	SK.*w*-.pass.kzl	
10280	SK.*w*-.*tw*-pass.kzl	
10320	SK.*tw*-pass.kzl	
10360	SK.*tw*-pass.gem	*sḏmm.tw=f*
10380	SK.*n*-.akt.kzl	*mḫi.n*
10420	SK.*n*-.akt.gem	*wnn.n, snbb.n*
10440	SK.*n*-.*tw*-pass.kzl	
10480	SK.*n*-.*tw*-pass.gem	Allen *gmm.n.tw, tḫnn.n.tw*
10500	SK.*jn*-.akt.kzl	
10540	SK.*jn*-.akt.gem	

10560	SK.*jn*-.tw-pass.kzl	
10600	SK.*ḫr*-.akt.kzl	
10610	*ḫr* SK.akt.kzl	
10640	SK.*ḫr*-.akt.gem	
10650	*ḫr* SK akt.gem	
10660	SK.*ḫr*-.*tw*-pass.kzl	
10670	*ḫr* SK-*tw*.pass.kzl	
10700	SK.*ḫr*-.*tw*-pass.gem	
10710	*ḫr* SK-*tw*.pass.gem	
10720	SK.*k#*-.akt.kzl	
10730	*k#* SK.akt.kzl	
10760	SK.*k#*-.akt.gem	
10770	*k#* SK. akt.gem	
10780	SK.*k#*-.*tw*-pass.kzl	
10790	*k#* SK.-*tw*-pass.kzl	
10820	SK.*k#*-.*tw*-pass.gem	
10830	*k3* SK.-*tw*-pass.gem	
10840	SK.*t*-.akt.kzl	after negative word *n*, prpp. *r*
10850	SK.*t*-.akt.gem	*s##.t=f*
10860	SK.*t*-.pass.kzl	*n sḏm.t=f-pass:* Schenkel, Grammatik (1994), 177, 180 f.
10870	SK.*t*-.pass.gem	
10900	SK.akt.kzl.unpersönl.	
10910	SK.pass.kzl.unpersönl.	
10920	SK.akt.gem.unpersönl.	
10930	SK.pass.gem.unpersönl.	
10800	SK.*n*-akt.kzl.unpersönl.	
10810	SK.*n*-*tw*.pass.kzl.unpersönl.	
10940	SK.unpersönl.*w*-pass.	
10950	SK.*tw*-pass.kzl.unpersönl.	
10960	SK.*tw*-pass.gem.unpersönl.	
10190	SK.*tw*- pass.spez.unpersönl.	
10970	SK.akt.spez.unpersönl.	
10980	SK.pass.spez.unpersönl.	
10990	SK.t-akt.kzl.unpersönl.	
10570	SK.*jn*-.*tw*-pass.kzl.unpersönl.	

Examples:

sḏm=f: 10024 + *=f*

j:sḏm=f: 11024 + *=f*

mrr=sn: 10109 + *=sn*

sḏm.jn.tw=k: 10562 + *=k*

Suffix conjugation in complex verbal forms (in combination with codes above) (10000)

13000	SK after aux.*jw*	SK.kzl,.*tw-*,.*n-*,.*w*-form
14000	SK after aux.*#ḥ#.n*	SK.kzl.,.*n-*,.*w*-form
15000	SK after aux.*wn*	SK.kzl.,etc.
16000	SK after aux.*wn.jn*	SK.kzl.,etc.
17000	SK after aux.*wn.ḫr*	SK.kzl.,etc.
18000	SK after aux.*wnn*	SK.kzl.,etc.
19000	SK after aux *jrṯi*	SK.kzl.,etc.

Example: *#ḥ#.n sḏm.n=sn*: *#ḥ#.n* + 14389 + *=sn*

Negated suffix conjugation (100000)

Negation words are encoded seperately; the negation is encoded at the verbal form notiert: place the digits 1-9 infront of the above mentioned codes.

Negated forms with *tm*: SK *tm=f* + neg. complement (see *Negative complement* on page 117).

