EUDICO Linguistic Annotator (ELAN)
version 2.0.2

Manual

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Introduction

ELAN (EUDICO Linguistic Annotator) is an annotation tool that allows you to create, edit, visualize and search annotations for video and audio data. It was developed at the Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands, with the aim to provide a sound technological basis for the annotation and exploitation of multi-media recordings. ELAN is specifically designed for the analysis of language, sign language, and gesture, but it can be used by everybody who works with media corpora, i.e., with video and/or audio data, for purposes of annotation, analysis and documentation.

ELAN supports:

- display a speech and/or video signals, together with their annotations;

- time linking of annotations to media streams;

- linking of annotations to other annotations;

- unlimited number of annotation tiers as defined by the users;

- different character sets;

- export as tab-delimited text files;

- im- and export between ELAN and Shoebox;

- search options.

This manual helps you to understand and use the features of ELAN.

Part I explains the installation process.

Part II is the user's guide. It is organized around the following four topics:

- ELAN documents

- The screen display and the navigation through a document.

- Annotations.

- Search Options.

  For each topic, basic information is given. Following that, the use of features is explained in a step by step way. It is recommended that you read the relevant chapter before starting to work with your own data.

Part III is the reference guide, i.e., it provides brief information on the following topics: mouse options, menu items, and shortcut keys. In addition, the key concepts of ELAN are defined and new features (compared to earlier versions) are listed.

Notation Conventions

The following notation conventions are used:

- Menu items, icons and screen displays are written in the font MS Sans Serif.

- (SHORTCUT) KEYS ARE WRITTEN IN SMALL CAPS.

- Step by step instructions on how to use a specific feature start with a caption on a gray background.

- Information on troubleshooting starts as follows: **!**

Some of the screenshots used for illustration purposes throughout this manual are taken from corpora collected and annotated by Birgit Hellwig (on Goemai, a West Chadic language of Nigeria) and Gunter Senft (on Kilivila, an Austronesian language of Papua New Guinea).

Table of Contents

PART I: PRELIMINARIES

1 Installing ELAN

To install ELAN on your computer, go to http://www.mpi.nl/tools and follow the instructions. On this webpage, you will also find information about software and hardware requirements.

2 Selecting a user interface language

Once ELAN has been started, you can change the language of the user interface at any time. To achieve this, choose Options > Language and select one of the available languages.

> **!** Note: the selected Language does not influence the content of the produced or edited ***.eaf** files in any way.

> **!** Note: at the moment of publication, only English and Dutch language modules were available. However, new languages can be easily added. If you want to provide a translation for a different language, please contact the ELAN development team

Part II: User's Guide

This part of the manual contains the user's guide. It is organized as follows:

- ELAN documents (see section 3)

- Screen display and navigation through a document (see section 4)

- Annotations (see section 5)

- Search Options (see section 6)

It is recommended that you read the relevant section before starting to work with your own data.

3   ELAN documents

3.1   Basic Information: Media Files and Annotation Files

Every ELAN project consists of at least two files: one (or more) media file(s), and one annotation file.

(1) One (or more) media file(s):

- 0, 1 or 2 video file(s) (***.mpg**, ***.mpeg** or ***.mov**)

- and/or one audio file (***.wav**)

   ! Note: The ***.mp(e)g/*.mov** file allows you to view the video and listen to the sound. If you want to view the waveform as well, you need to create an additional ***.wav** file through a conversion program that converts the audio data from one ***.mp(e)g** file into a ***.wav** format. In the case of multiple video files, the audio of the first selected video file is played.

   ! Note: The display of ***.mov** files (i.e., self-contained Cinepak-Quicktime-Movies) is supported for reasons of compatibility with older digitization formats. It is important that these are self-contained files, i.e., the video information needs to be contained within the ***.mov** file itself. If this is not the case, ELAN will not be able to display the file.

(2) One annotation file:

- an annotation file created by ELAN (***.eaf**, "EUDICO Annotation Format")

   ! Note: In an earlier version of ELAN, this annotation file had the file extension *.**xml**. In order to avoid confusion with other XML formats, the new extension *.**eaf** was adopted. If you have old *.**xml** ELAN files, please rename them manually into *.**eaf**.

- or an imported annotation file. The following two import mechanisms are available:

   - importing a file of the Shoebox format (with the extension ***.txt**)

   - importing a WAC ("Word Annotation Converter") file (with the extension ***.wac.txt**)

All information (e.g., the tier setup, the time alignment, the annotations) is saved to the annotation file only – never to the media file(s).

> **!** Note: Never edit a media file that is associated with an annotation file. Doing so will corrupt the alignment of the time axis between the media and annotation files.

> **!** Note: As from version 2.0, the ELAN annotation file and the media file(s) don't have to share the same name anymore. It is e.g. possible to have an annotation file *a.eaf* that contains the annotation of the video file *b.mpg* or *b.mov* and the sound file *c.wav*. It is however for your own convenience a good idea to use a common name for media files and the annotation file. So, it is recommended to use *a.eaf* next to *a.mpg* and *a.wav*.

Imported Shoebox files (***.txt**) and Word Annotation Converter files (***.wac.txt**) also do not need to have the same name as their media files, and they can be located in different directories. All imported files (***.txt**, ***.wac.txt**) can alternatively be saved as ELAN files (***.eaf**).

All annotation files (***.eaf**, ***.txt**, ***.wac.txt**) can be exported as tab-delimited text files (***.txt**). Furthermore, the imported Shoebox file (***.txt**) can be exported back to Shoebox.

3.2 How to manage documents (using the File menu)

To start ELAN, do the following:

1. Double-click on the ELAN icon (on your desktop, or contained within the Java Web Start icon on your desktop).

   The start dialog window is displayed, asking you what kind of document you want to open.

2. Click on the File menu

   The File menu supports the following options:

   - New (section 3.2.1)

   - Open (section 3.2.3)

   - Import (section 3.2.8)

   - Exit (section 3.2.10)
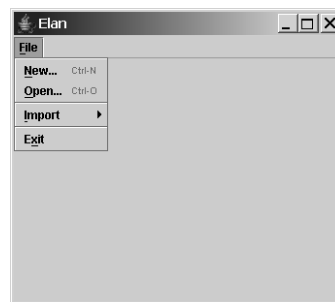
3. Click on:

   (a) Open in case there is a media file (***.mpg**/***.mov**, ***.wav**) and an ELAN file (***.eaf**) (see section 3.2.3).

   (b) New in case there is a media file (***.mpg**/***.mov**, ***.wav**), but no annotation file (***.eaf**, ***.txt**, ***.wac.txt**) (see section 3.2.1).

   (c) Import shoebox file … in case there is a media file (***.mpg**/***.mov**, ***.wav**) and a Shoebox file (***.txt**) (see section 3.2.6).

   (d) Import Word Annotation Converter file … in case there is a media file (***.mpg**/***.mov**, ***.wav**) and a "Word Annotation Converter" file (***.wac.txt**) (see section 3.2.8).

   Different dialog windows appear and prompt you to enter the names and locations of the different files (see sections 3.2.3, 3.2.1, 3.2.6, and 3.2.8).

   The ELAN window appears and displays the selected files.

Once you have started ELAN, use the File menu to open, create or import a second document.

3.2.1 Creating a new document

In case there is a media file (***.mpg**/***.mov**, ***.wav)**, but no annotation file (***.eaf**, ***.txt**, ***.wac.txt**), click on New in the File menu.

The New Transcription dialog window is displayed, e.g.:
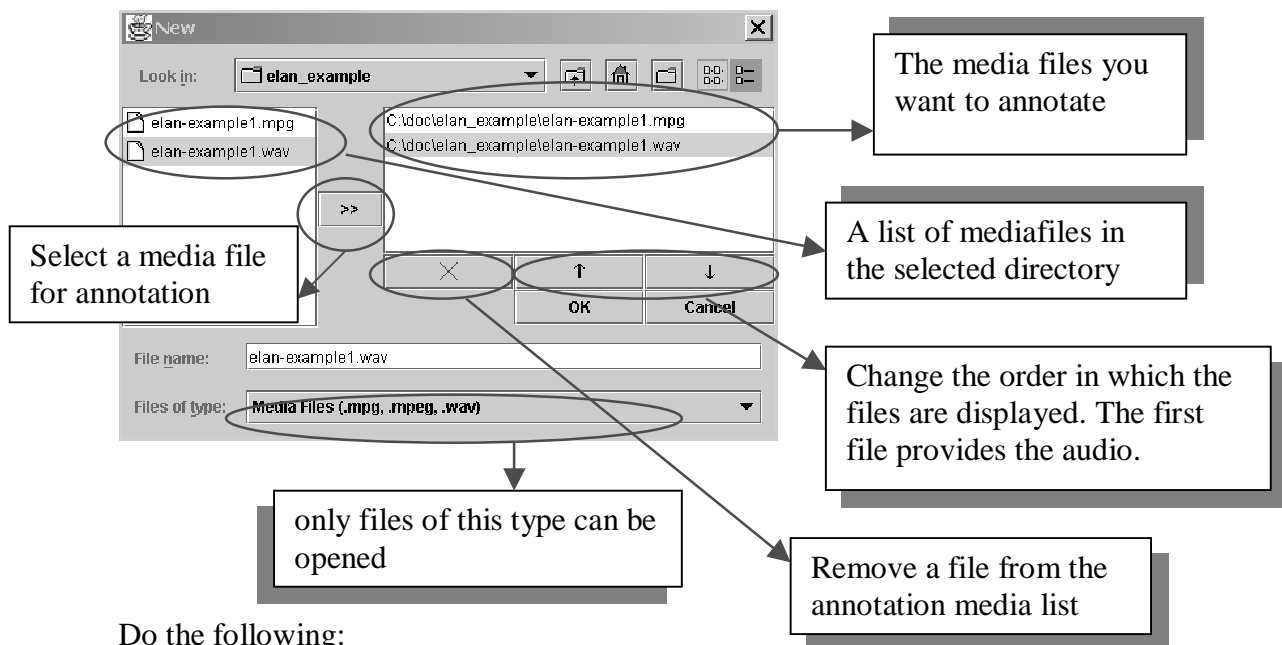
Do the following:

1. Click on the Look in pull down box and browse to the directory that contains the media files (*.**mpg**/*.**mov**, *.**wav**).

2. Double-click on the media file (***.mpg**/***.mov**, ***.wav**) to select it. It appears now in the rightmost box. Alternatively, you can click on the media file name and click afterwards on the **>>** button.

   ! Note: If both an *.**mpg/*.mov** and a ***.wav** file exist, select both of these files. As from version 2.0, the connection between ***.mpg** and ***.wav** is *not* made automatically anymore.

   ! Note: from version 2.0, it is possible to use more than 1 movie file. In that case it is maybe necessary to synchronize these files (see section 3.2.2). **It is very important that you do this before entering the annotations**, as you won't be able anymore to synchronize after entering an annotation.

3. Click OK to open the new annotation document; otherwise click Cancel to exit the dialog window without creating a new file.

   An ELAN window containing the new document appears.

3.2.2 Synchronizing video files

Sometimes one has two (or more, in future versions) video files of the same recorded scene, e.g. when 2 different cameras were used. In that case it may happen that both recordings don't start exactly at the same moment. In order to fix this, one should synchronize the videos, i.e. set the time to 0 for each video. This can be done as follows:

1. Open the new document with the 2 video files.

2. Select the pull down menu Options > Media Synchronization Mode

3. Select the radio button *player 1*. You can now choose a moment in the video which is easy to calibrate (some clear recognition point, in both of the videos). For instructions how to navigate through the video file, see section 4.2.

Select player 1 here

Use the media controls to go to a clear calibration point, e.g. in this case the moment where the ball is on it's highest level, at 220 ms.
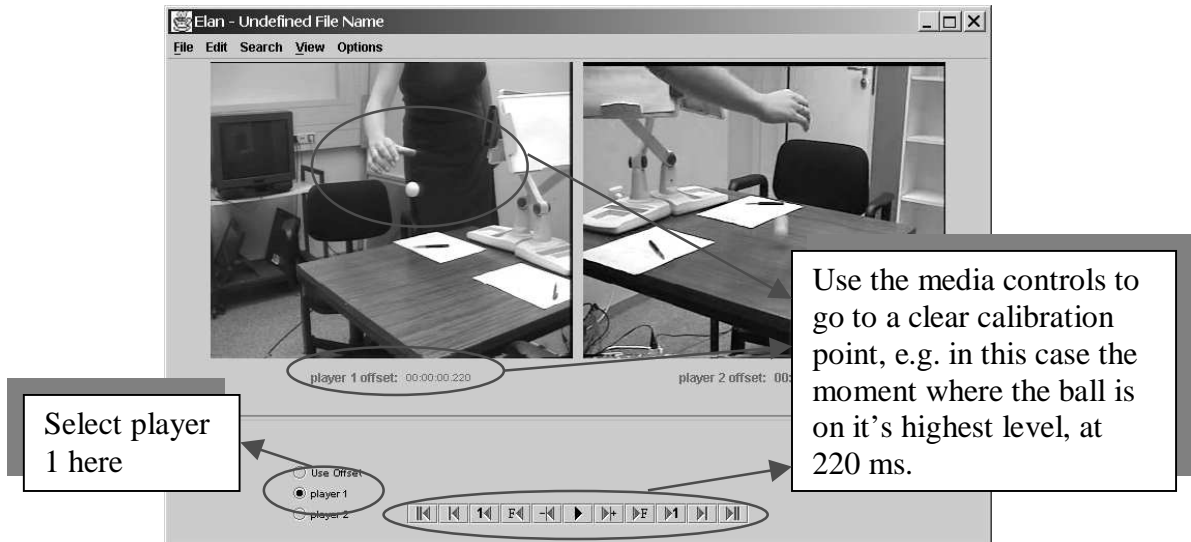
4. Now select *player 2* and go to the same callibration point.

Player 2 has reached exactly the same point as Player 1.
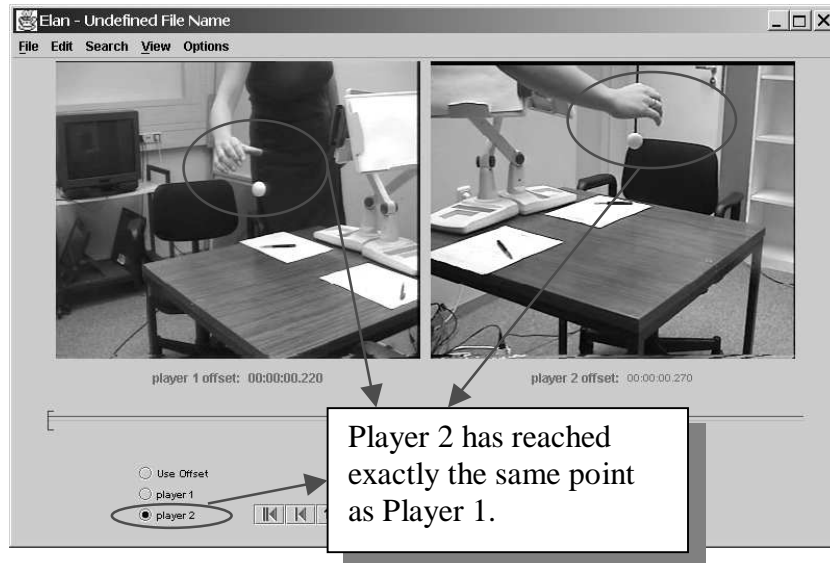
5. Finally, choose *Use offset*. By selecting the play button both videos will be played together now, so you can check if the synchronization between them is correct. If not, please repeat step 3-5 until the result is satisfactory.

6. Leave the synchronization mode by selecting Options > Annotation Mode. Now you are ready to start entering annotations.

3.2.3 Opening an existing document

In case there is a media file (***.mpg**/***.mov**, ***.wav**) and an ELAN file (***.eaf**), click Open in the File menu.

The Open dialog window is displayed:
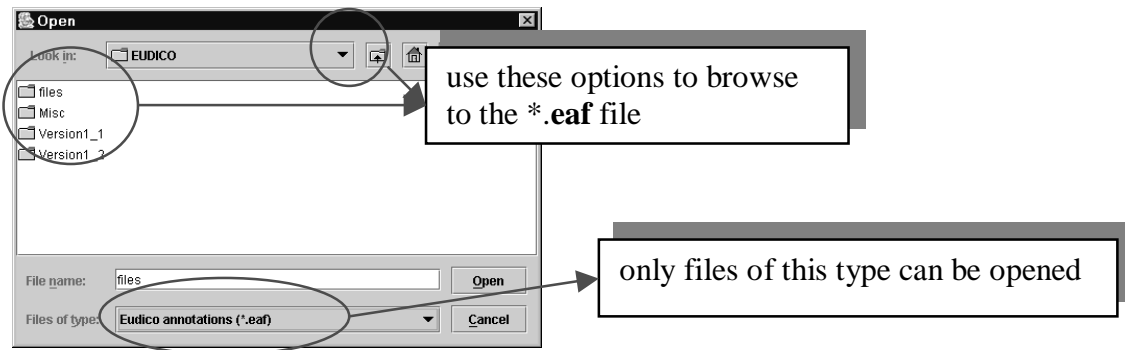
Do the following:

1. Browse to the directory that contains the ELAN file (***.eaf**).

2. Double-click on the annotation file to open it.

   An ELAN window containing the document appears.

   ! Note: You can only open files of the EUDICO annotation format (***.eaf**). If you try to open a file of a different format, the following error message appears:

! Note: If ELAN cannot find the associated media files (***.mpg, *.mpeg, *.mov, *.wav**), it will check if these files exist in the directory of the EAF-file. If they are still not found there, it will ask you where the media files are located:
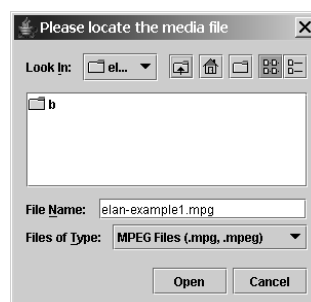
3.2.4 Saving a document

All documents can be saved as ELAN files (***.eaf**, "EUDICO annotation format"). This includes documents that were created by ELAN itself (see sections 3.2.1 and 3.2.3) as well as documents that were imported into ELAN from Shoebox (see section 3.2.6) or Word, using the Word Annotation Converter (see section 3.2.8).

To save a document as an ELAN file (***.eaf**), do one of the following:

(a) Either use the menu options:

    1. Click on File menu.

    2. Click on Save.

(b) Or use the shortcut key CTRL+S.

3.2.5 Creating automatic backups

ELAN allows you to create automatic backup copies. To create backups, do the following:

1. Click on File menu.

2. Go to Automatic backup.

3. Click on the time interval after which ELAN should create the backup, e.g., after every 10 minutes.

    A checkmark appears next to the selected time interval.
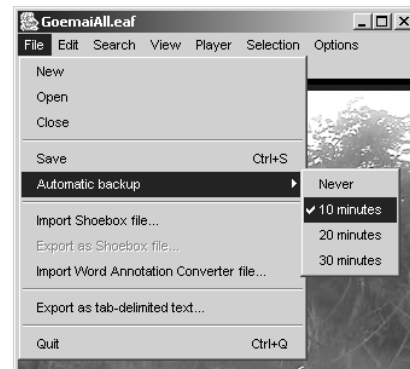
ELAN will automatically create a backup copy, saving it with the extension ***.eaf~**

3.2.6 Importing a document from Shoebox

ELAN supports the import of documents from Shoebox, thereby allowing you to link transcribed and/or interlinearized documents to the time axis of media files. In order to import from Shoebox, you need the following three files:

• the Shoebox file (***.txt**);

• the media file(s) (***.mpg**/***.mov**, ***.wav**);

• the corresponding Shoebox database type file (***.typ**).

    ! Note: If you do not know the Shoebox database type file, do the following:

    1. Open the Shoebox ***.txt** file in Shoebox. Make sure it is the active window (click on it to activate it).

    2. Click on Database menu.

3. Click on Properties …. The Database Type Properties dialog box appears. The name of the database type is displayed in the header, e.g.:
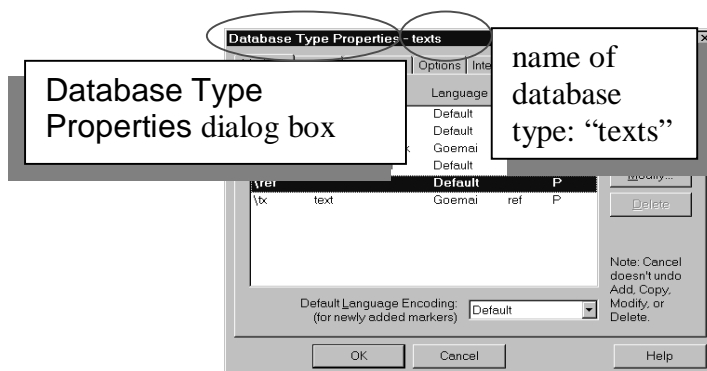
4. Locate the directory of the database type file (e.g., "texts.typ" in the above illustration). It is probably located in the directory "My Shoebox Settings".

To import a Shoebox file into ELAN, do the following:

1. Click on Import shoebox file … in the start dialog window (or on Import Shoebox file … in the File menu).

    The Import Shoebox dialog box appears.

2. Specify the name and directory of the three files, e.g.:
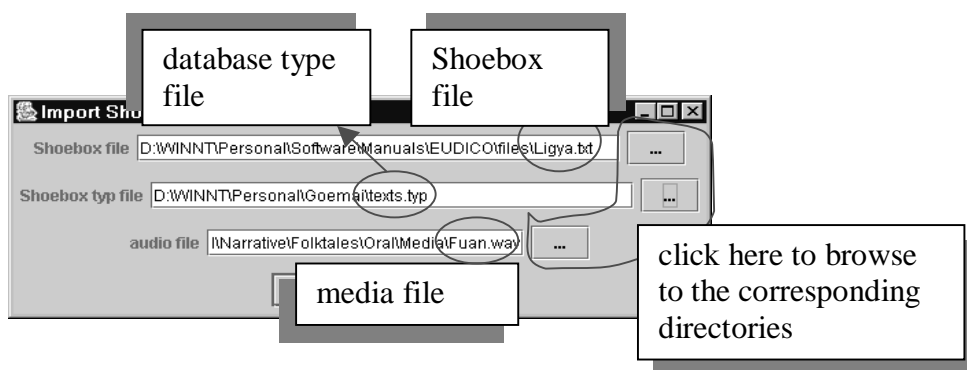
    ! Note: If both an *.mpg/*.mov and a *.wav file exist, select both of these files. As from version 2.0, the connection between *.mpg and *.wav is *not* made automatically anymore.