Table 1: Old /Middle Egyptian

1	*n*+ SK	Example: *n.sḏm=k*: 110022
2	*nn* + SK	
3	*n ... js* + SK	
4	*jmj* + SK	
5	*n-zp/jw,t-zp* + SK	*n-zp:* indicative; *jw,t-zp* subjunktive
6	*jw,tj* + SK	2gem, 3inf gem.
7	*jw,t* + SK	*jw,t wnt*, e.g. *wnt* = SK.spez, z.B. 710140
9	*nfr/nfr-n*	

Table 2: Late Egyptian

82000	*bw* + SK	Example: *bw sḏm=j*: 82021
83000	*bw* + *dj.t* + SK	
84000	*bn* + SK	
85000	*m* + *jrṯi* + SK	
86000	*m* + *dj* + SK	
87000	*m* + *jrṯi* + *dj.t* + SK	

Examples:

bw + akt. *sḏm.t=f*: *bw* + 82844 + *=f*

bn + pass *sḏm=f*: *bn* + 84044 + *=f*

bw + pass. *sḏm=f*: *bw* + 82044 + *=f*

bw jr̯i=f sḏm: *bw* + 96324 + *=f* + 61000

bn jw=tw r ḏi.t: *bn* + 96316 + *=tw* + *r* + 61430

If the **suffix conjugation is prefixed**, use 1 + codes above

Examples:

182000 = *bw* + präf. SK

183000 = *bw* + *dj.t* + pref. SK

Pseudo participle

(20000)

The written forms of the pseudo participle are encoded and assigned to one form, i.e. *k* to *kw*, *t* to *tj*, and no ending Ø to *w*. Prefixed and geminated forms are entered differently. Combine the following codes with the codes in the table below. For the use of pseudo participles in complex verbal forms see the second table.

20000 -> "psp"

21000 -> "psp.pref"

22000 -> "psp.gem"

20010	psp.sg1	*kw* /sg1 (Late Eg. *t/w*)
20020	psp.sg2m	*tj* /sg2m
20030	psp.sg2f	*tj* /sg2f
20040	psp.sg3m	*j/w* /sg3m
20050	psp.sg3f	*tj* /sg3f
20060	psp.pl1	*wjn* /pl1 (Late Eg. *tw*)
20070	psp.pl2	*twnj* /pl2
20080	psp.pl3m	*wj* /pl3m
20090	psp.pl3f	*tj* /pl3f
20100	psp.du2	*twny* /du2
20110	psp.du3m	*wy* /du3m
20120	psp.du3f	*ty* /du3f

Late Egyptian: *t*, Ø for all except 3sg/pl (*w*, Ø)

Pseudo participle in complex verbal forms (in combination with codes above)

20001	psp after aux. *jw*	
20003	psp after aux. *j.jr̯i*	Late Eg.
20004	psp after aux. *j:jr̯i.t*	Late Eg.

20007	psp after *tw*=/nom. subject	Present I
20008	psp after aux. *wn.jn*	
20009	psp after aux. *wn.ḫr*	
23000	psp after aux. *#ḫ#.n*	
24000	psp after aux. *wn*	
25000	psp after aux. *mk*	
26000	psp after aux. *bn + tw= (+jwn#)*	negation
27000	psp after aux. *wnn*	

Participle

(30000)

The participles are only distinguished by genus and by their ungeminated, geminated, and prefixed written forms; tense and aspect are not encoded. If an ending *.y* is written, then the passive forms are encoded with a pronominal subject (suffix). For others see *Relative forms* on page 113. Combine the following codes with the codes in the table:

30000 -> "partz.norm (=not gem.)"

31000 -> "partz.gem"

32000 -> "partz.pref"

30010	partz.akt.sgm	*Ø/w/y*
30020	partz.akt.sgf	*t/jt*
30030	partz.akt.plm	*Ø/w/yw*
30040	partz.akt.plf	*wt/jwt*
30050	partz.akt.dum	*wj/y*
30060	partz.akt.duf	*tj*
30070	partz.pass.sgm	*w/j*
30080	partz.pass.sgf	*wt/jt*
30090	partz.pass.plm	*ww/jw*
30100	partz.pass.plf	*jwt*
30110	partz.pass.dum	*wwj*
30120	partz.pass.duf	*wtj*

Negation with *tm*: part. + neg. compl. (see *Negative complement* on page 117).

Relative forms

(40000)

The relative *sḏm=f* and *sḏm.n=f* are distinguished in their normal, geminated, and prefixed forms. The pronominal subject is encoded as the last digit of the code. Combine the following codes with the codes in the table:

40000 -> "rel.f.norm"

41000 -> "rel.f.gem"

42000 -> "rel.f.präf"

Last digit: 0 = nominal subject; 1-9 = pronominal subject (see: *Suffix pronouns and dependent pronouns* on page 121)

40010	rel.f.n-.sgm	
40020	rel.f.n-.sgf	
40030	rel.f n-.plm	
40040	rel.f.n-.plf	
40050	rel.f.n-.dum	
40060	rel.f.n-.duf	
40070	rel.f.sgm	*Ø/w*
40080	rel.f.sgf	*t*
40090	rel.f.plm	*w*
40100	rel.f.plf	*wt*
40110	rel.f.dum	*wj*
40120	rel.f.duf	*tj*

Negation with *tm*: relative form + neg. compl. (see *Negative complement* on page 117).