    ! Note: Like *.eaf documents, the Shoebox file and the media file(s) do not need to have the same name, and they do not need to be in the same directory (see section 3.1).

3. Click OK to import the file; otherwise click Cancel to exit the dialog box without importing the file.

    An ELAN window containing the imported Shoebox file appears.

ELAN imports Shoebox files according to the following conventions:

(1) The Shoebox field markers are imported as ELAN tiers. The tier label is identical to that of the field marker, except for the added extension @'Speaker-ID'.

This addition is necessary because ELAN and Shoebox differ in how they code information about multiple speakers:

- In ELAN, each speaker is coded on a separate tier.

- In Shoebox, all speakers are coded using the same field, and their identity is specified in a separate field.

When importing texts by multiple speakers, ELAN splits each Shoebox field into several ELAN tiers (one for each speaker) and adds the speaker-ID to the tier label.
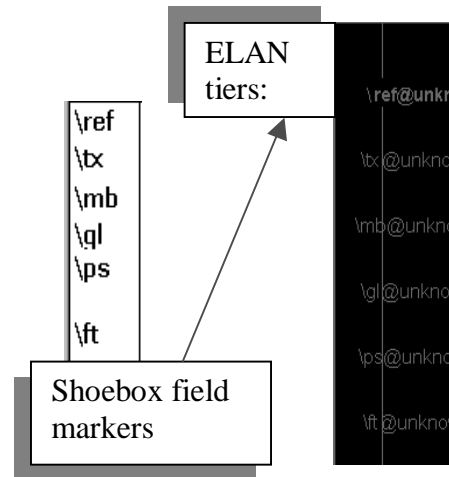
If speaker information is not specified in the Shoebox file, the extension @unknown is added.

The following screenshot illustrates how ELAN treats texts by multiple speakers:
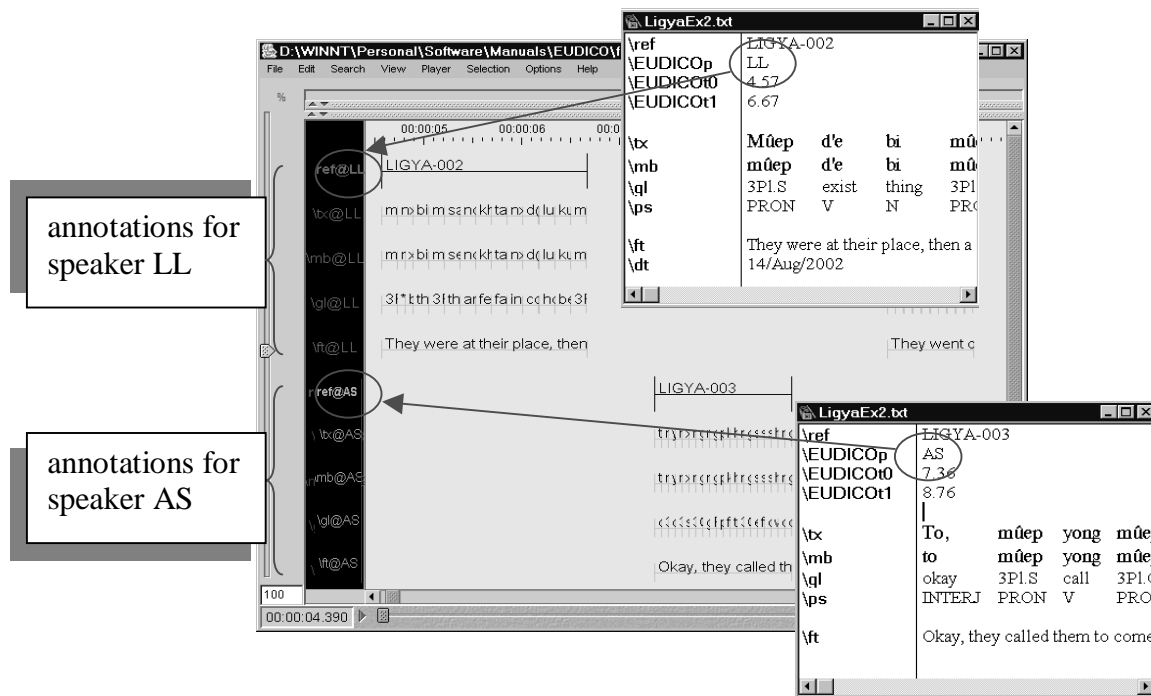
! Note: In this release, ELAN can only read speaker information if it is coded in a Shoebox field labeled \EUDICOp (see illustration above). If this field is

not present, or if speaker information is coded in a different field, ELAN will assume that there is only one speaker. I.e., if you have multiple speakers and if you want ELAN to assign them to separate tiers, do the following:

1. For every Shoebox record, add the field marker \EUDICOp.

2. For every Shoebox record, enter the relevant speaker-ID into this field.

! Note: When the file is exported back to Shoebox (see section 3.2.7), the extension @'Speaker-ID' is automatically dropped from the field marker, and the Shoebox records are sorted according to their record marker (e.g., in the above illustration, "LIGYA-002" is sorted before "LIGYA-003" etc.)

(2) Based on the information contained in the Shoebox database type file, the tiers are brought into a hierarchical relationship and are assigned to linguistic types (see section 5.1 for details of tier hierarchies and linguistic types):

- The Shoebox record marker is assigned to a type labeled **main-tier** (assigned to the stereotype **None**), i.e., it is an independent, time-alignable parent tier.

- The transcription and parsing fields of Shoebox are assigned to a type labeled **symbolic-subdivision-tier** (assigned to the stereotype **Symbolic Subdivision**), i.e., they are referring tiers that can be subdivided into smaller units.

- All other fields are assigned to a type labeled **symbolic-association-tier** (assigned to the stereotype **Symbolic Association**), i.e., they are referring tiers that cannot be subdivided into smaller units.

For example:
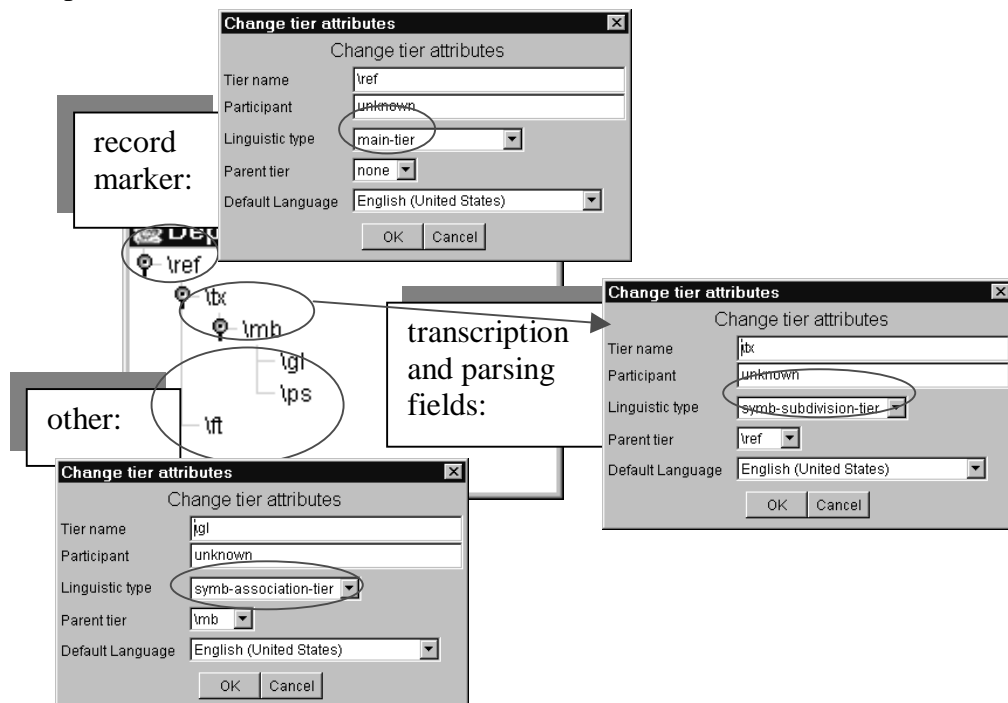
! Note: These three linguistic types are created by ELAN for imported Shoebox files. In principle, you could change the assignment and create new linguistic types, e.g., you could assign the \tx tier to **Time Subdivision** instead

of **Symbolic Subdivision** (see section 5.1). However, for this version of ELAN, we recommend to keep the default assignments as changes may create problems for exporting files back to Shoebox.

(3) All SIL IPA characters are converted into Unicode characters during import. If you export the file back into Shoebox (see section 3.2.7), the Unicode characters will be converted back into SIL IPA characters.

(4) Initially, the imported Shoebox file does not have the correct timecode information. Instead, ELAN automatically assigns each Shoebox record to a one second time interval, as in the following illustration:
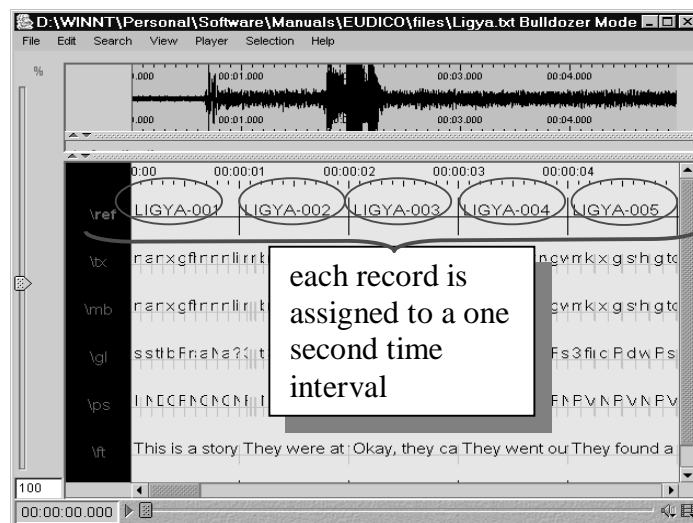
The time alignment has to be done manually for each Shoebox record. Do the following:

1. Activate the Bulldozer mode: Click on Options menu, click on Bulldozer Mode (see section 5.4.8 for the two available modes).

   ! Note: If you do not activate the Bulldozer mode, you will inadvertently overwrite and thereby delete existing annotations. Make sure that there is a checkmark next to Bulldozer Mode in the Options menu.

2. Click on the first annotation on the parent tier (i.e., the first Shoebox record). It appears in a dark blue frame.

3. Modify the boundaries of that annotation, so that they are aligned with the correct time interval (see section 5.4.7 for ways of modifying boundaries).

4. Press CTRL+ENTER to save the new time interval.

   The parent annotation (together with all its referring annotations) is assigned to the new time interval. All other parent annotations are moved to the right.

5. Repeat steps 2 to 4 for each parent annotation.

The following screenshot illustrates steps 1 to 4:
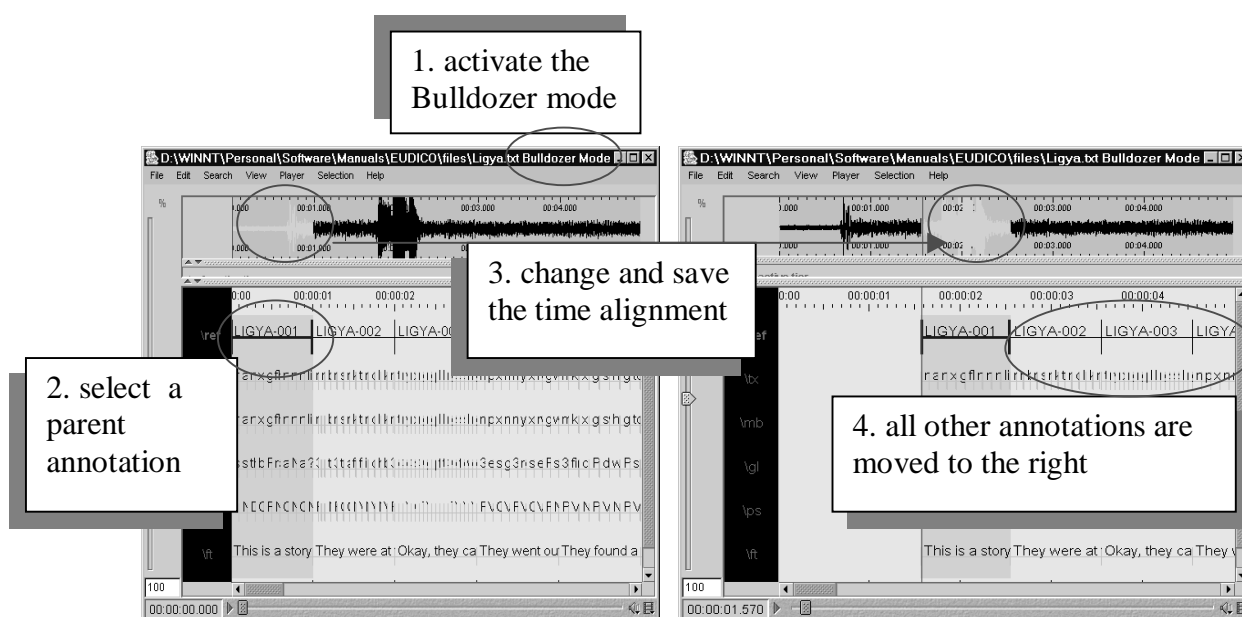
! Note: After you have done the time-alignment, you can export the file back to Shoebox – in this case, the timecode information will be kept (see section 3.2.7). If you then re-import the file back into ELAN, ELAN automatically assigns the Shoebox records to their correct time intervals.

! Note: An imported Shoebox file can be saved as an ELAN file (see section 3.2.4), exported back into Shoebox (see section 3.2.7), or exported as a tab-delimited text (see section 3.2.9).

3.2.7   Exporting a document to Shoebox

All Shoebox and Word Annotation Converter files that were imported into ELAN (see sections 3.2.6 and 3.2.8) can be exported into Shoebox. In this case, the timecode information is kept.

! Note: Only original Shoebox/Word Annotation Converter files can be exported. It is not yet possible to export *.eaf files to Shoebox.

To export a file into Shoebox, do the following:

1. Click on File menu.

2. Click on Export as Shoebox file ….

   The Shoebox Export dialog box appears.

3. Specify the name and directory of the exported file, e.g.:
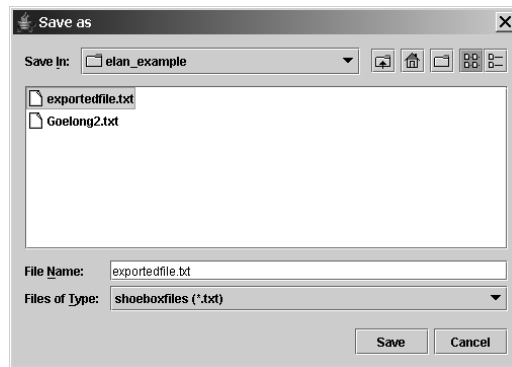
4. Click **Save** to export the file; otherwise click **Cancel** to exit the dialog box without exporting the file.

   The file is exported as a ***.txt** file.

   ! Note: If there already exists a file of the same name, ELAN will ask you whether or not it should overwrite the existing file, e.g.:
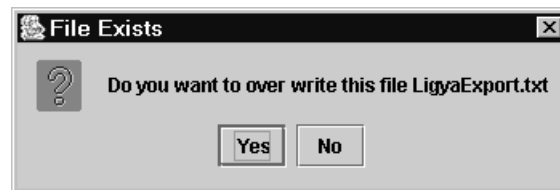
5. Open the exported file in Shoebox.

   ! Note: An exported Word Annotation Converter file cannot be opened directly in Shoebox. It needs to be imported.

   It contains the following information:

   (1) All tiers and annotations.

   Each ELAN parent annotation (including all its referring annotations) corresponds to one Shoebox record. E.g., in the illustration below, the ELAN parent annotation "Ligya-001" corresponds to the Shoebox record "Ligya-001".

   (2) The timecode information for each parent annotation.

   Each ELAN parent annotation (i.e., each Shoebox record) contains the additional field markers \EUDICOt0 and \EUDICOt1 (i.e., the begin and end time of the parent annotation).

This timecode information allows you to import the Shoebox file back into ELAN, without having to manually re-align the file (see section 3.2.6).

! Note: Shoebox does not support Unicode encoding. I.e., if you have modified your annotations in ELAN using a language encoding other than "English (United States)", these characters will <u>not</u> be displayed correctly in Shoebox.

3.2.8 Importing a Word Annotation Converter file
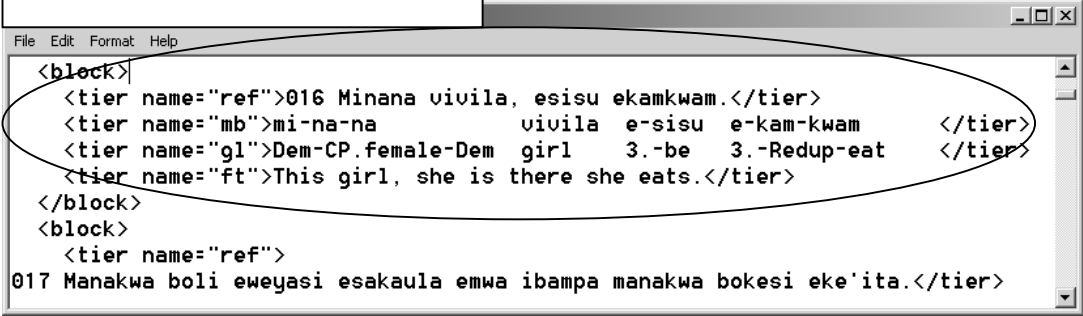
ELAN supports the import of Word Annotation Converter files.

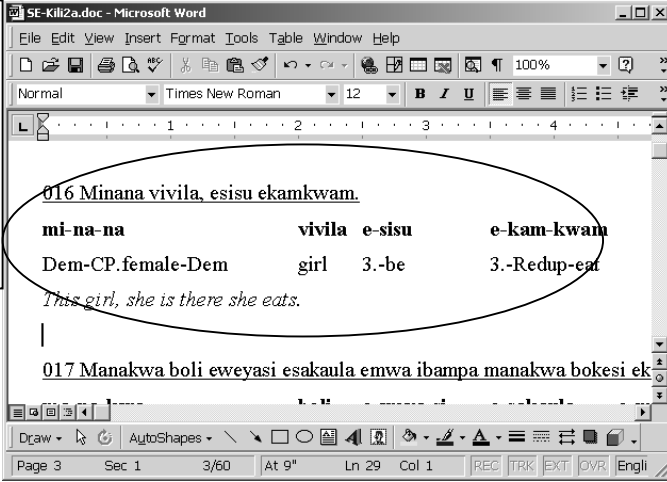The Word Annotation Converter[1] is a conversion program that allows you to convert Microsoft Word files (***.doc**) into XML files of the Word Annotation Converter format (***.wac.txt**). It will be made available shortly under http://www.mpi.nl/tools. For example:

Microsoft Word file (*.doc):

containing interlinearized text;

the lines are differentiated through formatting (underline, bold, regular, italic)

converted XML file (*.wac.txt):

each line of the interlinear text is marked with an XML tag

```
<block>
  <tier name="ref">016 Minana vivila, esisu ekamkwam.</tier>
  <tier name="mb">mi-na-na          vivila  e-sisu  e-kam-kwam      </tier>
  <tier name="gl">Dem-CP.female-Dem  girl    3.-be   3.-Redup-eat    </tier>
  <tier name="ft">This girl, she is there she eats.</tier>
</block>
<block>
  <tier name="ref">
017 Manakwa boli eweyasi esakaula emwa ibampa manakwa bokesi eke'ita.</tier>
```

The converted file (***.wac.txt**) can then be imported into ELAN. To import such a file, do the following:

1. Click on Import WAC … in the start dialog window (or on Import Word Annotation Converter file … in the File menu).

   The Import WAC dialog box appears.

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[1] Copyright © Markus Kramer and Peter Wittenburg (MPI for Psycholinguistics). This material may be distributed only subject to the terms and conditions set forth in the Open Publication License, v1.0 or later (the latest version is presently available at http://www.opencontent.org/openpub/).

2. Enter the name and location of the following three files:

- the WAC (Word Annotation Converter) file (***.wac.txt**)

- the Shoebox (database) type file (***.typ**) (see section 3.2.6 for details on Shoebox files)

- the media file (***.mpg**/***.mov**, ***.wav**)
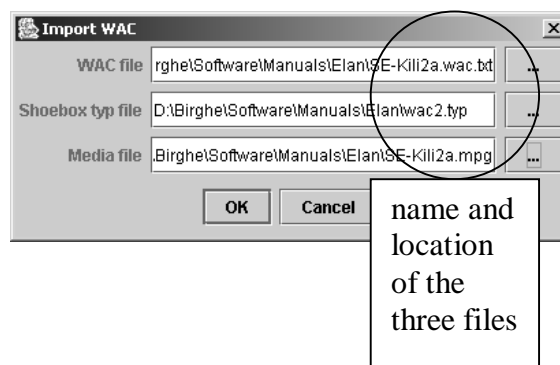
! Note: The typ file should specify the hierarchy of tiers as used in the word file. A better solution will be made available in the future.

3. Click **OK** to import the file; otherwise click **Cancel** to exit the dialog box without importing the file.

An **ELAN** window containing the imported Word Annotation Converter file (***.wac.txt**) appears, e.g.:

! Note: The Word Annotation Converter file is imported according to certain conventions. See section 3.2.6 for details.

! Note: An imported Word Annotation Converter file can be saved as an ELAN file (see section 3.2.4), exported into Shoebox (see section 3.2.7), or exported as a tab-delimited text (see section 3.2.9).

3.2.9 Exporting a document as a tab-delimited text file

All documents can be exported into a tabular format for purposes of further analysis and/or printing. This includes documents that were created by ELAN itself (see sections 3.2.1 and 3.2.3) as well as documents that were imported into ELAN from Shoebox (see section 3.2.6) or Word (see section 3.2.8).