NOTE: Recurring verbal forms like *sḏm pw jr̂i.n=f* are not encoded as one form, but separately as: Inf. *pw* Rel.f.

Imperative

(50000)

The imperative of verbs is encoded in its prefixed, as well as when it appears with/out an ending, but lexicalized imperatives are not encoded. Combine the following codes with the codes in the table:

50000 -> "imp"

51000 -> "imp.pref"

52000 -> "imp.gem"

50010	imp.sg	
50020	imp.pl	
50030	imp.du	
50040	*jmj.tw=*	Late Eg.: + suffix; 0 = unknown subject

Verbal noun

(60600)

60000 -> "subst/adv.verbf"

60100	verbalnomen.kzl
60200	verbalnomen.endg *w/j*
60300	verbalnomen.endg. *t*

60400	verbalnomen.endg. *wt/jt*
60500	verbalnomen gem

Infinitive

(60700)

Infinitives are encoded according to whether they are geminated or show an ending *.t*. Like with the suffix conjugations, the written forms are encoded and not the expected form, meaning that if an ending *.t* is expected but not written, then an infinitive without *.t* is encoded. As a result, unwritten endings can be found and analyzed easily because the paradigm of infinitives depends on the verbal classes that are noted in the BWL.

Infinitives of combined verbal forms, i.e. the analytical forms in Late Egyptian, are encoded as well. Auxiliaries are encoded separately according to st. abs. and st. pr. (see: *Auxiliaries* on page 120); the complete form is encoded in the infinitive, e.g. infinitive after aux. *wn.ḫr* = 61090.

Last digit: 0 = nominal object; 1-9 = pronominal object (see: *Suffix pronouns and dependent pronouns* on page 121)

Table 3: Infinitive without endings

61000	inf.	
61010	inf. after aux. *jw*	pseudoverbal
61020	inf. after aux. *jr̯i*	
61030	inf. after aux. *j:jr̯i*	
61040	inf. after aux. *j:jr̯i.t*	
61060	inf. after aux *.mtw*	
61070	inf. after aux. *tw=*/ nom. subject	Present I
61080	inf. after aux. *wn.jn*	
61090	inf. after aux. *wn.ḫr*	
64000	inf. after aux. *wn*	pseudoverbal
65000	inf. after aux. *#ḫ#.n*	
66000	inf. after aux. *mk*	
68000	inf. after aux. *wnn*	pseudoverbal
61050	inf. after neg. *bwpw*	
67000	inf. after neg. *nn*	*nn sḏm=f*: "without his hearing", *nn wj ḫr sḏm*
61100	inf. after neg. *bw* + *jr̯i*	
61110	inf. after neg. *bw* + *j:jr̯i.t*	
61120	inf. after neg. *bn* + *jw*	
61130	inf. after neg. *bn* + *jr̯i* + *jwn#*	
61140	inf. after neg. *bn+ tw= (+jwn#)*	
61150	inf. after *tm*	[*jw=f (ḫr) (tm)* inf.] = Groll 90
61160	inf. after *m jr̯i*	
61170	inf. after *nn jw*	pseudoverbal *nn* + aux. *jw*

Table 4: Gemminating infinitives

69000	inf.gem.	
69010	inf.gem.after aux. *jw*	pseudoverbal
69020	inf.gem.after aux. *jr̰i*	
69030	inf.gem.after aux. *j:jr̰i*	
69040	inf.gem.after aux. *j:jr̰i.t*	
69060	inf.gem.after aux. *mtw*	
69070	inf.gem.after aux. *tw=*/ nom. subject	Present I
69080	inf.gem.after aux. *wn.jn*	
69090	inf.gem.after aux. *wn.ḫr*	
69400	inf.gem.after aux. *wn*	pseudoverbal
69500	inf.gem.after aux. *#ḥ#.n*	
69600	inf.gem.after aux. *mk*	
69700	inf.gem.after neg. *nn*	Negation
69800	inf.gem.after aux. *wnn*	pseudoverbal
69050	inf.gem.after neg. *bwpw*	
69100	inf.gem.after neg. *bw + jr̰i*	
69110	inf.gem.after neg. *bw + j:jr̰i.t*	
69120	inf.gem.after neg. *bn + jw*	
69130	inf.gem.after neg. *bn +jr̰i+ jwn#*	
69140	inf.gem.after neg. *bn+ tw= (+jwn#)*	
69150	inf.gem.after *tm*	[*jw=f (ḥr) (tm)* inf.] = Groll 90
69160	inf.gem.after *m jr̰i*	
69170	inf.gem.after *nn jw*	pseudoverbal *nn* + aux. *jw*