Do the following:

1. Click on File menu.

2. Click on Export as tab-delimited text ….

   The Export as tab-delimited text dialog window is displayed, e.g.:
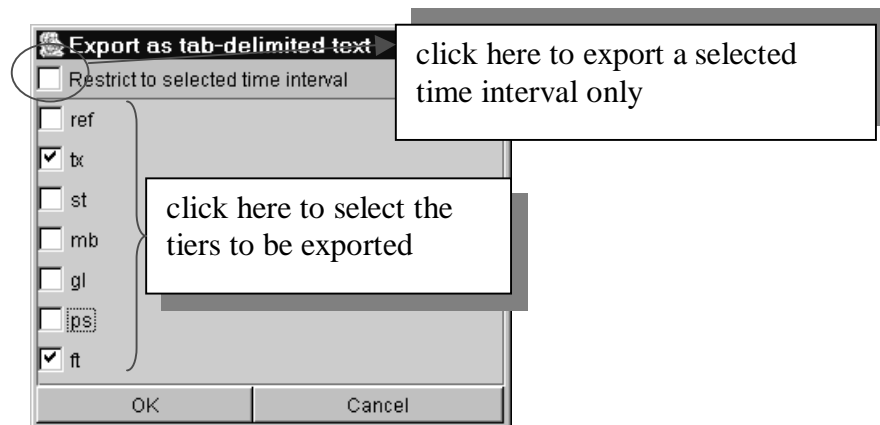
3. By default, ELAN exports all annotations, but it is possible to restrict the export process to selected annotations. The following three options are available:

   (a) Export only those annotations that correspond to a selected time interval. Do the following:

      1. In the ELAN window, select the desired time interval (see section 5.4.1).

      2. In the Export as tab-delimited text dialog window, click in the box to the left of Restrict to selected time interval. A checkmark appears indicating that this option has been selected.

   (b) Export only those annotations that are contained on particular tiers. Do the following:

      In the Export as tab-delimited text dialog window, select those tiers that you want to export. A checkmark appears next to any selected tier.

   (c) Export only those annotations that (a) correspond to a particular time interval and (b) are contained on particular tiers. To do this, combine the two steps under (a) and (b) above.

4. Click **OK** to start the export process; otherwise click **Cancel** to exit the dialog box without exporting the annotations.

A message appears to inform you that the file has been exported. The exported file has the extension ***.txt**.

The exported file contains the following information: begin time of each annotation, end time, total length, content, and tier. It can be opened with any program that can handle tab-delimited texts, e.g., Microsoft Excel.

3.2.10 Exiting ELAN

To exit ELAN, do one of the following:

(a) Either use the menu options:

1. Click on **File** menu.

2. Click on **Exit**.

If you exit ELAN without having saved the changes (see section 3.2.4), the **Saving transcription** dialog window appears, e.g.:
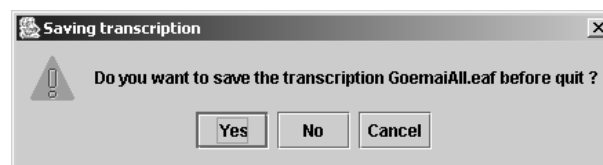
Click **Yes** to save the changes; click **No** to exit without saving; click **Cancel** to return to ELAN.

4 Screen display and navigation through a document

Whenever you open, create or import a document, the ELAN window appears. This section introduces you to the setup of the ELAN window (section 4.1), and explains the navigation through it (sections 0, 0, 4.3).

4.1 Basic Information: The ELAN window

The ELAN window displays the Menu bar, the Media Player options, and up to six Viewers, e.g.:
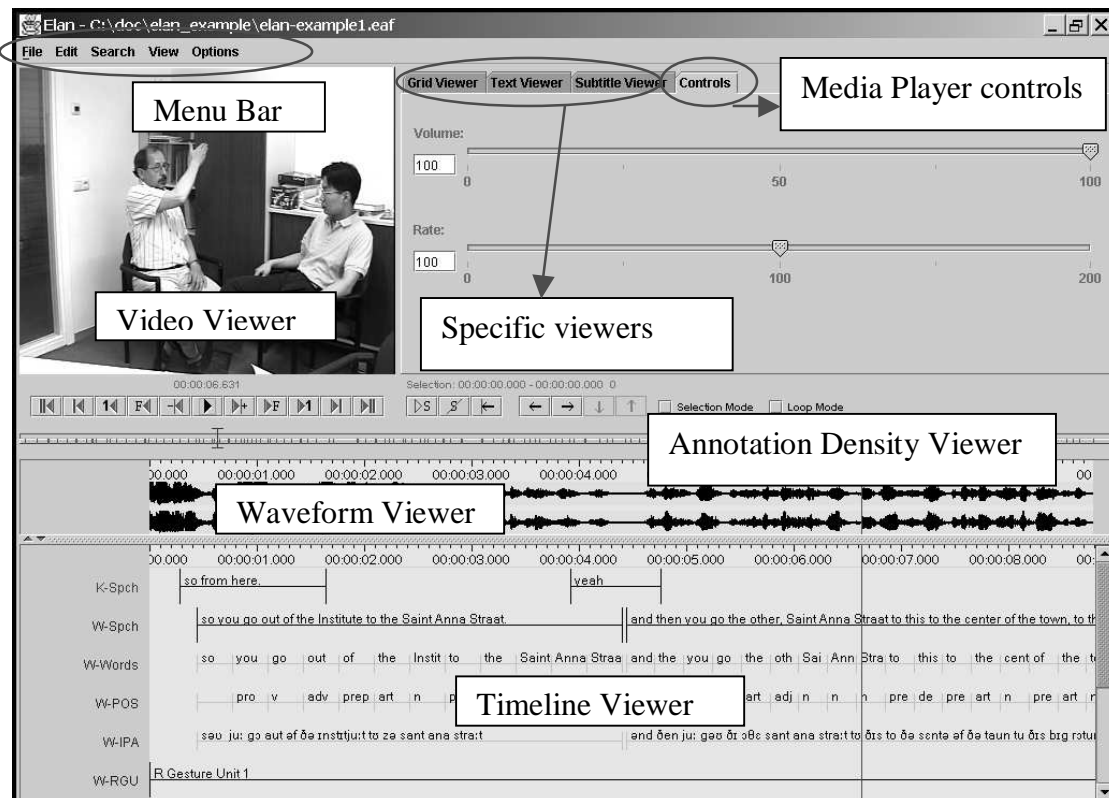
All Viewers are synchronized and thus display the same point(s) in time. I.e., whenever you access a point in time in one of the Viewers, all the other Viewers will immediately jump to the corresponding point in time.

In all Viewers, color coding is used to facilitate the orientation in the document.

This section introduces the setup of the Viewers, the Menu bar, the Media Player options and the color coding. Detailed information about how to navigate through the ELAN window follows in the subsequent sections.

4.1.1   The Video Viewer

The Video Viewer displays the video image (of the ***.mpg**/***.mov** file).
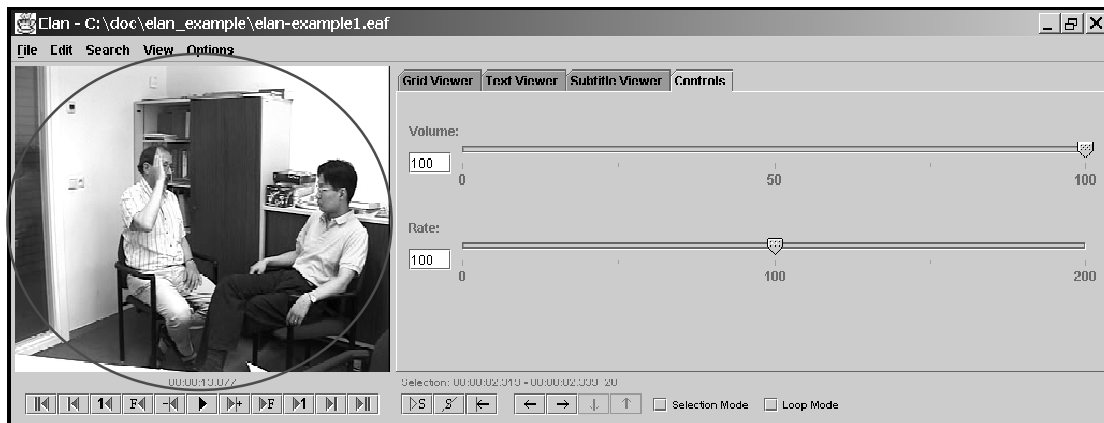
Note that you can right click on the video viewer to *detach* it, i.e. create a separate window for the video. The size of that window can be altered, in contrast to the normal video viewer within the ELAN window. To re-attach the video window, right click on it and select *attach*.

4.1.2   The Annotation Density Viewer

The Annotation Density Viewer is a kind of a timeline which allows you to:

- Navigate through the whole media file. The length of this viewer always corresponds to the whole media file, so e.g. by clicking in the middle you will always go to the middle of the media file. The selection is represented as a small grey bar.

- See how many annotations are concentrated at a particular moment of the time (the *Annotation Density*). The more annotations available for a particular moment, the more the Annotation Density bar is filled. This can be useful to track places in the media file that still have to be annotated.
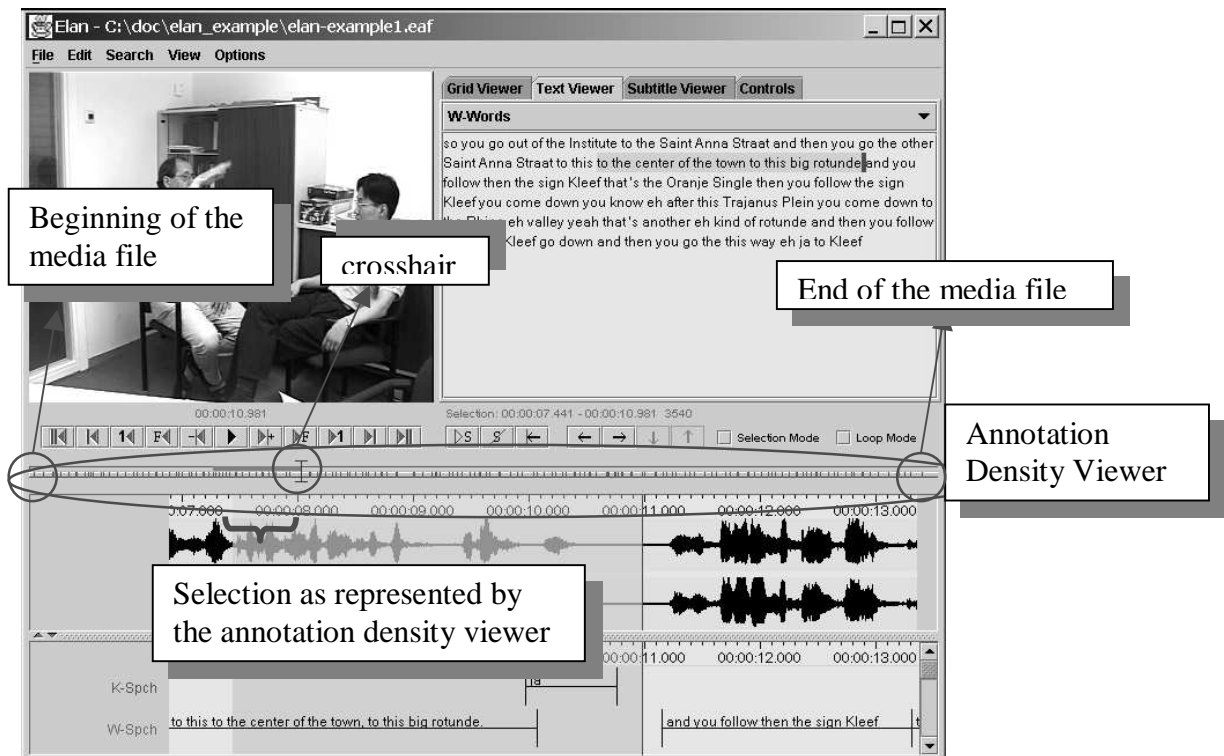
4.1.3 The Waveform Viewer

The Waveform Viewer displays the waveform of the audio file (***.wav**). Above the waveform, timecode information is displayed. While listening to the sound, a red vertical bar, the crosshair, moves through the waveform and indicates which part of the waveform corresponds to the current point in time. Furthermore, whenever you have selected a time interval, the corresponding part of the waveform will be highlighted in light blue color.

! Note: At any time, you can press ALT and drag and drop the time axis to the left (i.e. go back in the time) or to the right (go further).

! Note: In the case of video files, the waveform is only displayed if there exists an additional ***.wav** file (see section 3.1). If this is not the case, the Waveform Viewer will not be available.

! Note: On slower machines, the Waveform Viewer may not always update properly when moving to the next page.
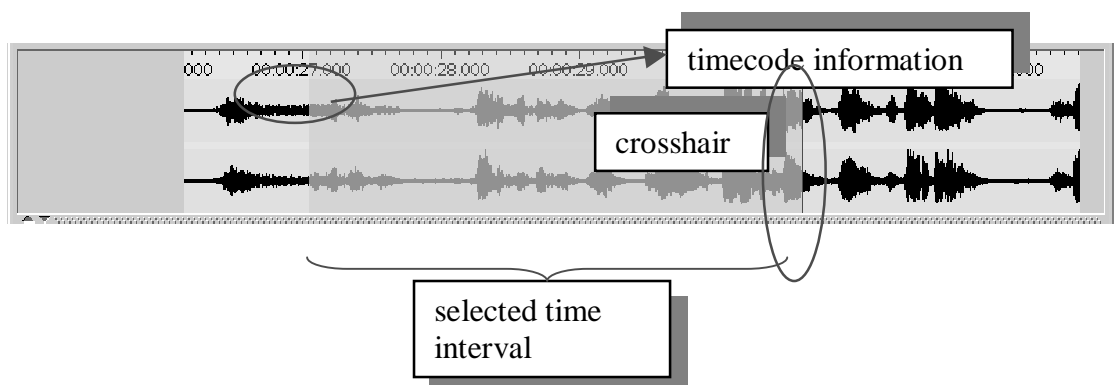
The Waveform Viewer supports 3 modes. You can select the active mode by a right click on the Waveform Viewer. In the menu *Stereo Channels*, the following options are available:

1. **Separate.** 2 Waveforms are showed, one for each channel.

2. **Merged.** The 2 channels are merged and the result, one waveform is displayed.

3. **Blended.** Both channels are displayed on 1 waveform, differences are designated with colors.

Another option in the context-menu (right click) of the Waveform Viewer is *connected*. If this option is checkmarked, the timescale of the Waveform Viewer and the Timeline Viewer are connected:

Connected Mode
Both crosshairs are on the same place on the time axis

Unconnected Mode
Both crosshairs can be on a different place on the time axis
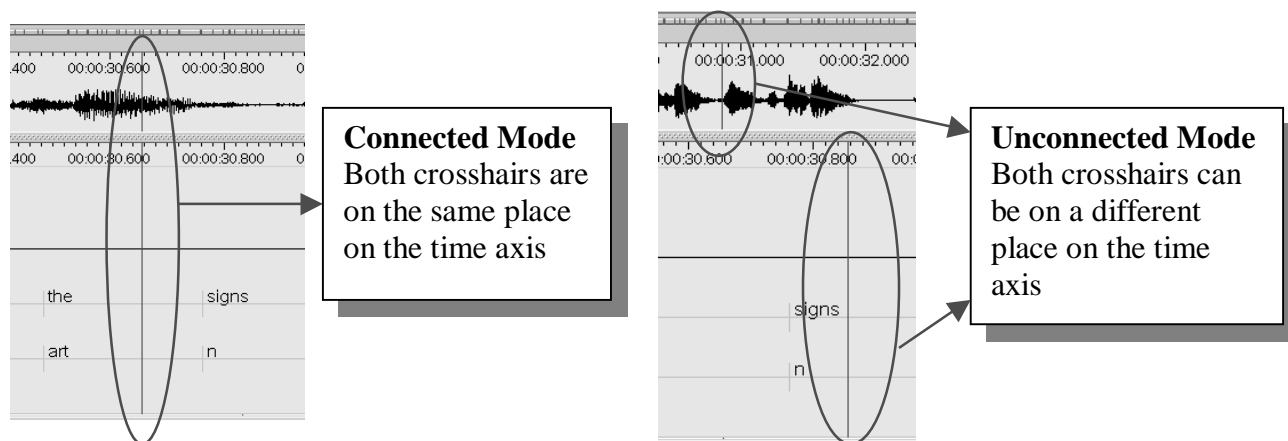
4.1.4 The Subtitle Viewer
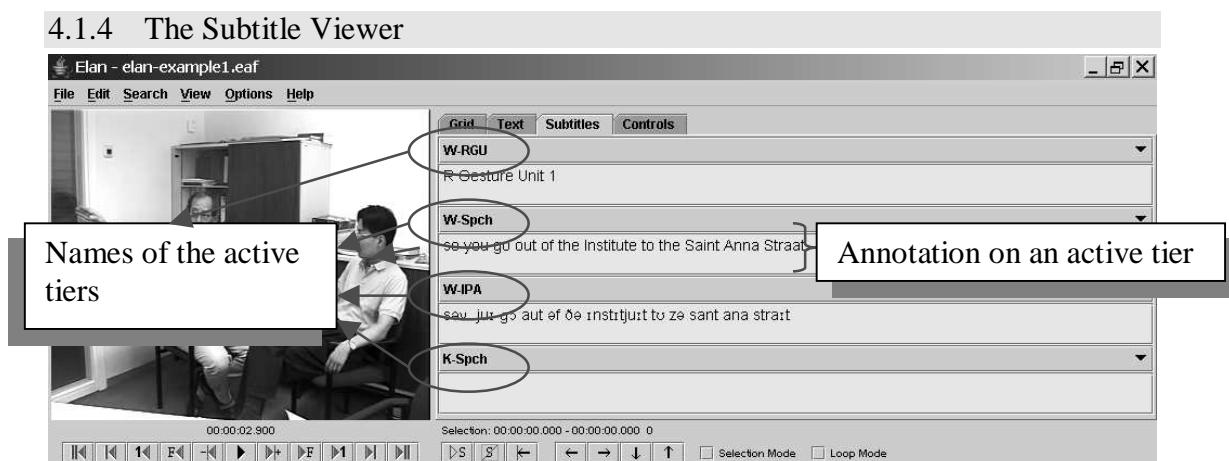
You can turn on the subtitle viewer for a tier by selecting that tier from the pulldown menu in the tab Subtitle Viewer. During playback, the Subtitle Viewer displays the annotations of the selected tiers at the current media time, both during playback and in static situations.

! Note: From ELAN version 2.0 the subtitle viewer is no longer associated with the active tier.

4.1.5 The Grid Viewer

The Grid Viewer displays the content as well as the begin and end time of all annotations from a single tier. You have to activate this Viewer through selecting the Grid tab next to the video window.
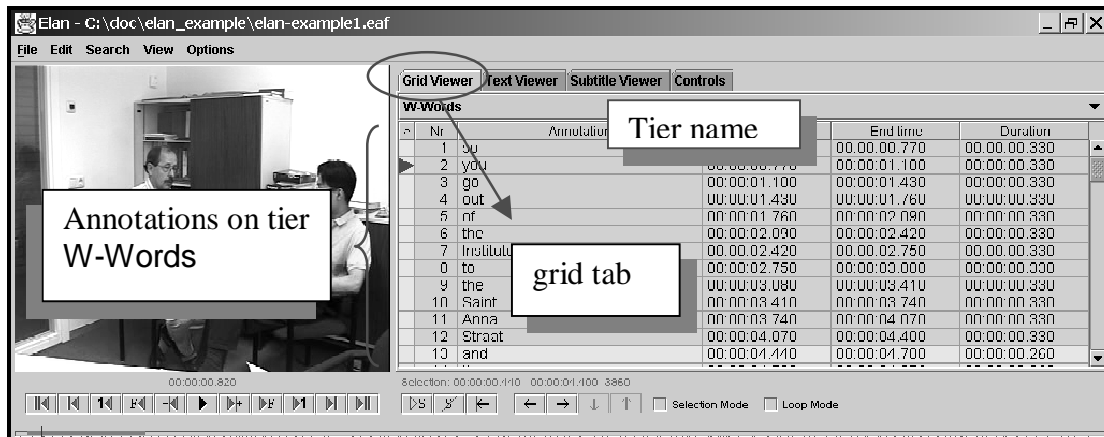
It is possible to select annotations within the Grid Viewer (by clicking on them), or to edit them (by double-clicking on them).

4.1.6 The Text Viewer

The text viewer shows shows all values of all annotations on a selected tier as ongoing text. Within this viewer, there are 3 kinds of highlighting shown:

- Text with a red background: the value of the annotation on the selected annotation tier that matches the current point of time.

- Text with a dark blue background: the active annotation (see also next section)

- Text with a light blue background: the selected time interval.

Optionally, you can make the annotation boundaries visible in the text viewer. Right click in the text viewer and select Toggle visualisation to enable this. The boundaries are marked by a dot.

4.1.7 The Timeline Viewer and the Interlinear Viewer

All annotations can be displayed in the Timeline Viewer or the Interlinear Viewer. Only one of the two Viewers can be switched on at a time.

The Timeline Viewer is always shown when a document is opened in ELAN. It displays the tiers and their annotations, whereby each annotation corresponds to a specific time interval. Above the tiers, a timescale is displayed. During playback, a red vertical bar, the crosshair, moves through the annotations and indicates the current point in time. Furthermore, whenever you have selected a time interval, it will be highlighted in light blue color; and whenever you have selected an annotation, this becomes the active annotation and will be highlighted in a dark blue frame.
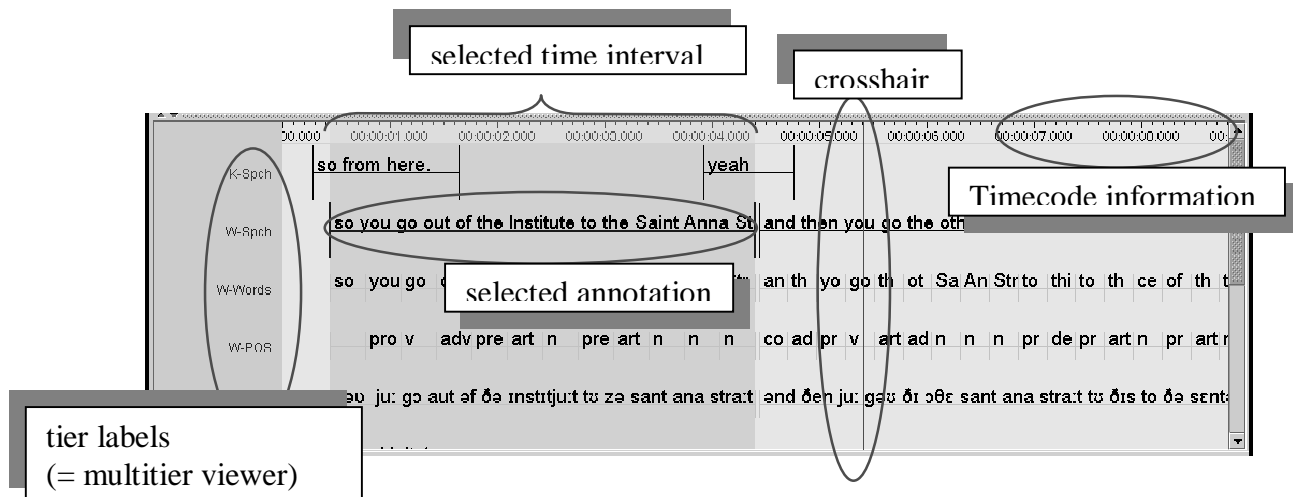
In the Timeline Viewer you can (a) select and modify time intervals (see section 5.4) and (b) enter annotations (see section 5.5).

The Interlinear Viewer offers an alternative perspective on the tiers and their annotations. It shows parent-child relations between annotations using vertical text alignment (interlinearization). You can enable it selecting the Show Interlinear Viewer radio button when you right-click on the tier name's panel and select Viewer. Switching it on, will automatically switch off the Timeline Viewer.

> ! Note: The Interlinear Viewer is available for imported Shoebox files (see section 3.2.6), but it is not always available for ***.eaf** files (only for those ***.eaf** files that have an interlinear structure comparable to that of Shoebox files).

The following screenshots compare how information is displayed in the two Viewers.

Timeline Viewer

current position of cross-hair (in red color)

active annotation (on tier W-words)

time interval selection, independent from annotations

Interlinear Viewer

click here to move backward/forward to the next annotation

Whenever the Interlinear Viewer is switched on, it displays an annotation block (i.e., an independent, time-alignable parent annotation together with its referring annotations, see section 5.1). To move forward/backward to the next block, click on the arrow icons at the top of the Viewer. During playback, the Viewer automatically moves forward to the next annotation block.

The Interlinear Viewer differs from the Timeline Viewer in that it does not allow to modify the time interval or to enter new annotations. It is similar to the Timeline Viewer in that it allows to edit existing annotations.

The Tier Name Panel

The Tier Name Panel gives an overview of the different existent tiers. One of these tiers (underlined and in red) is the *active tier*, which means that new annotations will be added to this tier.

To make a tier the active tier, choose one of the following actions:

- Double click on a tier label.

- Right click in the Timeline or Interlinear Viewer and choose Active Tier.
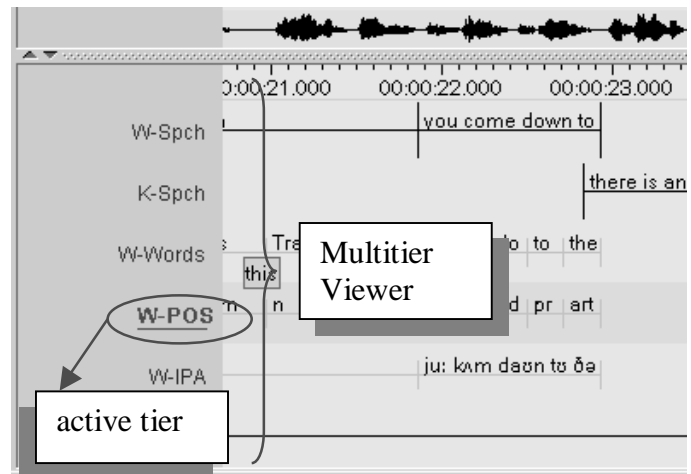
4.1.8   The Menu options

The following Menu options are available at the top of the ELAN window:

- File: use this menu to open, create, save, im-/export or exit a document (see section 3) and to configure automatic backups.

- Edit: use this menu to define, modify and delete annotations, tiers and linguistic types (see section 5).

- Search: use this menu to search for text (see section 6).

- View: use this menu to get an overview of the tier dependencies (see section 5.1) and the shortcut keys.

- Options: use this menu to (de)activate the Bulldozer mode (see section 5.4.8), to choose between annotation mode and synchronization mode and to select a language and video standard.

- Help: use this menu to read information about ELAN.

4.1.9   The Media Player options

With the Media Player options, you can control the playback of the file. The following options are available at the bottom and at the left side of the ELAN window:
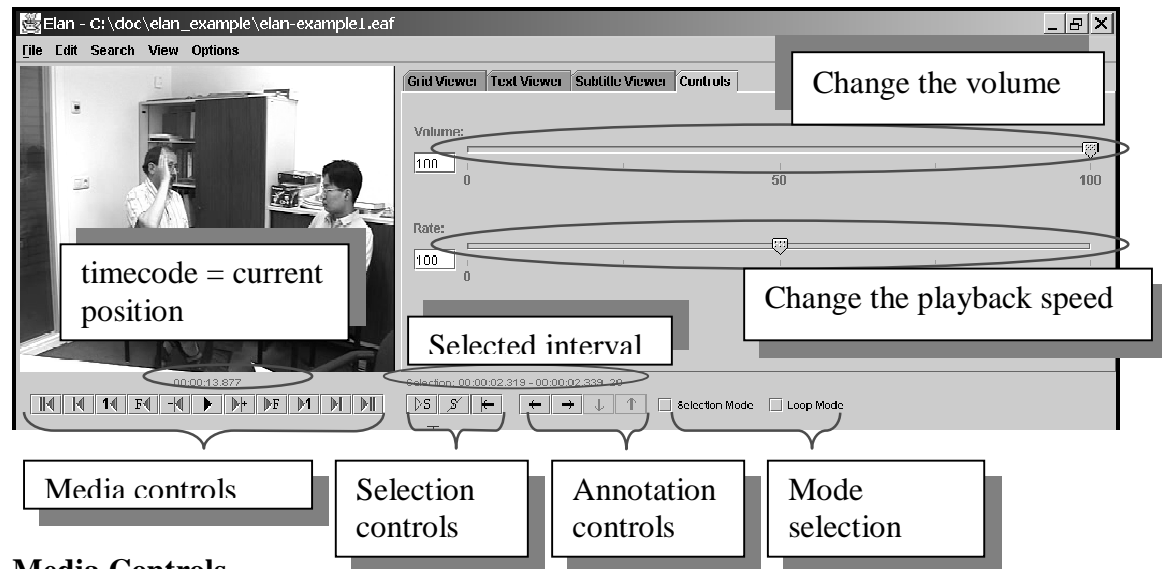
Media Controls

Icon	Meaning	Shortcut
◄◄	Go to the beginning of the video/audio fragment	CTRL+B
◄	Go to the previous scroll view (make the beginning point of the current timeline view the end point)	CTRL+PAGE UP
1◄	Go back one second	SHIFT+LEFT
F◄	Go back one frame (= 40 ms for PAL, 33.4 ms for NTSC)	CTRL+LEFT
─◄	Go back one "pixel" on the timeline viewer (smallest unit, depends on the zoom factor of the timeline viewer, default value 10 ms)	CTRL+SHIFT+LEFT
►	Start / Pause the playback	CTRL+SPACE
►+	Go to the next "pixel" on the timeline viewer (smallest unit)	CTRL+SHIFT+RIGHT
►F	Go to the next frame	CTRL+RIGHT
►1	Go to the next second	SHIFT+RIGHT
►|	Go to the next scroll view	CTRL+PAGE DOWN
►||	Go to the end of the media fragment	CTRL+E

Selection Controls

Icon	Meaning	Shortcut
▷S	Play the selected interval.	SHIFT+SPACE
S	Clear the selection.	CTRL+C
← →	Move the crosshair to the begin / end of selection	CTRL+/

Annotation Controls

Icon	Meaning	Shortcut
←	Go to the previous annotation on the active annotation tier	ALT+LEFT
→	Go to the next annotation on the active annotation tier	ALT+RIGHT
↑	Go to the annotation above.	ALT+UP
↓	Go to the annotation below.	ALT+DOWN

Selection Mode

Icon	Meaning	Shortcut
☐ Selection Mode	While playing, select an interval automatically	CTRL+K
☑ Loop Mode	Keep playing the selected interval (if used together with *play selection* ▷S)	CTRL+L

- The timecode is displayed in the following format: "hours:minutes:seconds.milliseconds". It can be used to access points in time (by clicking on it).

- The sliders available when the Controls tab is selected allow you to control the playback rate and the volume.

4.1.10 The color coding

In all its displays, ELAN makes use of recurring colors in order to facilitate the orientation in the document. The following colors are used:

- Red: Position of the crosshair (i.e., current point in time);

- Light Blue: Selected time interval;

- Dark Blue: Active annotation.

- Black with long segment boundaries: Annotations that can be aligned to the time axis.

- Yellow with short segment boundaries: Annotations that cannot be aligned to the time axis.

For example:
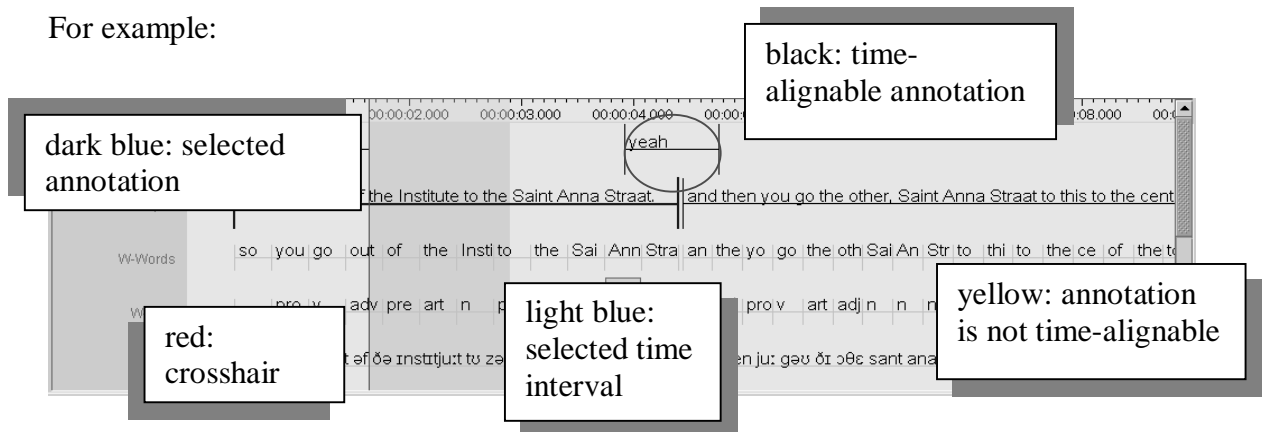
How to change the display of the ELAN window

The ELAN window setup as described and illustrated in section 4.1 above is the default display. But you can easily change the display according to your needs. The following options are available:

- increasing/decreasing the size of the ELAN window (section 4.1.11);

- switching Viewers on/off (section 4.1.12);

- increasing/decreasing the size of Viewers (section 4.1.13);

- switching tiers on/off (section 4.1.14);

- rearranging the order of tiers (section 0);

- displaying a tier in the any of the tab pane's viewers (section 4.1.16);

- changing the time resolution (section 4.1.17);

- changing the font size (section 4.1.18);

- de-attach/re-attache the video window (section 4.1.1).

4.1.11 Increasing/decreasing the size of the ELAN window

The size of the ELAN window can be increased or decreased. Do one of the following:

(a) Go with the mouse to the borders of the ELAN window. The mouse will turn into a double-headed arrow. Click and move it to increase/decrease the size of the window.

(b) In the top right corner of the ELAN window, click on the Maximize icon to activate the full-screen modus; click on the Restore Down icon to return to the previous size.

4.1.12 Switching Viewers on/off

Depending on the type of media file, ELAN automatically displays three Viewers (Video, Waveform and Timeline Viewer). Furthermore one can choose an additional viewer in the tabbed palet on the right of the video Viewer: a text viewer, a grid viewer or subtitle viewer. Note that it is not possible to activate both the Timeline and the Interlinear Viewer at the same time.

> **!** Note: If a media file is not available (e.g., the ***.mpg**/***.mov** file in case of audio data, or the ***.wav** file in case of some video data), the corresponding Viewer is not available either. In a similar way, if the annotations do not have an interlinear structure, the Interlinear Viewer will not be available.

4.1.13 Increasing/decreasing the size of Viewers

The size of all Viewers (except for the Video Viewer) can be increased and decreased relative to the size of other Viewers. Do one of the following:

(a) Use the up/down-arrows of the split-pane.

Click on the up/down-arrow to increase/decrease the size of the corresponding Viewer.

(b) Use the mouse.

Go with the mouse to the split-pane. The mouse will turn into a double-headed arrow. Click and move it up/down to increase/decrease the size of the corresponding Viewer.
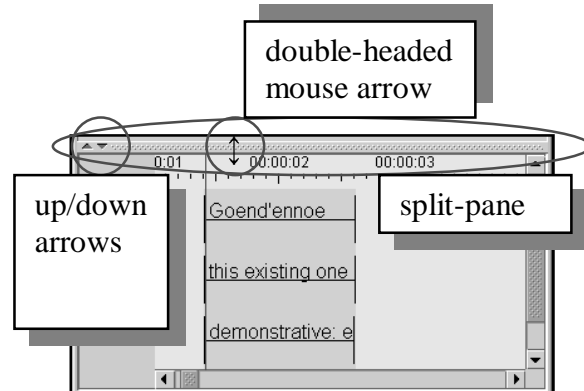
4.1.14 Switching tiers on/off

By default, ELAN automatically displays all available tiers, but each tier can be switched on or off manually, allowing you to focus only on the tiers of interest for the task at hand.

To switch tiers on/off, do the following:

1. In the Timeline Viewer, right-click in the tier name panel.

2. In the pull-down menu, make sure that the tiers you want to see are checked.
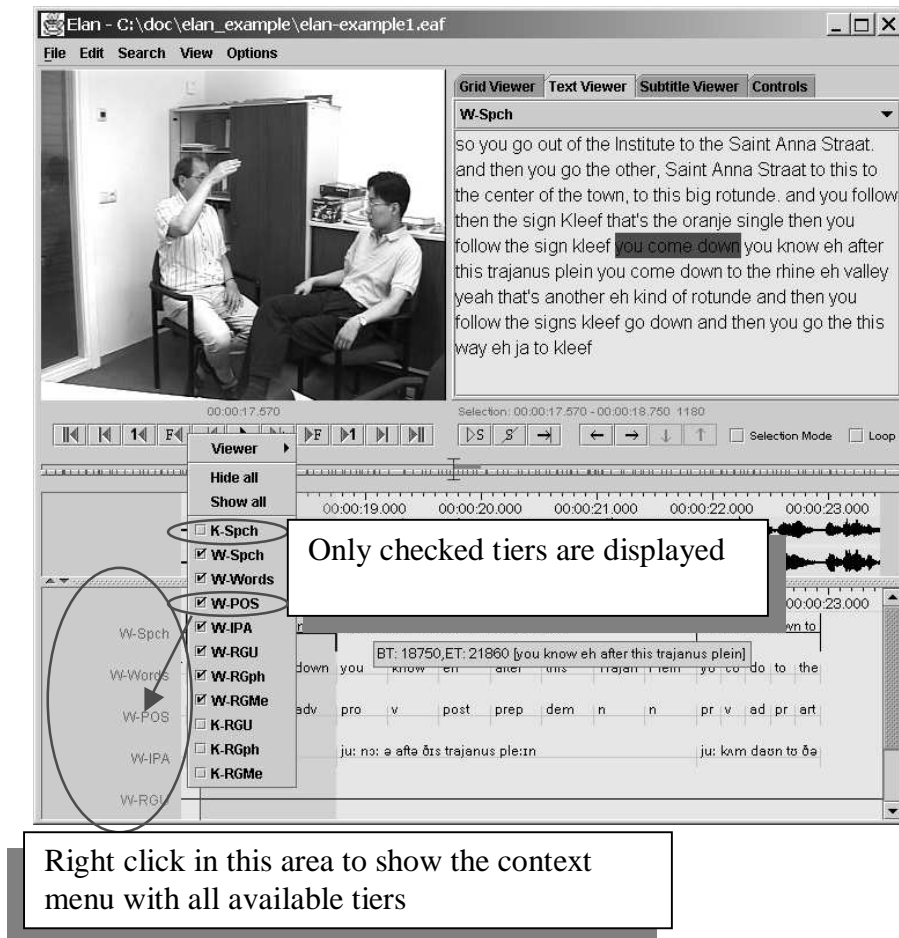
If you switch a tier on, it will be put on the place where you clicked.

4.1.15 Rearranging the order of tiers

Within the Timeline or Interlinear Viewer, you can rearrange the order in which the tiers are displayed. Just drag the tier label to its new location. The tiers will be displayed in the new order.

drag the tier label to its new location
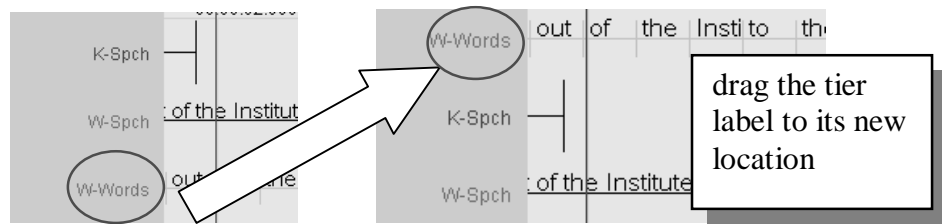
If you exit the document, ELAN will save the order of tiers in the following way: first, all activated tiers (in the order as they appear in the Timeline or Interlinear Viewer), followed by all non-activated tiers in alphabetical order.

4.1.16 Displaying a tier in the Subtitle Viewer

It is possible to display up to four of the tiers as a subtitle in the Subtitle Viewer:

1. Select the Subtitle Viewer tab in the right upper corner of the ELAN window

2. In the pull-down menu, click on the tier you want to be displayed.
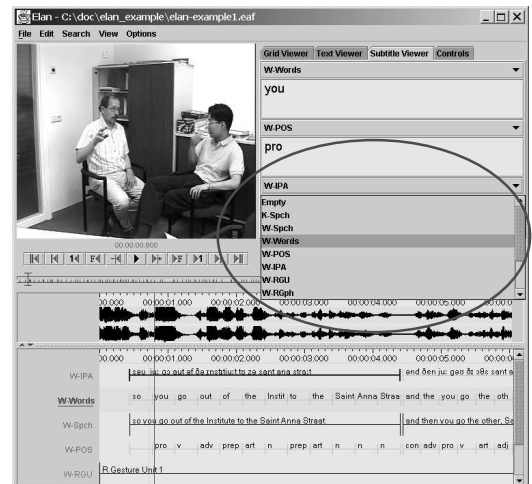
The default zoom for the Waveform and the Timeline Viewer is 100%, corresponding to 10 milliseconds per pixel. The zoom can be changed simultaneously for both Viewers. Do the following:

1. Click with the right mouse button on either the Wavefrom Viewer or the Timeline Viewer.

2. Go to Zoom. The following menu appears:
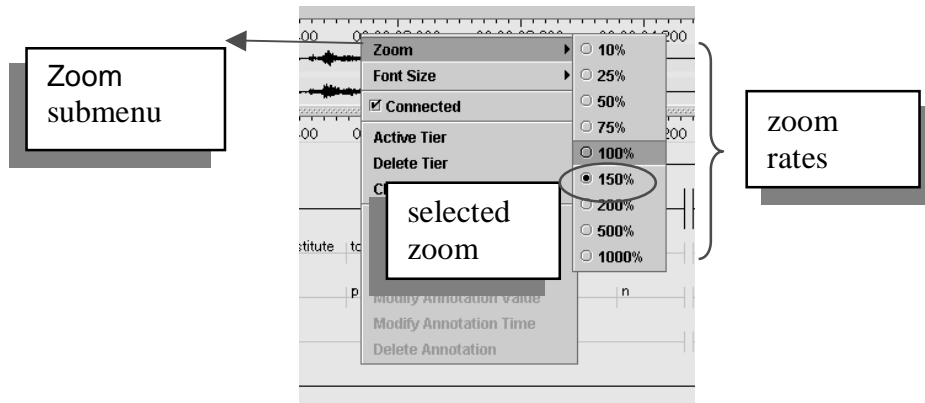
3. Click on a zoom rate to select it. A checkmark appears next to the selected zoom rate.

    -   Click on a lower percentage to get a finer zoom.

    -   Click on a higher percentage to get a wider zoom.

4.1.18 Changing the font size

The default font size is 12 pt., but it can be changed seperately for the different annotation viewers in Elan. Do the following:

1. Right click on one of the viewers (Grid, Subtitle, Text, Timeline, Interlinear Viewer).

2. Go to Font size. The following menu appears:
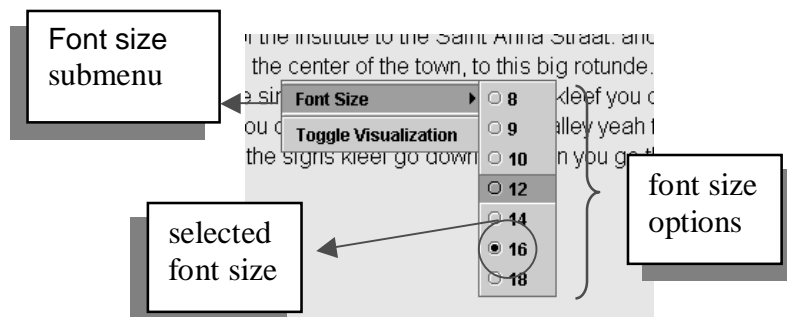
3. Click on a font size to select it. A checkmark appears next to the selected font size.

4.2 How to navigate through a document

ELAN supports the following options for navigating through a document:

- accessing points in time (section 4.2.1);

- going to a selection (section 4.2.2);

- jumping step by step through a document (section 4.2.3);

- navigating using the Timeline Viewer (section 4.1.9)

- navigating using the Grid Viewer (section 4.2.4);

- navigating using the Interlinear Viewer (section 4.2.5).