Table 5: Infinitives with .t

61300	inf.endg.t	
61310	inf.endg.t/after aux. *jw*	
61320	inf.endg.t/after aux. *jr̰i*	
61330	inf.endg.t/after aux. *j:jr̰i*	
61340	inf.endg.t/after aux. *j:jr̰i.t*	
61360	inf.endg.t/after aux. *mtw*	
61370	inf.endg.t/after aux. *tw=*/nom. subject	Present I
61380	inf.endg.t/after aux. *wn.jn*	
61390	inf.endg.t/after aux. *wn.ḫr*	

64300	inf.endg.t/after aux. *wn*	
65300	inf.endg.t/after aux. *#ḥ#.n*	
66300	inf.endg.t/after aux. *mk*	
68300	inf.endg.t/after aux. *wnn*	
61350	inf.endg.t/after neg. *bwpw*	
67300	inf.endg.t/after neg. *nn*	
61410	inf.endg.t/after neg. *bw* + *jr̂i*	
61420	inf.endg.t/after neg. *bw* + *j:jr̂i.t*	
61430	inf.endg.t/after neg. *bn* + *jw*	
61440	inf.endg.t/after neg. *bn* + *jr̂i* + *jwn#*	
61450	inf.endg.t/after neg. *bn* + *tw= (+jwn#)*	
61460	inf.endg.t/after *tm*	
61470	inf.endg.t/after *m jr̂i*	
61480	inf.endg.t/after *nn jw*	Pseudoverbal *nn* + aux. *jw*

Infinitive st. pr. = combine with suffix codes (see: *Suffix pronouns and dependent pronouns* on page 121)

Example: *pr̂i.t=j* "mein Herauskommen": 61301 Inf.Endg.t st.pr. 1Sg

Table 6: Complementary infinitive (Owner 62000)

62000	kompl.inf.
62100	kompl.inf.endg.*t*
62200	kompl.inf.endg.*wt*
62300	kompl.inf.*jt/yt*
62400	kompl.inf.gem.
62500	kompl.inf.gem.endg.*t*

Negative complement

(63000)

Forms after verbs of negation *tm* and *jm̂i*.

63000	neg.kompl	also status pronominalis, pronominal object
63100	neg.kompl.kzl	
63200	neg.kompl.endg.*w*	
63300	neg.kompl.endg.*t*	
63400	neg.kompl.gem	
63500	neg.kompl.gem.endg.*t*	
63600	neg.kompl.gem.endg.*w*	

Nouns

(70000)

The inflected forms of nouns are encoded. Plural and dual forms are transliterated in their written forms and assigned the relevant inflection code. If they appear in status pronominalis, then the suffix is encoded as the last digit of the code. Status constructus (i.e. direct genitive) is encoded at the regens; the rectum is assigned code 3, i.e. form is no different to BWL.

Last digit = suffix code (see: *Suffix pronouns and dependent pronouns* on page 121).

70100	subst.pl.	
70300	subst.du.	
70050	subst.st.pr."	*pr=f* = 70054
70150	subst.pl.st.pr."	*pr.w=k* = 70152
70350	subst.du.st.pr."	*#.wj=f* = 70354
70060	subst.st.cs.	*ḥm,t w#b* (direct genitive)
70160	subst.pl.st.cs.	*t#š.w km,t*
70360	subst.du.st.cs.	*#.wj nṯr*

Adjectives

(71000)

The endings of adjectives showing agreement in gender and number are encoded when the adjective is used attributively. To allow searches for attributive adjectives, the forms which are the same as those in BWL (i.e. sg. m.) are encoded as well. Adjectives in status constructus (e.g. *nj-sw*) are transliterated with a hyphen and encoded with the endings of the pronouns (see: *Suffix pronouns and dependent pronouns* on page 121). Code 3 (i.e. form is no different to BWL) is used for independent pronouns because they always appear uninflected (e.g. *nfr-sw*-construction).

Last digit = suffix and dependent pronoun codes (see: *Suffix pronouns and dependent pronouns* on page 121).

71010	adj.sgm	
71020	adj.sgf	
71030	adj.plm	
71040	adj.plf	
71050	adj.dum	
71060	adj.duf	
71100	adj.st.cs.	last two digits: dependend pronouns
71200	adj.sgm.st.pr.	*jm,j=sn*
71210	adj.sgf.st.pr.	*jm,j.t=sn*
71220	adj.plm.st.pr.	*jm,j.w=sn*
71230	adj.plf.st.pr.	*jm,j.wt=sn*
71240	adj.dum.st.pr.	
71250	adj.duf.st.pr.	

71260	adj. in SK m. Präfix *n#*	last digit: suffix; Late Period: [*n#:nfr=f*]

Adverbs

(73000)

Adverbs in status pronominalis are encoded with the relevant pronouns.

Last digit: suffixes (see: *Suffix pronouns and dependent pronouns* on page 121).

72000	adv.st.pr.	st. pr. with suffix lost
72001- 9	adv.st.pr.	

Numbers

(71000/70000)

Ordinal numbers show gender agreement with the antecedent.

Table 7: Ordinal numbers

74010	ord.z.m
74020	ord.z.f

Table 8: Cardinal numbers

74030	kard.z.m	only 1 and 2; all other cardinal numbers are nouns with the respective inflection
74040	kard.z.f	

Possessives

(81000)

Possessives are encoded with suffix pronouns.

80000	possessivart	suffix unknown / lost
80001-9	possessivart	e.g.: *p# j =k*: 80002

Relatives

(82000)

Relatives (including negated relatives) are encoded in combinations with pronouns and are encoded according to agreement in number and gender. Independent relatives are nouns and are not encoded here.

80100	relativum.sgm
80200	relativum.sgf
80300	relativum.plm
80400	relativum.plf

For status pronominalis in combination with the forms above, use the relevant suffix and dependent pronoun code for the last digit of the relative form code (see: *Suffix pronouns and dependent pronouns* on page 121).

81000	relativum.mit Pers.pronom

Admirative suffix

The admirative suffix *.wj* is encoded together with the word token.

90000	adm.suff.*wj*

Verbal adjectives

(91030)

Verbal adjectives are encoded as one word form.

91000	verbaladj.*tj=f*.sg3m
91010	verbaladj.*tj=s*.sg3f
91020	verbaladj.*tj=sn*.p13

Negated form with *tm*: *tm.tj=f* + neg. compl. (see *Negative complement* on page 117).

Prepositions

(93100)

Prepositions are encoded in status pronominalis in their complete form with suffix pronouns.

93000	prep.st.pr.	suffix lost
93001-9	prep.st.pr.	e.g. *r =f* = 93004

Particles

(94100)

Particles are encoded with their endings, i.e. suffix and dependent pronouns (see: *Suffix pronouns and dependent pronouns* on page 121)

94000	partk.st.pr./st.cs.	suffix/dep. pr. unknown/ lost
94001-9	partk.st.pr.	*jr =f* = 94004
94015-24	partk.st.cs.	*mk sw* = 94018

Auxiliaries

(96000)

Combined verbal forms are encoded in the respective verb (see above *Suffix conjugation* on page 109, *Pseudo participle* on page 112, *Infinitive* on page 115).

Auxiliaries are distinguished from status absolutus (= code 3, i.e. it is no different to BWL) and auxiliaries in status pronominalis. If the suffix is lost, use 0 as the last digit of the code.

96300	aux.st.pr."/general	
96200	aux.*jw*=	*jw=f m pr=f* (96204 + *=f* + *m* + 70054 + *=f*)
96310	aux.*jw*= (+prep)+vf	*jw=f ḥr sḏm* (96314 + *ḥr* + 61010)

96320	aux.*jr̰i*= (+prep)+vf	
96330	aux.*j:jr̰i*= (+prep)+vf	
96340	aux.*j:jr̰i.t*= (+prep)+vf	
96350	aux.*#ḥ#.n*= +vf	
96360	aux.*wn*= (+prep)+vf	
96370	aux.*wnn*= (+prep)+vf	
96380	aux.*wn.jn*= (+prep)+vf	
96400	aux.*bwpw*= (+prep)+vf	
96410	aux.*mtw*= (+prep)+vf	
96420	aux.*tw*= (+prep)+vf	
96430	aux.*wn.ḫr*= (+prep)+vf	

NOTE: Auxiliaries in other verbal forms are not currently taken into account.