! Note: All Viewers are synchronized in time, i.e., when you navigate to a specific point or selection in one Viewer, all other Viewers will immediately jump to the corresponding point or selection:

- The Video Viewer will display the corresponding video frame

- The Waveform Viewer will display a crosshair at the corresponding location in the waveform.

- The Subtitle, Timeline and Interlinear Viewers will display the corresponding annotation(s).

4.2.1 Accessing points in time

To access a point in time, do one of the following:

(a) Use the timecode box.

Do the following:

1. Click on the timecode above the media playback controls (left side of the ELAN window). The Goto dialog window appears.

2. Enter the timecode in the following format: "hh:mm:ss.sss" (hours:minutes:seconds.milliseconds). The crosshair jumps immediately to the selected timecode.

   You can omit part of the timecode information:

   • If the digits are "00", you can omit "hours:", "hours:minutes:", or "hours:minutes:seconds."

   • It is optional to specify ".milliseconds".

   ! Note: The character preceding the milliseconds is a dot, not a colon.

(b) Use the crosshair
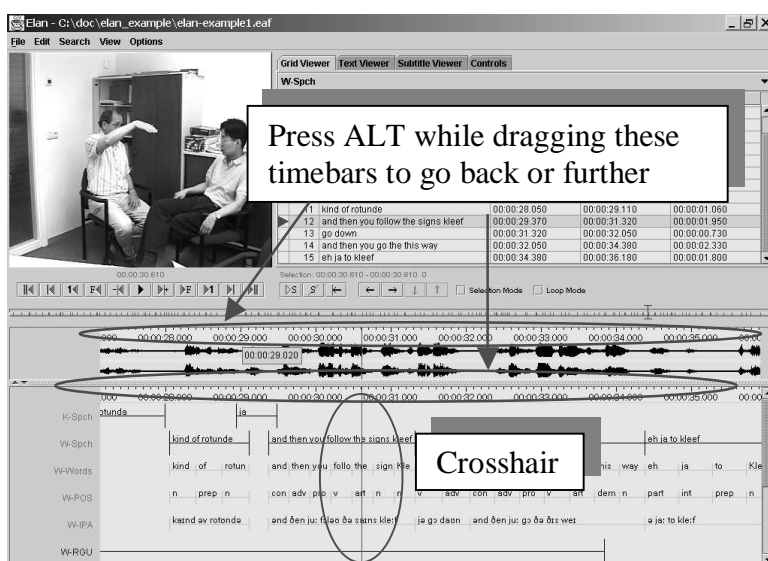
Do one of the following:

- Either click somewhere in the Text, Subtitle, Timeline, Waveform or Grid Viewer. The crosshair will jump to that point.

! Note: If you click on the time axis that is displayed to the top and bottom of the Timeline Viewer (i.e., the line that displays timecode information), the crosshair will not respond. Click somewhere well within the Viewer.

(c) Use the media control buttons

See section 4.1.9

4.2.2   Going to a selection

If you have made a selection (see section 5.4), you can move the crosshair to the begin or end of that selection from anywhere within the file.

To jump to the begin, click on the [←] button, which is part of the Selection Controls. Then the button will show an arrow in the other direction [→], which brings the crosshair to the end of the selection.

4.2.3   Jumping step by step through a document

It is possible to move the crosshair back and forth step by step. To achieve this, use one of the media controls as described in 4.1.9.

When using the next/previous frame control, you can alter the stepsize. This is useful in order to work with a "natural" frame size, depending on the video format that is used (i.e. PAL or NTSC).

Do the following:

Click on Options menu.

1. Go to Video Standard. The following menu appears:

Options menu

Video Standard submenu

selected video standard

video standard options
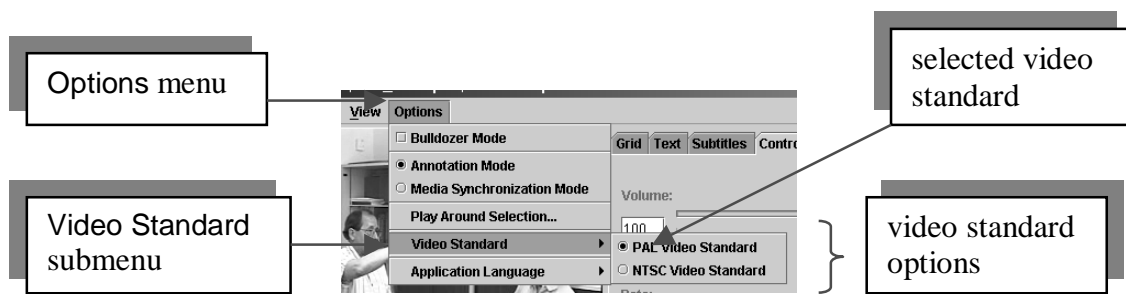
Select an option from the menu:

- PAL: The 1 frame stepsize for video data corresponds to one PAL frame (40 ms)

- NTSC: The 1 frame stepsize for video data corresponds to one NTSC frame (33 ms)

2. Click on a Video Standard mode to select it. A radio bullet appears next to the selected step mode.

4.2.4 Viewing a list of annotations within one tier (Grid Viewer)

ELAN allows you to list all annotations from a single tier, and then select one annotation and jump to it.

To activate the Grid Viewer, click on the the Grid tab:

Grid tab pallet

Pull down box with annotation tiers, here you can select the displayed tier
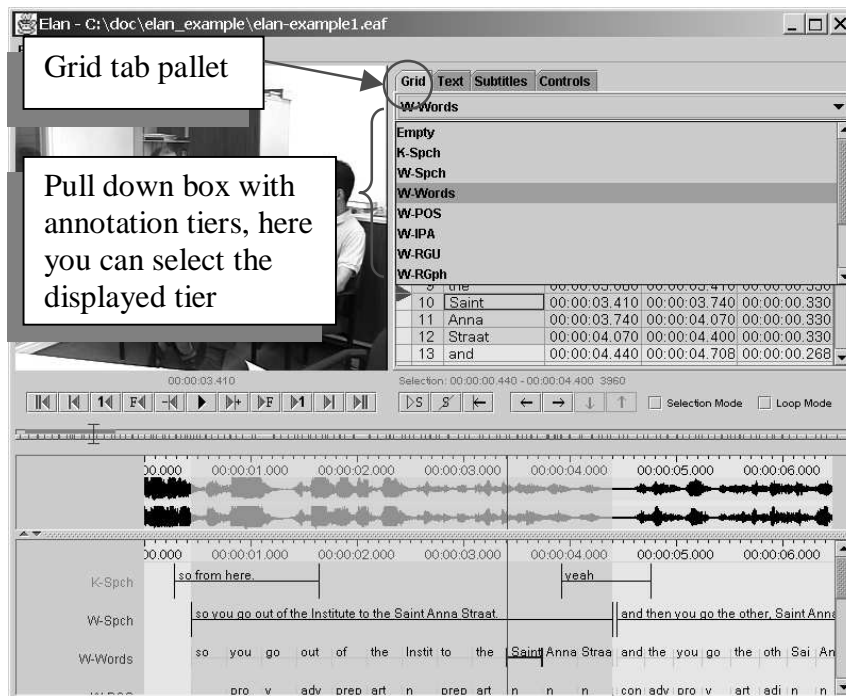
The structure of the Grid View window is as follows:

position of crosshair in the ELAN window

selected time interval in the ELAN window

go here to resize the columns

active annotation

the rank number of each annotation (dynamically generated, so changes when inserting / deleting annotations)

all annotation values of the selected tier

begin and end time of each annotation

duration of each annotation
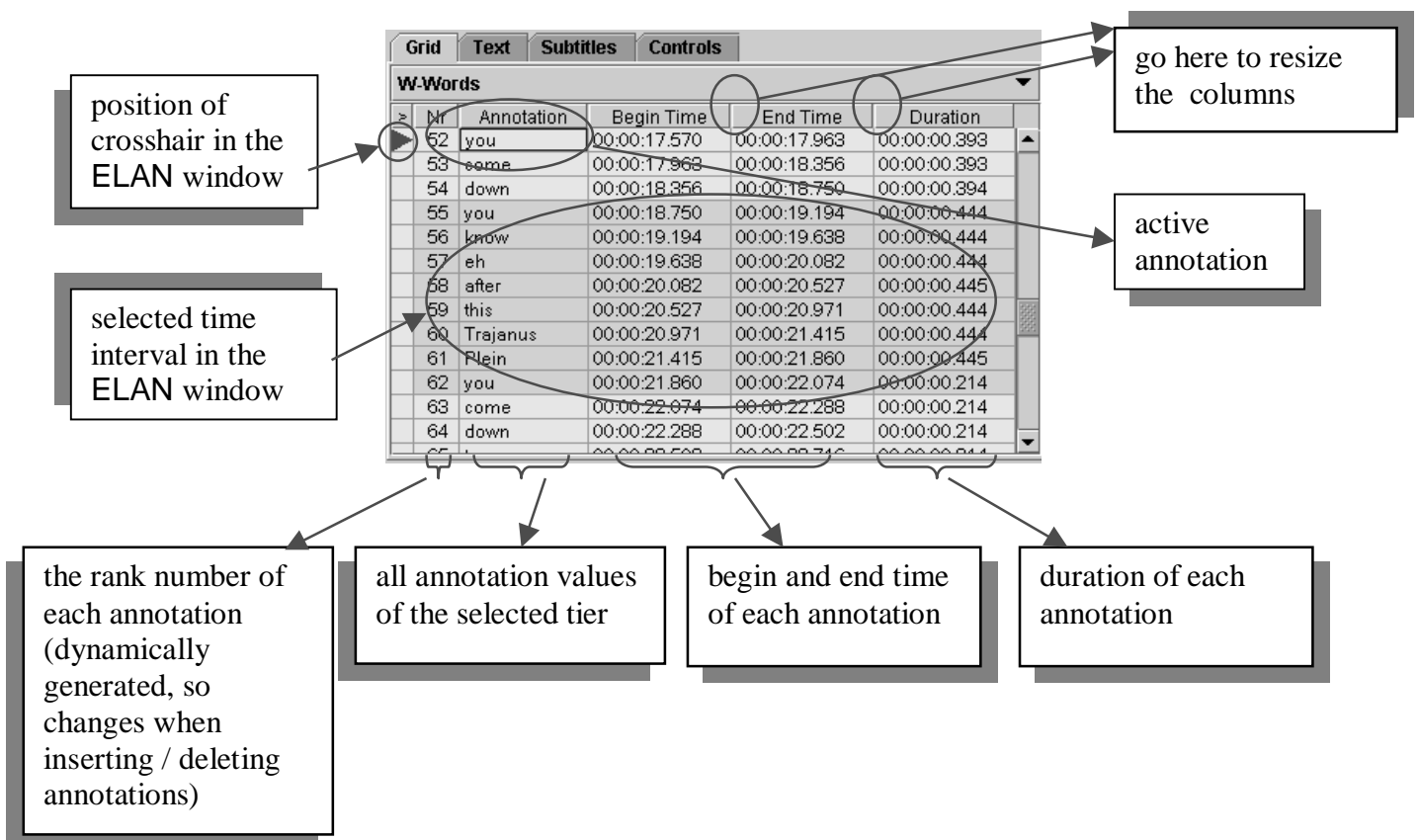
You can change the Grid Viewer's interface at any moment by right clicking in the Grid Viewer. A context menu will appear:
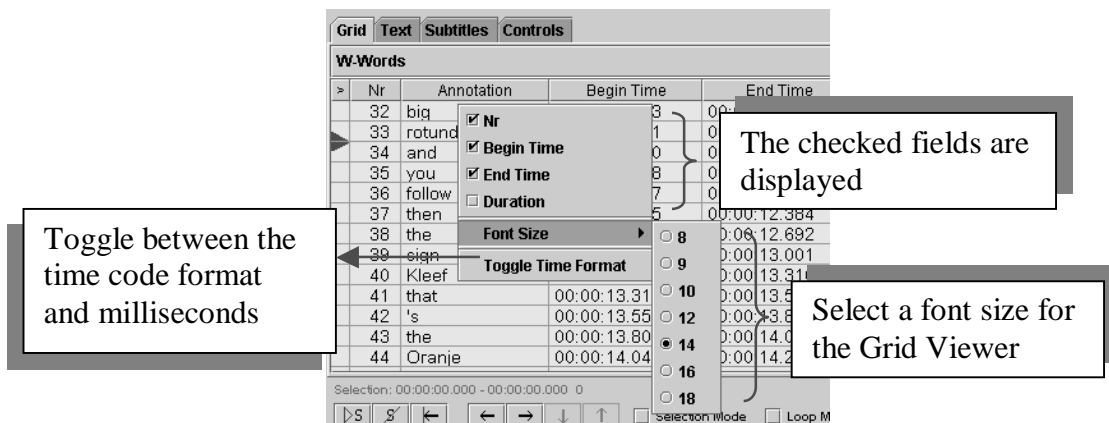
In this context menu, you can choose between the following options:

- choose the columns displayed in the Grid Viewer
- changing the Grid Viewer's font size
- toggle between the time code format (hh:mm:ss.mmmm) and milliseconds

You can use the Grid Viewer window to navigate to an annotation in the ELAN window. You have the following two options:

(a) Move the crosshair to the begin of an annotation.

Do the following:

1. In the Grid Viewer window, click with the mouse button on an annotation.

    A red triangle appears next to the annotation in the Grid Viewer window, and the crosshair moves to the beginning of that annotation in the ELAN window.

(b) Select a time interval.

Do the following:

1. In the Grid Viewer window, click with the mouse button on the first annotation that you want to select.

2. Keep the mouse button clicked and drag it to another annotation.

    In the Grid Viewer window, all selected annotations are highlighted in light blue color. In all other windows, the corresponding time interval is selected and highlighted in light blue color (starting with the beginning of the first annotation and ending with the endpoint of the last).

    ! Note: Selecting a time interval also changes the current time. This happens implicitly by moving the crosshair to the begin of the annotation.

current position of the crosshair

selected time interval
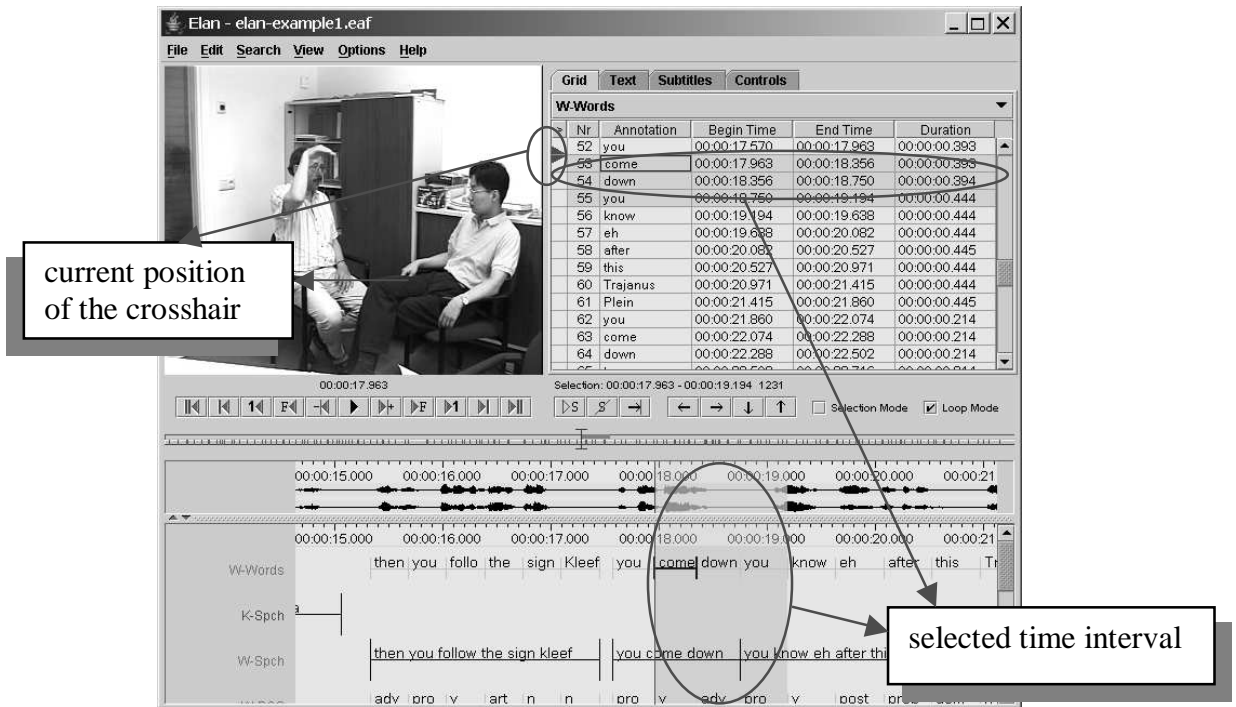
4.2.5 Jumping from annotation to annotation (Interlinear Viewer)

In the Interlinear Viewer, you can jump from one annotation block forward/backward to the next block. Do one of the following:

(a) Click on the left arrow key at the top of the Interlinear Viewer to move to the previous annotation block.

(b) Click on the right arrow key at the top of the Interlinear Viewer to move to the next annotation block.

Go to the next parent annotation

Go to the previous parent annotation
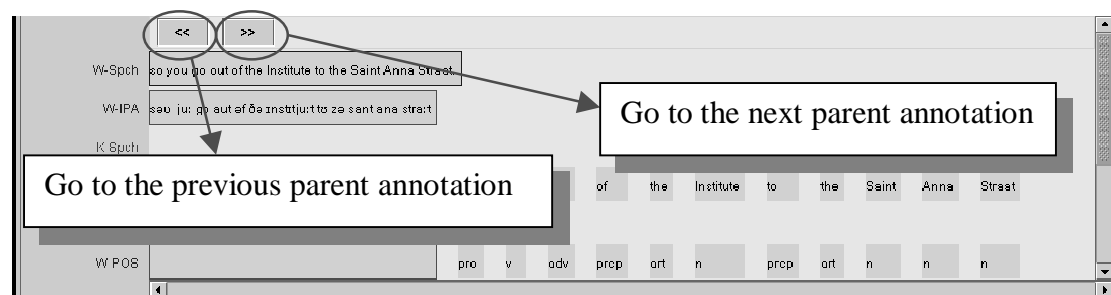
4.3 How to play a document

ELAN supports the following options for playing a document:

- playing a document (section 4.3.1);

- playing a selection (section 4.3.2);

- playing around the crosshair/selection (section 4.3.3);

- playing in slow motion (section 4.3.4).

4.3.1   Playing a document

During playback, the red crosshair moves through the Waveform, Timeline, Interlinear, Annotation Density, Text and Grid Viewers, indicating the point in time that is being replayed. If you stop the playback, the crosshair will stop at this point in time. The playback will resume from this point and will continue until the end of the document, or until the playback is paused again.

Make use of either one of the following three options to start/pause the playback:

(a) Use the Play/Pause button located under the Video window:

1. Click on the Play icon to start playback. After the playback starts, the Play icon turns into a Pause icon.
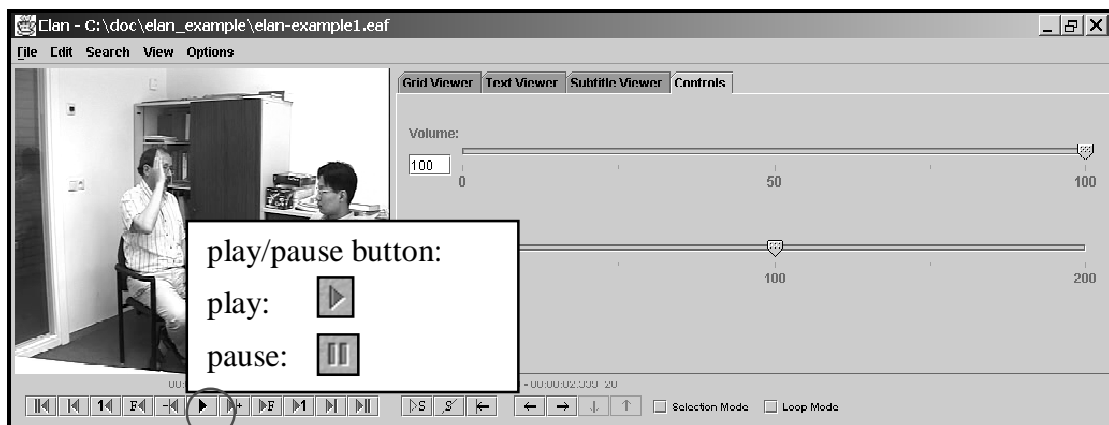
2. Click the Pause icon to pause the playback again.

(b) Use the Shortcut key CTRL+SPACE to start the playback. Use it again to pause the playback.

> **!** Note: If two or more ELAN documents are open at the same time, the sound may not work properly. Should this happen, close all documents except for one.

4.3.2 Playing a selection

It is possible to play only a selected part of the document. Do the following:

1. Make a selection (see section 5.4), or click on an annotation.

2. To play the selection, do one of the following:

   (a) Click on the Play Selection ⊳S icon.

   (b) Or use the shortcut key SHIFT + SPACE.

   The selected part is played immediately. To listen to the selection again, repeat step 2.

   ! Note: If the crosshair is positioned somewhere within the selection (i.e., if it had been manually moved forward or backward, see section 4.2.3), playback will start from that position and stop at the end of the selection. Otherwise, the whole selection will be played.

4.3.3 Playing around a selection

It is possible to play (i) a few (milli)seconds before and after a selection.

1. Click on Options menu.

2. Go to Play around selection. The following dialog appears:

selected time interval

Select the unit of the interval length to play around the selection.
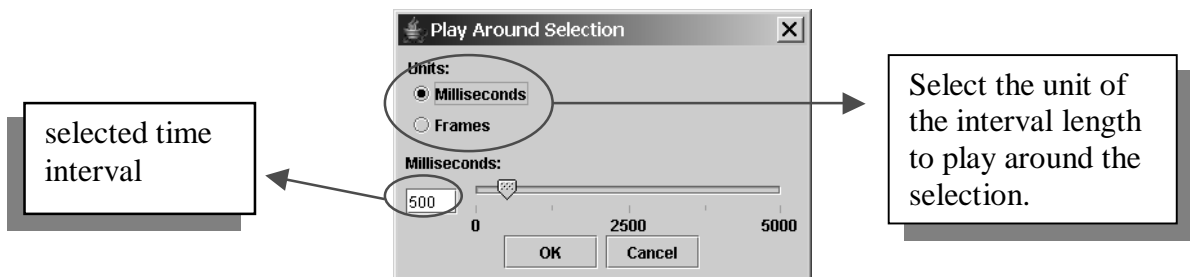
3. Choose how many (milli)seconds or frames should be played before and after the selection. Click on the OK button.