Example: *#ḥ#.n=f sḏm.n=f*: 96354 + 10384 + *=f*)

Suffix pronouns and dependent pronouns

Table 9: Suffix pronouns

0	unknown/lost suffix
1	suffix pr. *=j* sg1
2	suffix pr. *=k* sg2m
3	suffix pr. *=t̰* sg2f
4	suffix pr. *=f* sg3m
5	suffix pr. *=s/=st* sg3f/c
6	suffix pr. *=tw* sg3
7	suffix pr. *=n* pl1
8	suffix pr. *=t̰n* pl2
9	suffix pr. *=sn* pl3 (Late Eg.: *=w*)

Table 10: Dependent pronouns

15	depend. pr. *wj* sg1
16	depend. pr. *t̰w* sg2m
17	depend. pr. *t̰n* sg2f
18	depend. pr. *sw* sg3m
19	depend. pr. *sj* sg3f
20	depend. pr. *st* sg3
21	depend. pr. *n* pl1

22	depend. pr. *tn* pl2
23	depend. pr. *sn* pl3
24	depend. pr. *st* pl3

Other and uncertain options

1	"I don't know"
2	"nobody knows"
3	"no different to BWL"
4	"ambiguous"
5	"outstanding problem"

Guidelines for Encoding Hieroglyphs

For detailed information and instructions on how to encode hieroglyphs please see the following document:


Encoding of hieroglyphs

BTS Troubleshooting

The following list offers solutions for common problems. If the solutions do not solve your individual problem or you experience problems that should be listed here, please contact the BTS team: aegypt1@bbaw.de

- **BTS hangs up during starting process**

  Problem: BTS gets stuck during starting process if it cannot get a connection to the server. This might be due to down time on the server.

  Solution: Disconnect your internet connection and restart BTS. Without an internet connection, BTS will start in offline mode and will not try to access the server.

- **All windows and tabs have disappeared**

  Problem: All windows and tabs have disappeared and an empty frame remains on the screen. This happens after you drag the last window or tab out of the BTS program window.

  Solution: Restart BTS to restore all windows and tabs.

- **BTS icons are to small**

  Problem: On Windows 8.1 and Windows 10 systems the icons are smaller than on previous systems.

  Solution: Start BTS in Windows-XP-mode.

- **Text Corpus Object/Text is not visible**

  Problem: A TCObject or a text you have previously created or edited is not visible.

  Solution: This can happen when the corpus is not indexed properly. Re-index the respective corpus.

- **Annotation is not visible**

  Problem: An annotation you have just added is not visible anymore.

  Solution: This can happen when the corpus is not indexed properly. Re-index the respective corpus.

- **There are no corpus icons in the Navigator Tree or they cannot be opened**

  Problem: After BTS opens there are no brown and black icons in the Navigator tree, or they are visible but cannot be opened. This can often happen if you have had to re-index the databases more than once during start-up.

  Solution: Something went wrong during the start-up process. Please restart BTS.

- **My translation has not been saved**

  Problem: A translation entered in the Translation field of the Text Editor is not visible.

  Solution 1: The sentence was not active when the translation was entered. Activation is shown by flags and a yellow underline of the sentence (see: *Translation* on page 24).

  Solution 2: Make sure that the correct translation language has been selected. You might have saved e.g. your English translation in the German (de) field.

  Solution 3: Translations can be lost if you change the borders of the sentences, e.g. if you combine two sentences into one (see *Transliteration* on page 20).

- **The lemmatizer does not offer any options**

  Problem: The lemmatizer remains blank and does not offer any options for the token.

  Solution 1: Make sure that the lemmatizer is activate (i.e. the Activate button is blue in colour).

  Solution 2: The word list may not have been indexed properly. Re-index the word list.

- **I cannot find a specific word in the lemma list**

Problem: During lemmatization the lemmatizer does not offer the correct option for a specific token, despite entering different transliterations for that token.

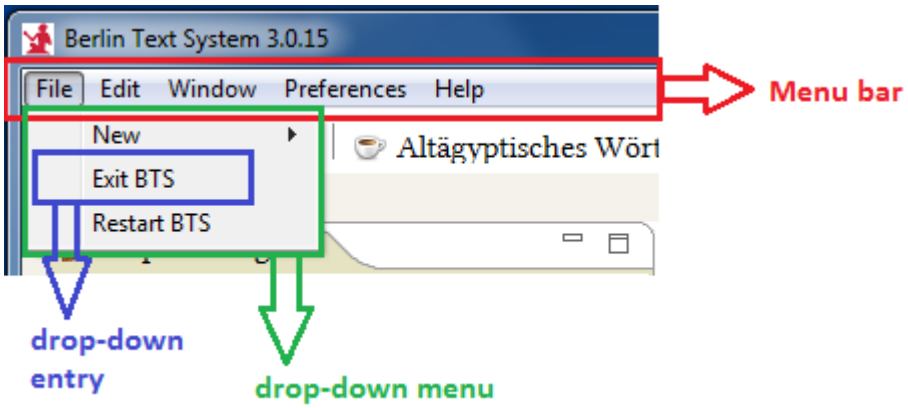
Solution 1: The word list may not have been indexed properly. Re-index the word list.