4. Now make a selection and press CTRL-SHIFT-SPACE. This keyboard shortcut is the only way to play around a selection.

4.3.4 Playing in slow motion

To change the playback rate, use the *Rate* slider to the right of the video window. The following options are available:

- Click somewhere above or below the slider to increase or decrease the playback rate by 1%.

- Move the slider up or down to increase or decrease the playback rate.

- Enter the desired playback rate in the box at the left of the slider and press the key ENTER. ELAN accepts rates between 1% and 200%.
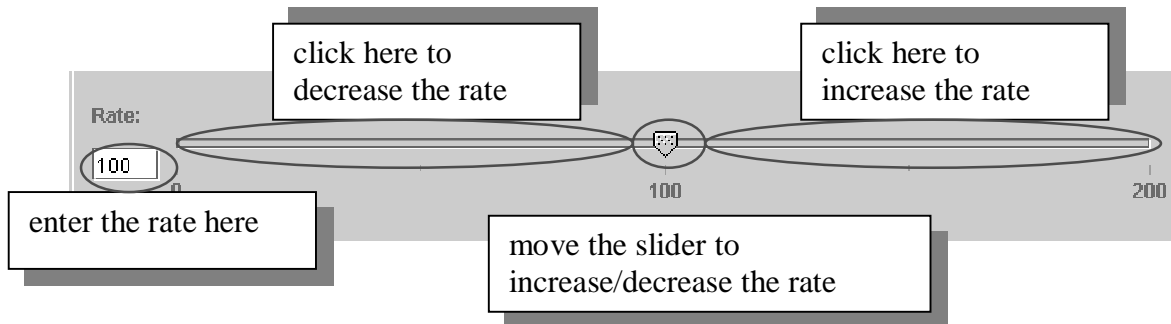
! Note: Once you have selected a playback rate, the document will be played at the selected rate. If you want it to be played at a different rate, you have to manually change the playback rate, repeating the steps above.

! Note: On slower machines, the slow motion playback may not work properly.

5 Annotations

You can use the ELAN program for annotating your data. This annotation process involves three steps: defining tiers and linguistic types (see sections 5.2 and 5.3), selecting time intervals (see section 5.4), and entering annotations (see section 5.5).

5.1 Basic Information: Annotations, tiers and linguistic types

The following illustration shows an example of an annotation document:
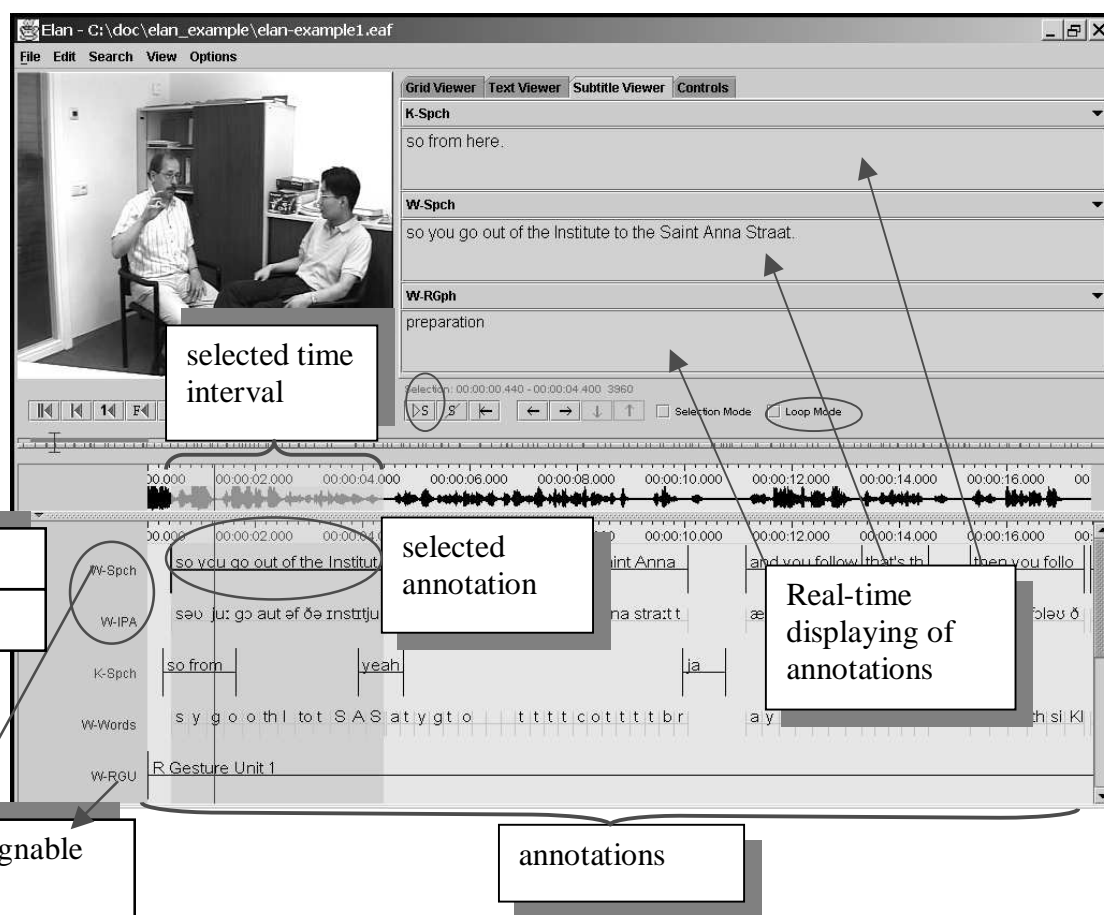
Each annotation is entered on a tier and assigned to a time interval (either directly or to the time interval of another annotation).

All tiers are displayed in the Timeline and Interlinear Viewer, but three of these tiers can be displayed additionally in the Subtitle Viewer. It is useful to turn the tier you are currently working on into the Subtitle Viewer because this viewer is bigger and supports line wrapping (which makes it easier to read along during playback).

It is also possible to select one tier as the *active tier*. This can be done by double clicking on the tier name in the Timeline or Interlinear Viewer. When a tier is active, it's name is underlined and displayed in red. Adding a new annotation to a tier by the keyboard shortcut ALT+N is only possible when that tier is active (see section 5.5).

A tier is a set of annotations that share the same characteristics, e.g., one tier containing the orthographic transcription of the speaker's utterances, and another tier containing the free translation of these utterances.

The following two types of tiers exist:

- Independent tiers, which contain annotations that are linked directly to a time interval, i.e., they are "time-alignable".

- Referring tiers, which contain annotations that are linked to annotations on another tier (i.e., to annotations on their so-called "parent tier"). They are usually not linked directly to the time axis. (Some of them may be linked – but only within the time interval determined by their independent parent tier, see below.)
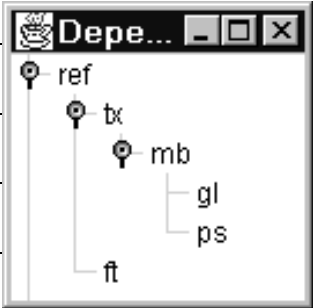
One example: a transcription tier could be independent and time-alignable, as it is linked directly to the time intervals of the speaker's utterances. A translation tier, by contrast, would be referring and not time-alignable: it refers to the transcription tier – not directly to the time axis. By definition, it inherits its time alignment from the transcription tier, i.e., from its parent tier.

In the Timeline and Interlinear Viewers, the label of a referring tier is assigned the same color as the label of its independent parent tier. (Different from earlier versions of ELAN, these colors will be maintained – i.e., they will not change if you alter the order of tiers.) The label of the independent parent tier is printed in boldface.

! Note: It is possible to build up nested hierarchies, i.e., tier **A** can be the parent tier of tier **B**, and tier **B** can be the parent tier of tier **C**, etc.

For example:

tier:	type:	hierarchical relation:	
ref	independent	parent of **tx** and **ft**	
tx	referring	parent of **mb**	
mb	referring	parent of **gl** and **ps**	
gl, ps	referring	–	

! Note: Parent and child tiers are linked in such a way that some changes made on a parent tier will also affect its child tiers (but not vice versa):

- If you delete a parent tier, all its child tiers are automatically deleted as well. Similarly, when you delete an annotation on a parent tier, all corresponding annotations on its child tiers are deleted as well.

- If you change the time interval of an annotation on a parent tier, the time interval of the corresponding annotation on all its child tiers are changed accordingly. The time interval of a child tier cannot be changed independently.

! Note: You can view the existing dependency relations by clicking on View menu, and then on Tier Dependencies.

Each tier is assigned to a linguistic type. Each linguistic type specifies a number of constraints that hold for all tiers assigned to that type. Such constraints are bundled into so-called 'stereotypes'. The following four stereotypes are currently available:

- None   The annotation on the tier is linked directly to the time axis, i.e., the annotation is entered on an independent tier.

- Time Subdivision: The annotation on the parent tier can be sub-divided into smaller units, which, in turn, can be linked to time intervals. Note that there are no time gaps allowed, i.e., the smaller units have to immediately follow each other.

  E.g., an utterance transcribed on a parent tier can be sub-divided into words – each of which is then linked to its corresponding time interval.

  ! Note: Annotations on such tiers are time-alignable. They differ from annotations on independent tiers in that they are assigned to an interval that is contained within the interval of their parent annotation.

- Symbolic Subdivision: Similar to Time Subdivision, except that the smaller units cannot be linked to a time interval.

  E.g., a word on a parent tier can be sub-divided into individual morphemes (which are not linked to a time interval).

- Symbolic Association: The annotation on the parent tier cannot be sub-divided further, i.e., there is a one-to-one correspondence between the parent annotation and its referring annotation.

  E.g., one sentence on a parent tier has exactly one free translation. Or one word has exactly one gloss.

The following example illustrates the four different stereotypes:

Time Subdivision: each word is linked individually to the time axis

None: independent parent tier: transcript is linked directly to the time axis

Symbolic Subdivision: word is divided into morphemes, which are not linked to the time axis

tx (text)	*T'eng nd'yemmnoe.*			
wd (word)	*t'eng*	*nd'yemnnoe*		
mb (morpheme break)	*t'eng*	*n-*	*d'yem-*	*nnoe*
gl (gloss)	*tree*	*ADVZ*	*Cl:stand(sg)*	*DEM.P*
ft (free translation)	*This standing tree.*			

Symbolic Association: gloss and free translation have the same number of subdivisions as their corresponding parent tiers

You can define an unlimited number of tiers. It is useful to make decisions about the type of information that you want to enter (and consequently about the type of tiers that you need) at a relatively early stage in the annotation process. However, it is always possible at a later stage to add new tiers or to change the attributes of already existing tiers.

> **!** Note: Be careful when you change attributes at a later stage. Since the data will be forced into new constraints, data may be lost (see section 5.2.3). In any case, **it is a good idea to make a backup copy before you change tier attributes**.

> **!** Note: In this version of ELAN, you have to define tiers separately for each individual annotation file (***.eaf**).

5.2 How to define a tier and its attributes

ELAN supports the following options:

- adding a new tier (sections 5.2.1 and 5.2.3);

- changing the tier attributes (sections 5.2.2 and 5.2.3);

- deleting a tier (section 5.2.4).

5.2.1 Adding new tiers

Do the following to add a new tier:

1. Click on Edit menu.

2. Click on Add new tier. The Add tier dialog window appears.

3. Define the tier attributes (see section 5.2.3).

4. Click OK to save the tier and its attributes. Otherwise click Cancel to exit the window without saving.

   ! Note: It is not yet possible to add tiers to imported documents (from Shoebox or Word Annotation Converter, see sections 3.2.6 and 3.2.8).

5.2.2 Changing tier attributes

Do one of the following to change the attributes of an already existing tier:

(a) Use the mouse.

1. In the Timeline Viewer, right-click at about the height of the tier that you want to change. A pull-down menu appears.

2. In the pull-down menu, click on Change tier attributes. The Change tier attributes dialog window for that tier appears.

3. Change the tier attributes (see section 5.2.3).

4. Click OK to save the changes. Otherwise click Cancel to exit the window without saving.
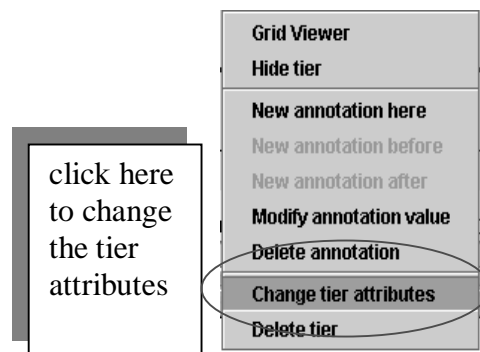
(b) Use the Edit menu.

1. Click on Edit menu.

2. Go to Change tier attributes…

3. Click on the drop down box and select the tier which attributes you want to change. The Change tier attributes dialog window for that tier appears.
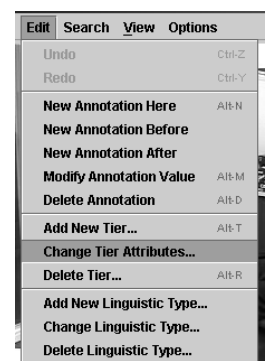
4. Click on the tier that you want to change. Change the tier attributes (see section 5.2.3).
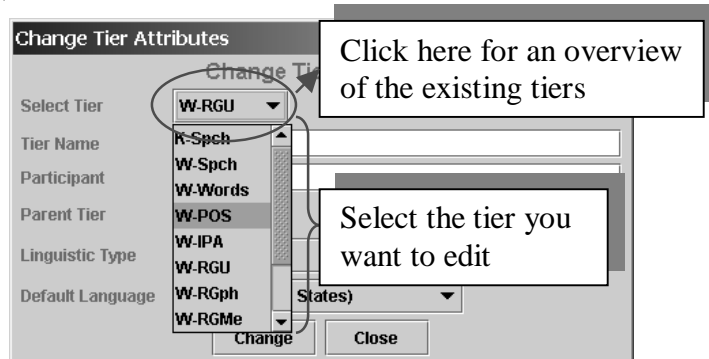
5. Click **Change** to save the changes. Otherwise click **Cancel** to exit the window without saving.

5.2.3 Creating/changing tier attributes

Both the **Add tier** and the **Change tier attributes** submenus allow you to edit tier attributes. Both options lead to the following dialog window:
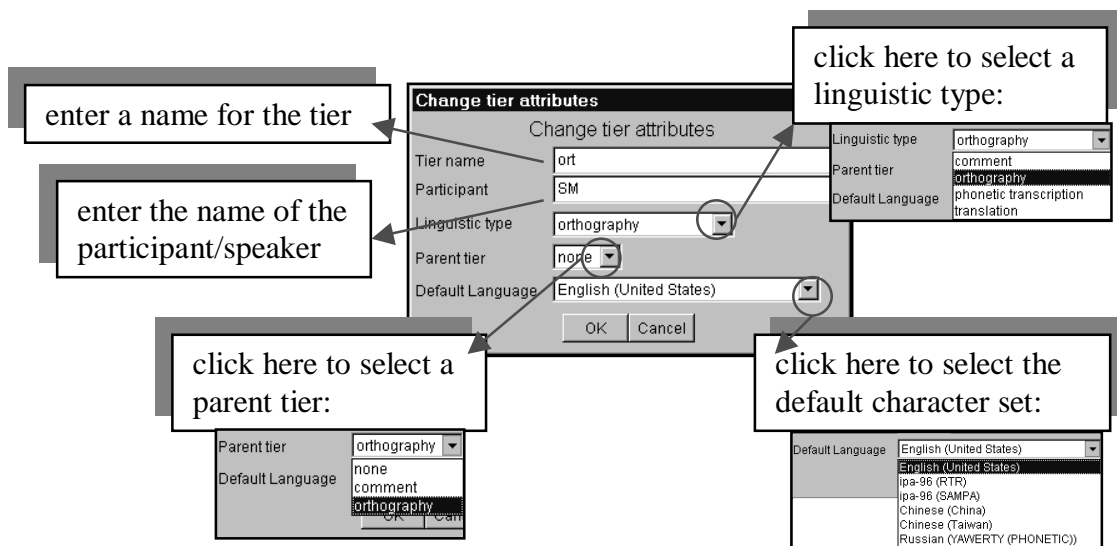
Enter the following information:

(1) Go to **Tier name**. Enter/change the tier name.

The tier name is the name that is displayed in the Timeline, Interlinear and Subtitle Viewer.

(2) Go to **Participant**. Enter/change the name of the participant whose utterance is being transcribed.

(3) Go to **Linguistic type**. Select/change a linguistic type from the predefined list in the pull-down menu (see section 5.3).

(4) Go to Parent tier. Select/change a parent tier from the pull-down menu.

- If the tier has no parent tier, select none.

- Otherwise select the appropriate parent tier.

! Note: If the tier is associated with the stereotype "none" (see section 5.3), only the option none will be available.

! Note: It is possible to change the dependency relations between tiers later on, but this process may lead to the loss of data. If you decide to assign a tier to a different parent tier, ELAN will automatically align its annotations with that of the new parent tier (based on overlapping time intervals). In this case, if there is an annotation on the referring tier, but no overlapping annotation on the parent tier, ELAN will delete this annotation. Be very careful that you do not lose such annotations accidentally. In any case, it is a good idea to make a backup copy before you change tier attributes. A referring tier can be turned into an independent time-alignable tier without any problem.

(5) Go to Default Language. Select/change the default character set from the pull-down menu.

Whenever you enter or change annotations on that tier, the text entry box is automatically preconfigured for the default character set.

Click Change to save the settings/changes. Otherwise click Cancel to exit the window without saving.

5.2.4   Deleting tiers

Do one of the following to delete a tier:

(a) Use the mouse.

1. In the Timeline Viewer, right-click at about the height of the tier that you want to delete. A pull-down menu appears.

2. In the pull-down menu, click on Delete tier.

3. A warning dialog appears asking you to confirm the deletion (see below).

Grid Viewer
Hide tier

New annotation here
New annotation before
New annotation after

Modify annotation value
Delete annotation

Change tier attributes
Delete tier

click here to delete the tier
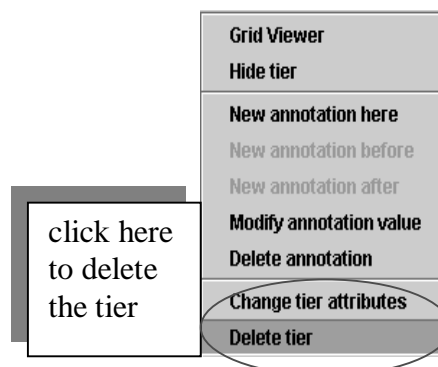
(b) Use the Edit menu.

1. Click on Edit menu.

2. Go to Delete tier… A dialog window appears.

3. The labels of all available tiers are displayed a pull down box, e.g.:
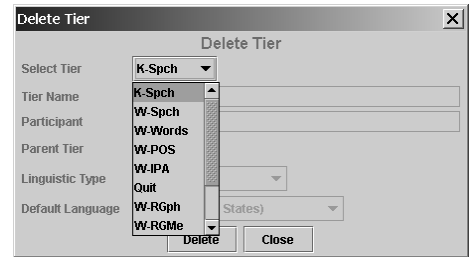
4. Click on the tier that you want to delete. A warning dialog appears asking you to confirm the deletion., e.g.:
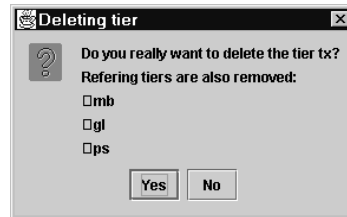
5. Click Yes to delete the tier and all its child tiers; click No to not delete them.

   ! Note: When you delete a tier, you will lose all its annotations.

   ! Note: If you delete a parent tier, all its child tiers will be automatically deleted as well. Please make sure that you do not accidentally delete a child tier.

   To delete a parent tier without deleting its child tiers, you have to change the attributes of the child tier. Do the following for each child tier:

1. Click on Edit menu.

2. Go to Change tier attributes... The Change tier attributes dialog window appears.

3. The labels of all available tiers are listed in the pull down menu. Click on the tier that you want to remove from the list of child tiers. Go to Parent tier.

4. In the pull-down menu, select none.

   change the value for Parent tier to none
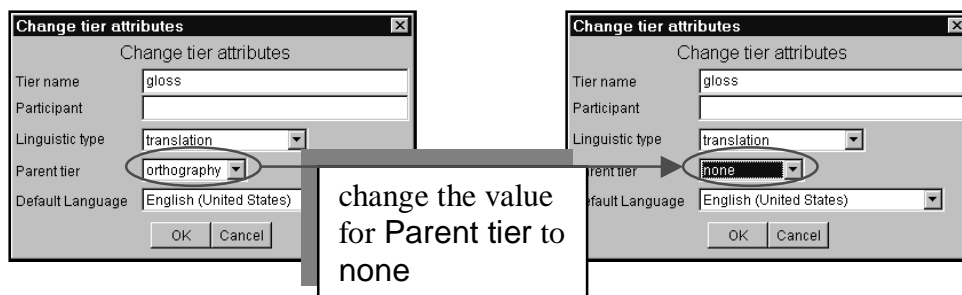
5. Click OK to save the changes.

   You can now delete the former parent tier without deleting its former child tier.

   A child tier can be deleted without any consequences for its parent tier.

5.3 How to define a linguistic type

ELAN supports the following options:

- adding a new linguistic type (sections 5.3.1 and 5.3.3);

- changing the attributes of a linguistic type (sections 5.3.2 and 5.3.3);

- deleting a linguistic type (section 5.3.4).