Solution 2: The lemma may not exist in the word list. Please contact the BTS team.

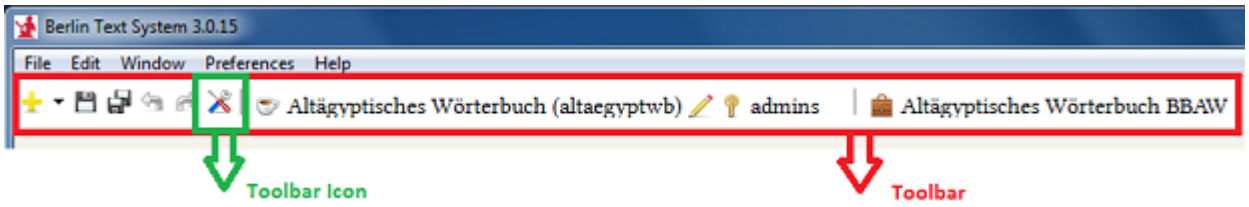
Glossary

This manual uses the following terms for the description of the User Interface:

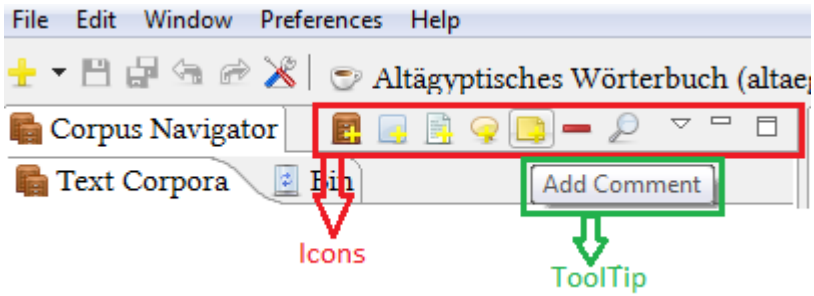
- Menu bar
- Drop-down menu
- Drop-down entry