5.3.1 Adding new linguistic types

Do the following to add a new linguistic type:

1. Click on Edit menu.

2. Click on Add New linguistic type… The Add type dialog window appears.

3. Define the linguistic type (see section 5.3.3).

4. Click Add to save the linguistic type. Otherwise click Close to exit the window without saving.

5.3.2 Changing linguistic types

Do the following to change the attributes of an already existing linguistic type:

1. Click on Edit menu.

2. Go to Change linguistic type… The Change type dialog window appears.

3. The labels of all available linguistic types are displayed in the pull down menu, e.g.:

4. Click on the linguistic type whose attributes you want to change.

5. Change the linguistic type (see section 5.3.3).

6. Click Change to save the changes. Otherwise click Close to exit the window without saving the changes.
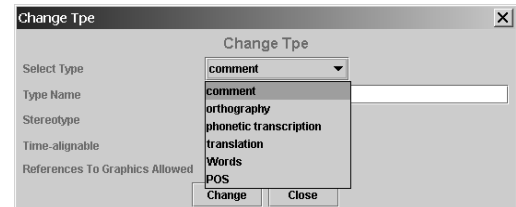
Every tier is assigned to a linguistic type. The linguistic type specifies the stereotypical constraints (and, as a consequence, whether or not the tiers are time-alignable).

> **!** Note: Information about the relationship between tiers is given in two different places: for each individual tier it is given in the Add tier attributes dialog window (see section 5.2.3), and for all tiers belonging to one linguistic type it is given in the Add type window (this section), i.e.:
>
> - Add tier attributes window: specify the parent tier of the individual tier.
>
> - Add type window: specify the stereotypical constraints of tiers belonging to one type.

To create/change a linguistic type, do the following:

1. Click on Edit menu.

2. Either go to Add New linguistic type… or to Change linguistic type... In the latter case, click on the linguistic type that you want to change when the Add/Change type dialog window appears:
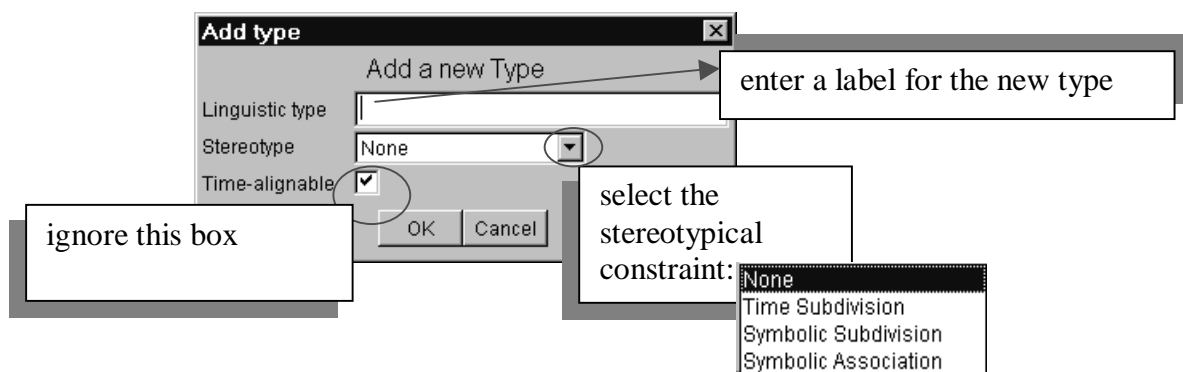
Enter the following information:

(1) Go to Linguistic type. Enter/change the name for the type.

(2) Go to Stereotype. Select the stereotypical constraint relevant to its tiers (see section 5.1).

> **!** Note: After you have selected a stereotypical constraint, ELAN automatically enters the correct value next to the box Time-alignable.

Click OK to save the settings; otherwise click Cancel to exit the window without saving.

5.3.4   Deleting linguistic types

To delete a linguistic type, do the following:

1. Click on Edit menu.

2. Go to Delete linguistic type...

3. A dialog window appears. The names of all available linguistic types are displayed in the pull down menu, eg:

4. Click on the type you want to delete. A warning appears, e.g.:
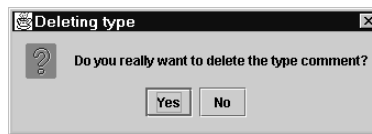
5. Click Yes to delete the type; otherwise click No.

! Note: You can only delete a linguistic type if it is not used by any of the tiers. If it is used, the following error message appears:
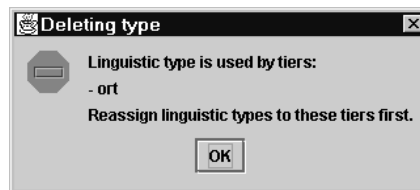
5.4 How to make a selection

In order to make an annotation, you first have to select a time interval. ELAN supports the following options:

- making and saving a selection on an independent tier (section 5.4.1);

- making and saving a selection on an independent tier while playing (section 5.4.4);

- making and saving a selection on a referring tier (section 5.4.5);

- deselecting a selection (section 5.4.6);

- changing the time alignment of an existing selection (section 5.4.7);

- activating and deactivating the Bulldozer mode (section 5.4.8).

    ! Note: The selection process has been heavily changed in Elan version 2. If you used to work with previous versions of Elan, please read this section carefully.

5.4.1 Making a selection on an independent tier

To make a selection, do the following:

1. Go either to the Waveform or the Timeline Viewer.

2. Go with the mouse to the beginning of the time interval you want to select.

3. Click the mouse button, keep it clicked and drag it to the endpoint of the time interval you want to select.

    The video image will be continuously updated. The selected part is highlighted in light blue color.

    The selection can be extended beyond the size of the current window. The display in all Viewers will automatically move along.
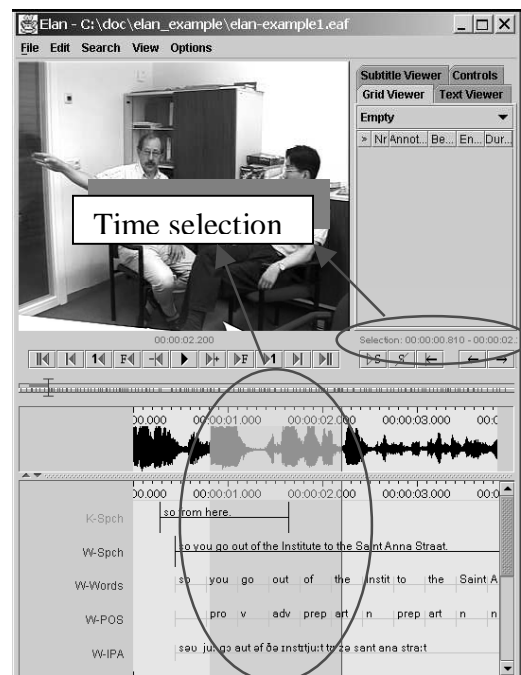
    ! Note: If you click on the time axis that is displayed to the top and bottom of the Waveform and Timeline Viewers (i.e., the line that displays timecode information), the crosshair will not respond. Click somewhere within the Viewers.

You can change the beginning and endpoints of the selection. Do one of the following:

(a) Either use the mouse: press the key Shift, keep it pressed and click with the mouse to the left/right of the selected part. The selection will be extended to include this point.

(b) Or enable the *Selection Mode* by selecting the Selection Mode checkbox. When selection mode is enabled, you can use the media controls to edit the

selected part. When moving the crosshair in Selection Mode, the current selection is narrowed or broadened, depending on the direction the crosshair is moved to. For a complete overview of the use of the media controls, see section 4.1.9.

5.4.2 Using the selection controls

The selection controls allow you to navigate through or to change the active selection. For their use, see again section 4.1.9.

Example: extending the begin of a selection with one second

Assume that you have made a selection and that you want to add a time interval of 1 second to the begin of it. In that case you should perform the following actions:

1. Move the crosshair to the begin of the active selection

2. Enable Selection Mode

The crosshair has moved to the begin of the selection
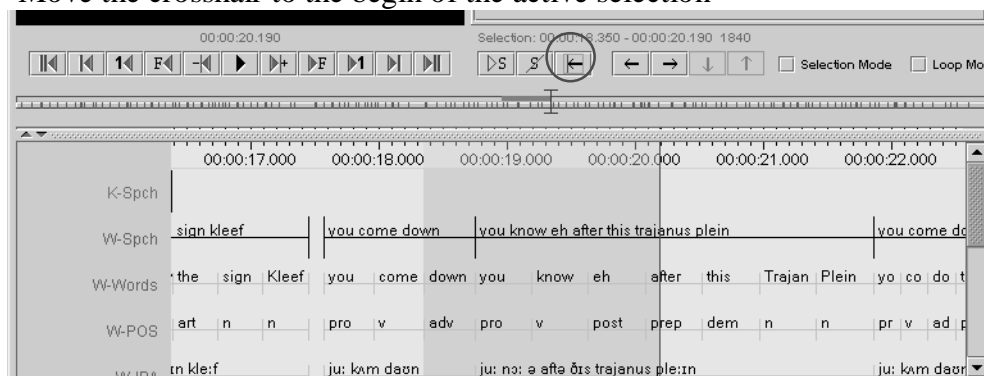
Selection mode is enabled
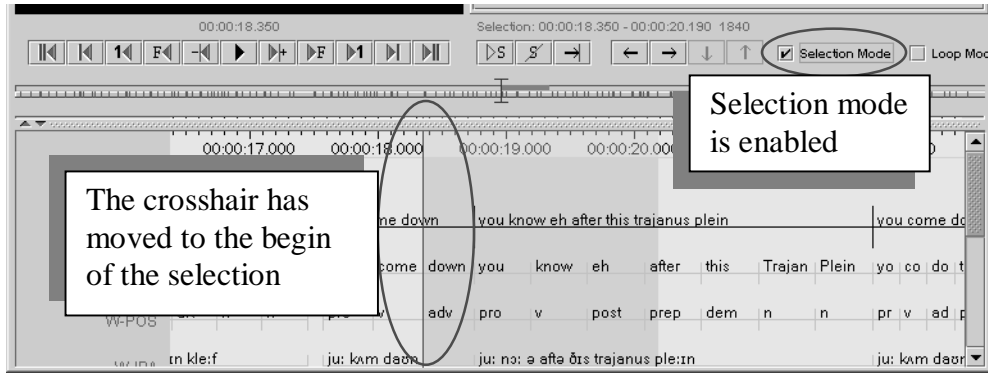
3. Go back one second by clicking the corresponding button from the media controls.

This button broadens the selection with 1 second in selection mode
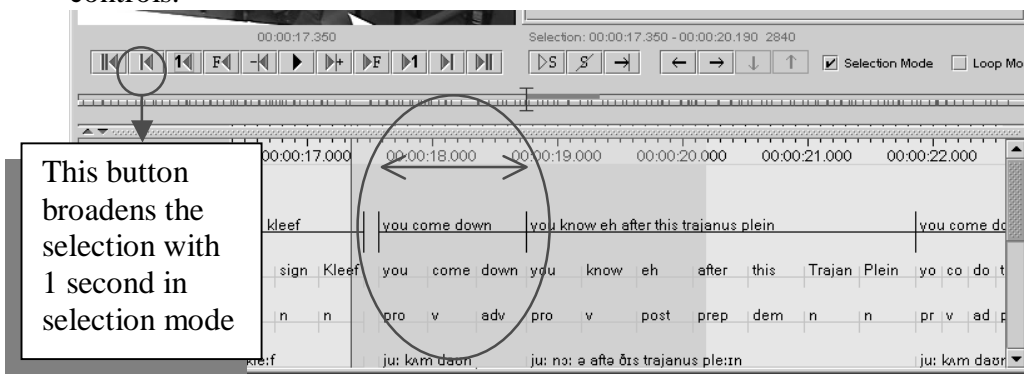
4. Turn off the selection mode and enter an annotation for the selection.

This is the annotated text for our extended selection

Selection mode is disabled
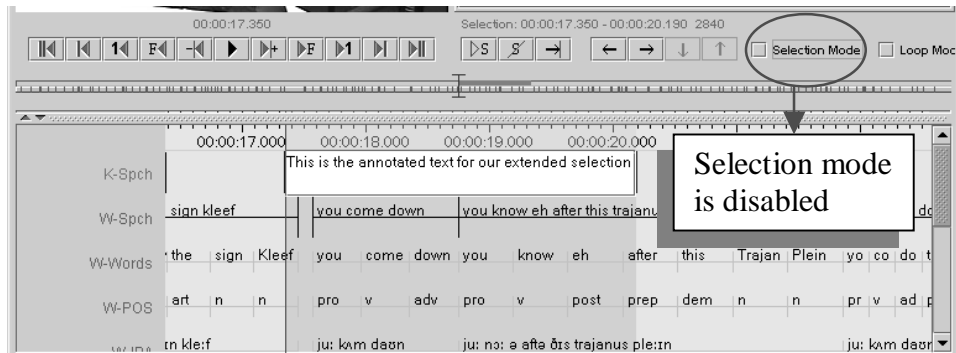
5.4.3 Saving a selection on an independent tier

You can save the selection. Do the following:

1. Access the Inline Edit box by doing one of the following:

   (a) Either double-click in the Timeline Viewer on the selection at about the height of the tier where you want to enter the annotation.

   (b) Or click on Edit menu, then click on New annotation here (active tier only).

   (c) Or use the key equivalent ALT+N (active tier only).

In all cases, the Inline Edit box appears, e.g.:
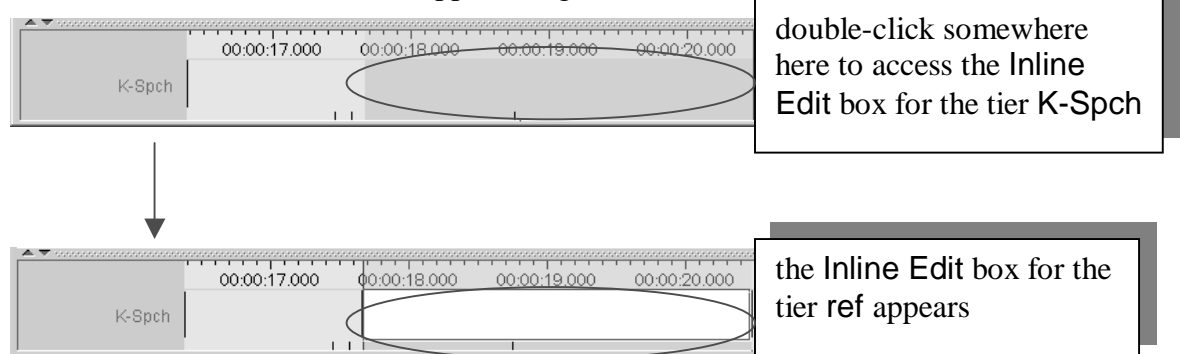
double-click somewhere here to access the Inline Edit box for the tier K-Spch

the Inline Edit box for the tier ref appears

2. Do one of the following:

   (a) Enter an annotation (see section 5.5), and then press the keys CTRL+ENTER to save the selection. Otherwise press the key ESC.

   (b) Press the keys CTRL+ENTER (without entering an annotation) to save the selection. Otherwise press the key ESC.

   ! Note: Only selections on time-alignable tiers can be saved in this way. To save a selection on a referring tier, see section 5.4.5.

5.4.4 Making and saving a selection on an independent tier while playing

It is possible to start a new selection immediately after a previous selection has ended, i.e., the endpoint of one selection will be taken as the starting point for the next selection. Do the following:

1. Make a selection on an independent tier (see section 5.4.1).

2. Double-click on the selection.

3. Press the keys CTRL+ENTER. The selection is saved. (Do not enter any annotation yet.)

Steps 1 to 3: the first selection is saved
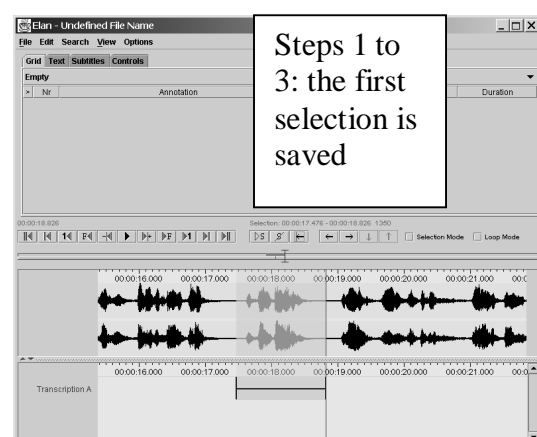
4. Press the key CTRL-C or click on the clear selection icon to deselect the selection (see section 5.4.6 for deselecting a selection).

Step 4: the first selection is deselected
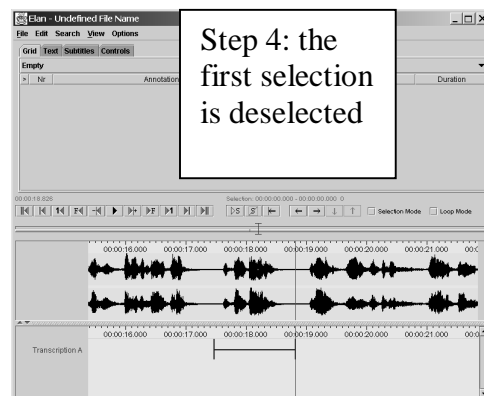
5. Enable the selection mode. Then, play the video or sound file until the

The playback stops. The new selection extends from the endpoint of the previous selection until the point when the playback was stopped.

Repeat steps 2 and 3 to save the new selection.

Repeat steps 3 to 5 to add another selection.

Step 5: the second selection is made

5.4.5 Making and saving a selection on a referring tier

A referring tier inherits all its time alignments from its parent tier. To make and save a selection on a referring tier, do the following:

1. Select and save a time interval on the corresponding parent tier (see sections 5.4.1 and 5.4.4).

2. Double-click somewhere within the time interval of the parent annotation at about the height of the referring tier. If the referring tier is assigned to the "time subdivision" constraint, select some pixels first, and then double-click on them.

   The Inline Edit box appears.
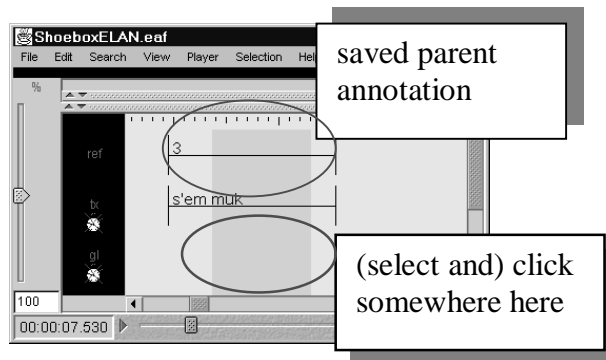
3. Do one of the following:

   (a) Enter an annotation (see section 5.5), and then press the keys CTRL+ENTER to save the selection. Otherwise press the key ESC.

   (b) Press the keys CTRL+ENTER (without entering an annotation) to save the selection. Otherwise press the key ESC.

5.4.6 Deselecting a selection

To deselect a selection, do one of the following:

(a) Either use the Deselection icon from the selection controls:

(b) Or use the shortcut key CTRL-C.

   ! Note: Whenever you select another time interval, the old selection is automatically deselected, unless you enabled Selection Mode.

5.4.7 Changing the time alignment of an existing selection

To change the time alignment of an existing selection, do the following.

1. In the Timeline Viewer, click on the annotation to be edited. The annotation is highlighted in a dark blue frame, and the corresponding selected time interval is highlighted in light blue color.

2. Modify the beginning/endpoints of the selection:

(a)   Either use the mouse: press the key Shift, keep it pressed and click with the mouse to the left/right of the selected part. The selection will be extended to include this point.

(b)   Or use the selection mode and the media controls as explained in section 5.4.2

selected annotation and time interval

modification
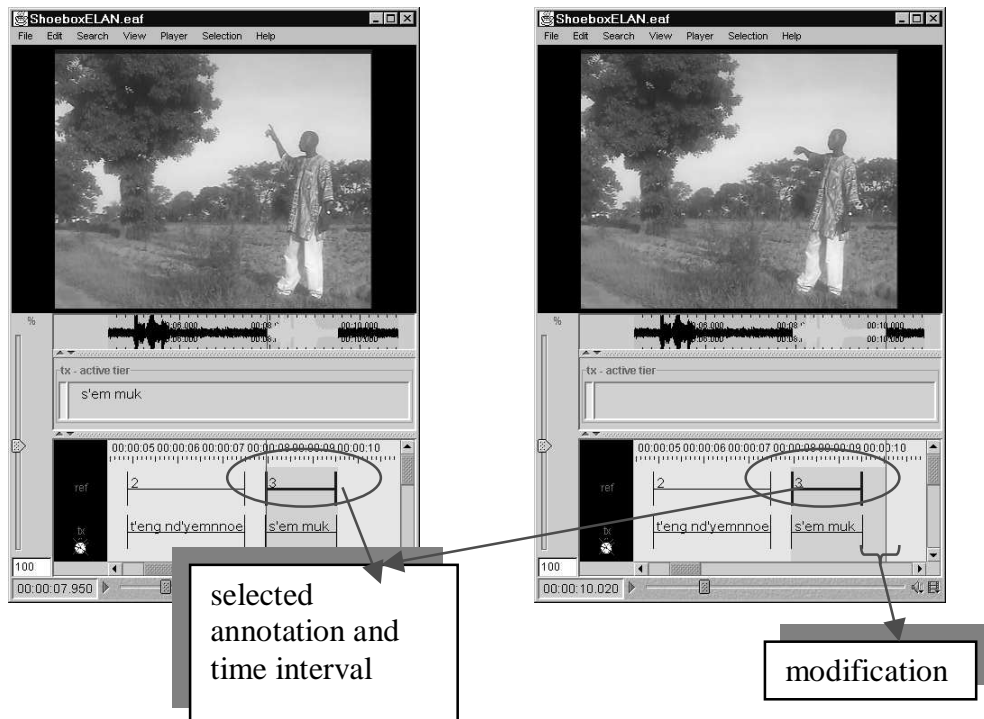
3. Press the keys CTRL+ENTER to update the selection.

! Note: Only the time-alignment of annotations on the following types of tiers can be modified: annotations on independent tiers, and annotations on referring tiers that fall under the Time Subdivision stereotype (but note that in the latter case, the alignment cannot be extended beyond the boundaries of its parent annotation, see section 5.1). To modify the time alignment of annotations on all other tiers, change the time alignment on the corresponding parent tier (following the steps above). The time alignment on all referring tiers is automatically updated.

5.4.8   Activating and deactivating the Bulldozer mode

ELAN supports two modes: the Overwrite mode and the Move or Bulldozer mode. These two modes are comparable to the Overwrite and Insert modes that are supported by many text editor programs such as, e.g., Microsoft Word.

- Overwrite mode: if you extend a selection into a time interval that is already occupied by a previously saved selection (i.e., an annotation), that annotation is (partly or wholly) overwritten.