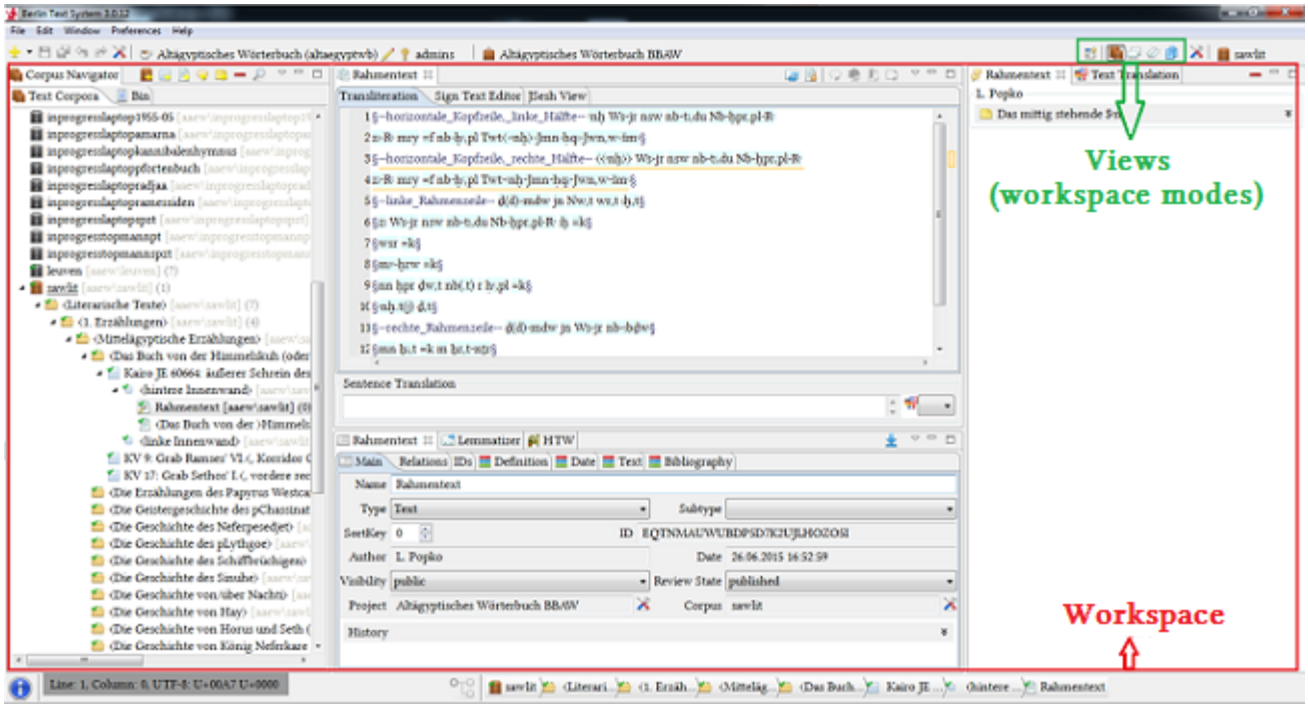
- Toolbar
- Toolbar Icon



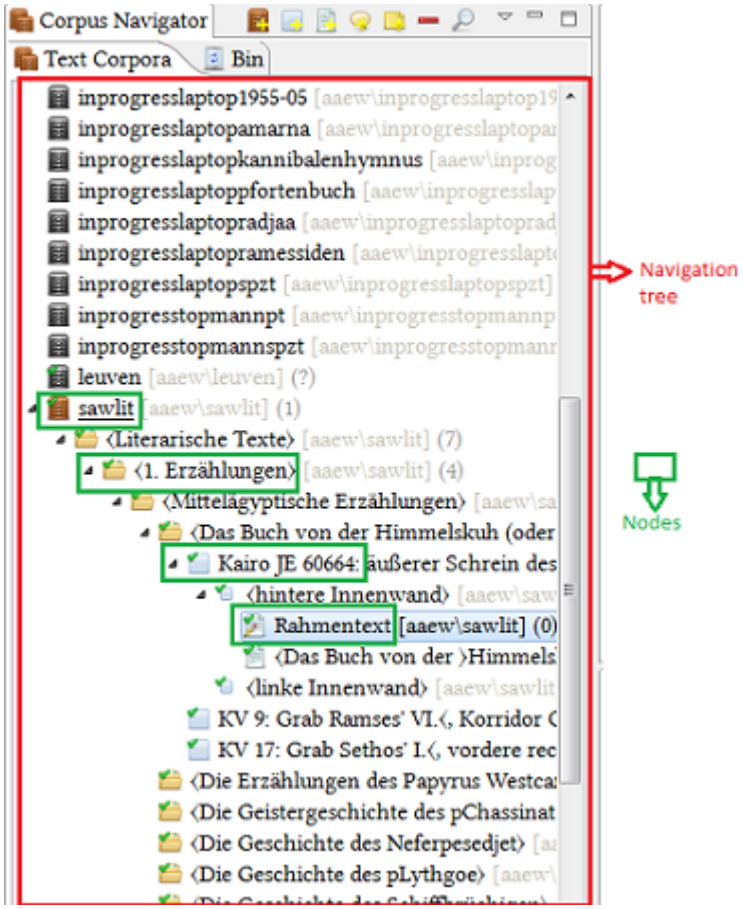
- Icon
- ToolTip (only activated upon mouseover)



- Workspace: the main working field between the Toolbar and Statusbar.
- View (Workspace modes): the Text Corpus View, the Lemma View (i.e. Lemma list), the Thesaurus View (i.e. management of metadata), and the Abstract Text View. These four Views differ with respect to their content. The default setting of the Workspace is the Text Corpus View for editing and annotating texts.



- Navigator Tree
- Node (= Branch): an entry in the Navigator Tree, which can be further expanded; types include Corpus, Text Corpus Object, or a Text



The following terms are used throughout the manual and defined here:

- Database object: any record of the database.
- Text Corpus Object: a record of the corpus database, which is not a text but is main used to refer to a physical artefact. Texts and Text Corpus Objects are in child-parent relationships; TCObjects always contain Texts.
- Child-parent relationship: the relation of subordination between two records of the database.
- Lemma: the canonical (dictionary) form of a word
- Token: the representation of a lemma in the text (i.e. a word)
- Local and remote databases: local databases run on your PC, remote databases are located on the BTS central server in Berlin.
- WCN: Word Corpus Number, i.e. the ID of the lemma in the TLA