- Move or Bulldozer mode: if you extend a selection into a time interval that is already occupied by a previously saved selection (i.e., an annotation), that annotation is moved to the right/left.
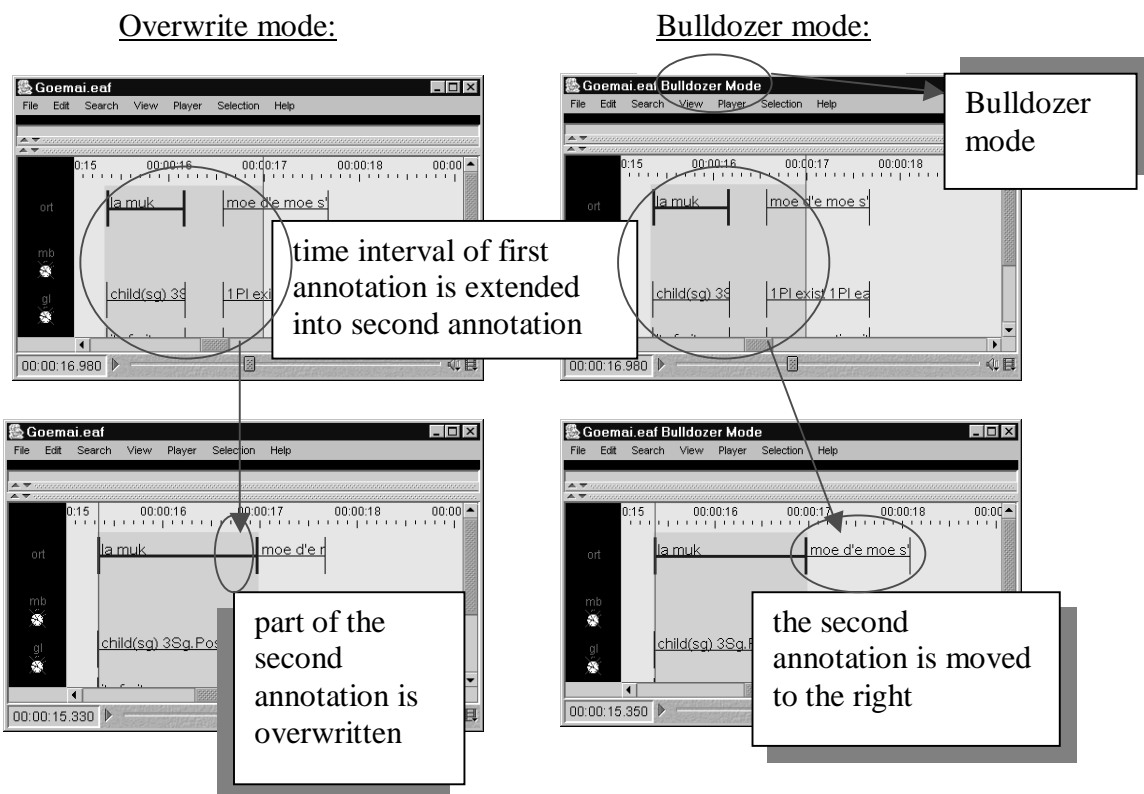
The following conventions apply for the Bulldozer mode:

- Annotations are moved to the right if you extend your selection from left to right. They are moved to the left if you extend your selection from right to left.

- If a moved annotation extends into the time-interval of yet another annotation, that other annotation is moved accordingly. If it extends into empty space, no other annotations are affected.

    ! Note: Moving annotations may thus affect the whole document, and may thereby destroy previous time alignments. Please make sure that the Bulldozer Mode is not accidentally switched on.

The Overwrite mode is the default mode.

To switch to the Bulldozer mode, do the following:

1. Click on Options menu.

2. Click on Bulldozer Mode. A checkmark appears next to it. To switch back to the Overwrite mode, repeat steps 1 and 2 above. The checkmark disappears.

5.5   How to enter annotations

All annotations are entered either into the Inline Edit box or into the Edit Annotation box, which are accessed via the Timeline, Interlinear and Grid Viewers. ELAN supports the following options:

- entering annotations (sections 5.5.1 and 5.5.2);

- entering annotations before/after other annotations (section 5.5.3);

- modifying the content of annotations (section 5.5.4);

- deleting annotations (section 5.5.5);

- entering annotations in different character sets (section 5.5.6).

5.5.1   Entering annotations (into the Inline Edit box)

To enter an annotation into the Inline Edit box, do the following:

1. Access the Inline Edit box by doing one of the following:

    (a) Either make a selection in the Timeline Viewer (see section 5.4.1), and then do one of the following:

    - double-click on the selection at about the height of the tier where you want to enter the annotation;

    - click on Edit menu, then click on New annotation here (active tier only);

    - or use the key equivalent ALT+N (active tier only).

    (b) Or click on an existing annotation in the Timeline, Interlinear or Grid Viewer to select it, and then double-click on it.

    In all cases, the Inline Edit box appears, e.g.:
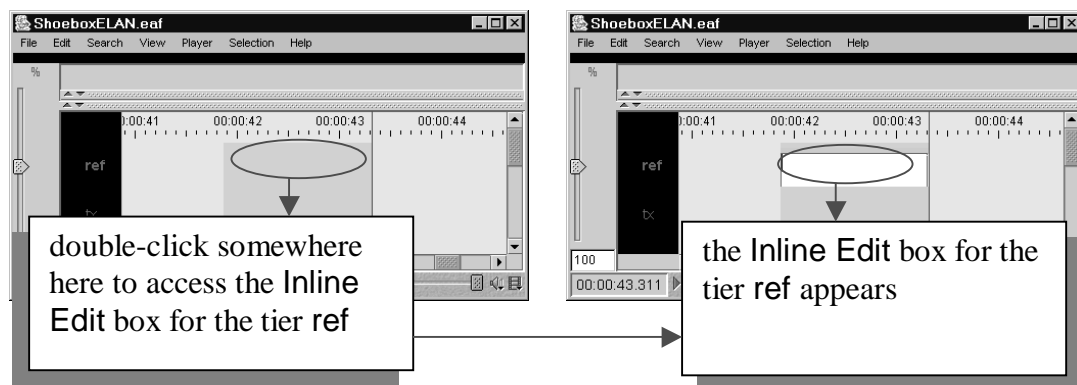
2. Click into the Inline Edit box.

3. Enter the annotation.

   It is possible to enter text that contains line breaks. The text entry box automatically displays a scrollbar if necessary.

   The Inline Edit box is automatically preconfigured for the default character set of the tier (see section 5.2.3). If you want to use a different character set, do the following:

   1. Right-click in the Inline Edit box. A pull-down menu appears that displays the available character sets.
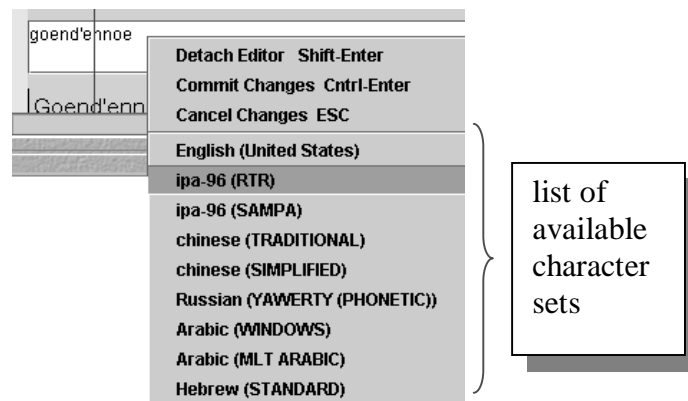
   2. Click on the appropriate character set. From now on, the characters are entered in the selected set.

   3. To switch back to the default character set, repeat the steps above and select the default set from the pull-down menu.

4. Save the annotation by doing one of the following:

   (a) Use the shortcut keys CTRL+ENTER.

   (b) Or right-click in the Inline Edit box and click on Commit Changes in the pull-down menu.

   To exit the Inline Edit box without saving, do one of the following:

   (a) Use the shortcut key ESC.

   (b) Or right-click in the Inline Edit box and click on Cancel Changes in the pull-down menu.

5.5.2   Entering annotations (into the Edit Annotation box)

The Edit Annotation box differs from the Inline Edit box in that it has a bigger display and supports line wrapping. It is therefore better for entering longer texts.

To enter an annotation into the Edit Annotation box, do the following:

1. Either make a selection in the Timeline Viewer (see section 5.4.1), or click on an existing annotation in the Timeline or Interlinear Viewer.

2. Access the Inline Edit box (see section 5.5.1).

3. Do one of the following:

    (a) Either use the shortcut keys SHIFT+ENTER.

    (b) Or right-click in the Inline Edit box. A pull-down menu appears. Click on Detach Editor.

    4. The Edit Annotation box appears:
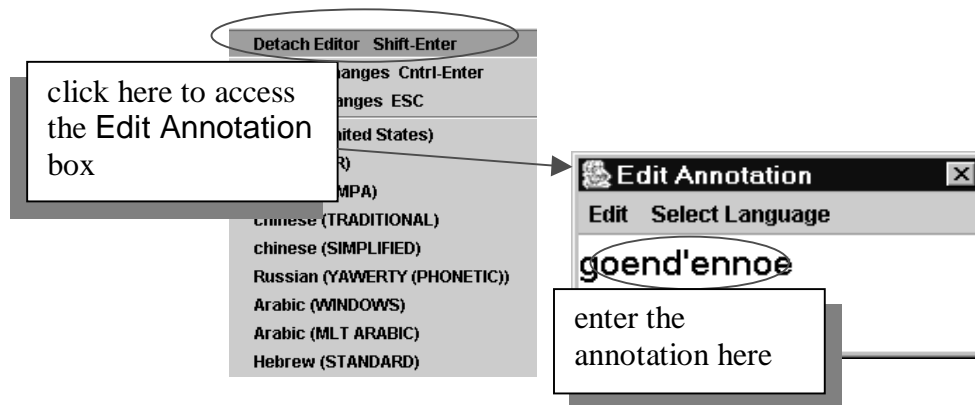
The Edit Annotation box is automatically preconfigured for the default character set of the tier (see section 5.2.3). If you want to use a different character set, do the following:

1. Click on Select Language. A pull-down menu appears that displays the available character sets, e.g.:
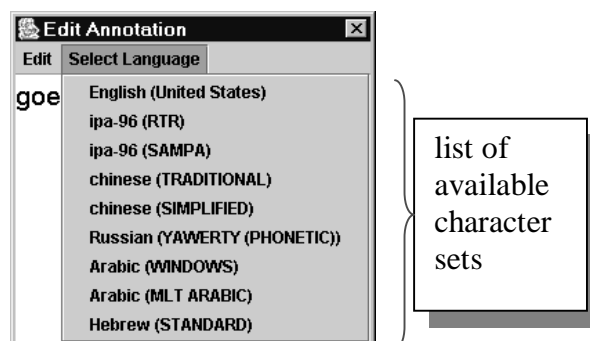
2. Click on the appropriate character set. From now on, the characters are entered in the selected set.

3. To switch back to the default character set, repeat the steps above and select the default set from the pull-down menu.

5. Save the annotation by doing one of the following:

(a) Use the shortcut keys CTRL+ENTER.

(b) In the Edit Annotation box, click on Edit and then click on Commit Changes in the pull-down menu.

To exit the Edit Annotation box without saving, do one of the following:

(a) Use the shortcut key ESC.

(b) In the Edit Annotation box, click on Edit and then click on Cancel Changes in the pull-down menu.

To return to the Inline Edit box, do one of the following:

(a) Use the shortcut keys SHIFT+ENTER.

(b) In the Edit Annotation box, click on Attach Editor in the pull-down menu.

5.5.3   Entering annotations before/after other annotations

Annotations on some tiers can be subdivided into smaller units. In this way, you can for example break up a word into its different morphemes, as in the following illustration:
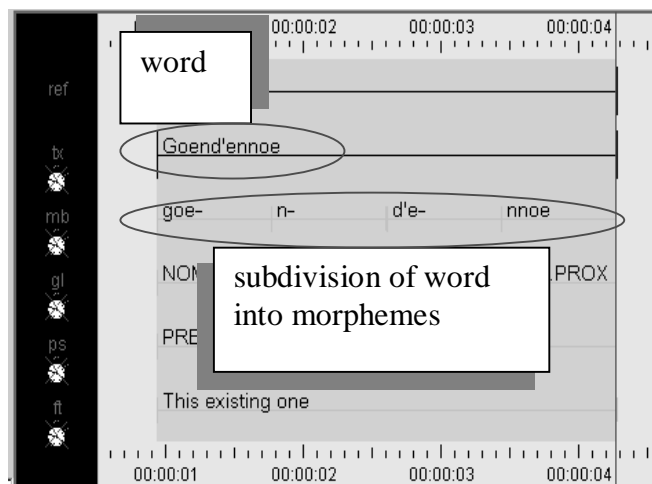
! Note: This option is only available for those tiers that are assigned to the stereotypes Time Subdivision and Symbolic Subdivision (see section 5.1).

To divide an annotation into smaller units, do the following:

1. In the Timeline or Interlinear Viewer, click on the annotation that you want to subdivide. It appears in a dark blue frame.

2. Do one of the following:

   (a) Right-click on the selected annotation. A pull-down menu appears. Click on either New Annotation before or on New Annotation after to subdivide the annotation.

   (b) Or click on Edit menu. Then click on either New Annotation before or on New Annotation after to subdivide the annotation.

   If you click on New annotation before, the original annotation is divided and the new annotation is inserted to its left (as in the illustration below). If you click on New annotation after, it is inserted to its right.
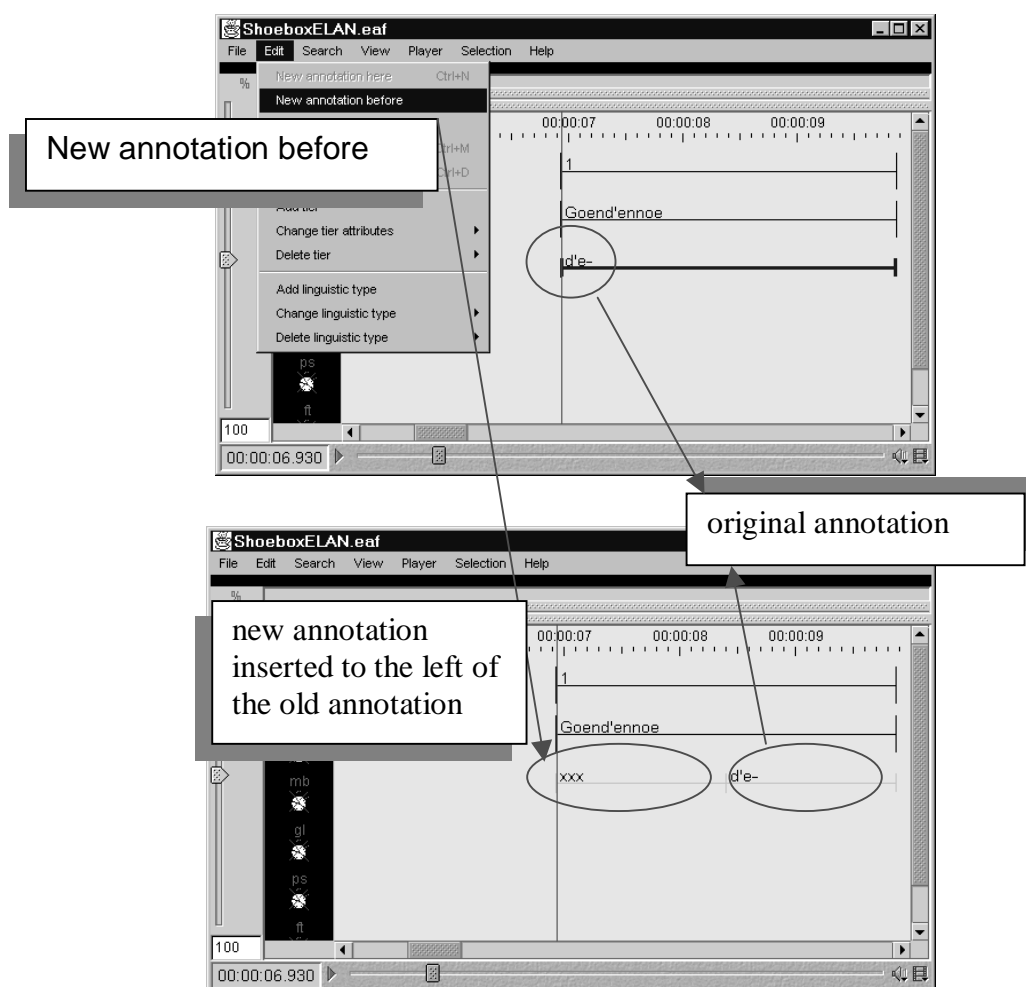
! Note: An annotation is always subdivided into two units. If you need further subdivisions, repeat the steps above.

5.5.4 Modifying the content of annotations

To modify an annotation, do one of the following:

(a) In the Timeline or Interlinear Viewer:

1. Click on the annotation that you want to modify. It appears in a dark blue frame.

2. Do one of the following:

   (a) Right-click on the selected annotation. A pull-down menu appears. Click on Modify annotation value.

   (b) Or click on Edit menu. Click on Modify annotation value.

   (c) Or use the key equivalent ALT+M.

   The Inline Edit box appears (see section 5.5.1).

(b) In the Grid Viewer:

1. Double-click on the annotation that you want to modify.

   The Inline Edit box appears (see section 5.5.1).

5.5.5 Deleting annotations

To delete an annotation, do the following:

1. In the Timeline or Interlinear Viewer, click on the annotation that you want to delete. It appears in a dark blue frame.

2. To delete it, do one of the following:

   (a) Right-click on the selected annotation. A pull-down menu appears. Click on Delete annotation.

   (b) Or click on Edit menu. Then click on Delete annotation.

   (c) Or use the key equivalent ALT+D.

   ! Note: The annotation is deleted without further warning.

   ! Note: If you delete an annotation on a parent tier, the corresponding annotations on all its child tiers will be automatically deleted as well. Please make sure that you do not accidentally delete a child annotation. An annotation on a child tier can be deleted without consequences for the annotation on its parent tier.

   ! Note: There is no 'undo' option yet.

5.5.6 Entering annotations in different character sets

ELAN supports different character sets, making use of the following input methods:

(a) GATE Unicode Kit (GUK)

Characters can be entered by using a different keyboard mapping. This method is implemented using the GATE Unicode Kit developed at Sheffield University, Department of Computer Science.

If you select a character set that is based on GUK, a visual representation of a keyboard appears on the screen, which informs you about the implemented keyboard

mapping. The following illustrations show the mappings of "ipa-96 (SAMPA)" and "Arabic (WINDOWS)":

To enter a character, do one the following:

(a) Either press the corresponding key on your keyboard.

(b) Or click on the corresponding key of the keyboard displayed on your screen.

> ! Note: The visual representation has the layout of the standard UK keyboard. If you do not have a UK keyboard, there may be mismatches between the characters and their visual representation.

> For example, the IPA character "ə" is matched to the key "@", i.e., in order to get "ə", you have to type "@". On a standard UK keyboard, the key "@" is located to the left of the key "enter" (see the illustration above). On other keyboards, however, "@" may be located on a different key. In such cases, if you press the key to the left of "enter", you will <u>not</u> get the character "ə". To get "ə", you have to search for the location of "@" on your keyboard, and then press that key. (Note that these mismatches only arise if you use the physical keyboard, but not if you use the visual representation on the screen.)

> ! Note: The character set "ipa-96 (SAMPA)" can be used to enter IPA characters. However, the current version of ELAN only supports SAMPA, but not X-SAMPA. As a consequence, some of the characters that you require may not be available yet (see http://www.phon.ucl.ac.uk/home/sampa for further information).

(b) Roman Typographic Root (RTR)

IPA characters can be entered using the RTR input method. This method is based on the following principle: whenever you type a character, all typographically similar characters are displayed in a lookup list, as shown in the following illustration:
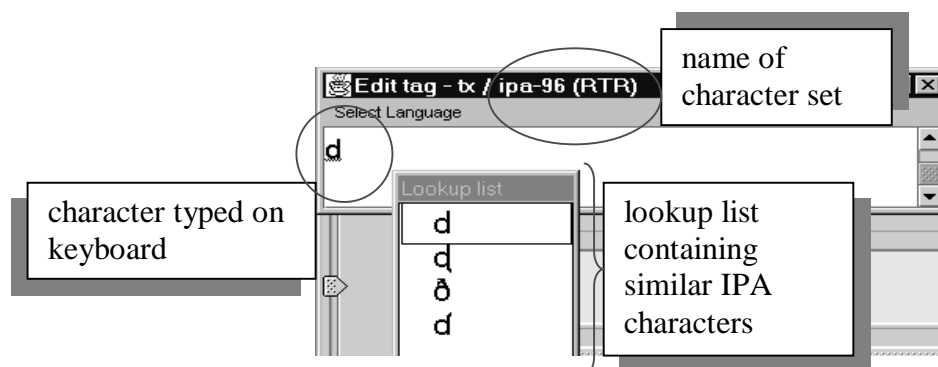
To select a character from the lookup list, do the following:

1. Use the UP and DOWN arrow keys to navigate to the desired character.

2. Press ENTER or SPACE to confirm the selection.

> **!** Note: Do <u>not</u> use the mouse within the lookup window. If you do, the window will disappear.

> **!** Note: The input of IPA characters is restricted to the official IPA-96 character set. Withdrawn or superseded characters are not supported.

> **!** Note: The RTR-mapping is generally obvious, but please pay attention to the following features:

- Use lower case letters only.

- IPA characters can map to non-letter symbols, e.g.:
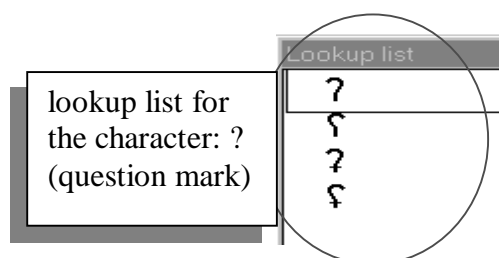
- Diacritics are entered with the help of the following keys:

key	position of diacritic in relation to character
" (quotation mark)	above
' (apostrophe)	in the upper right
: (colon)	to the right
` (grave accent)	in the lower right
^ (circumflex accent)	under
~ (tilde)	on

For example:
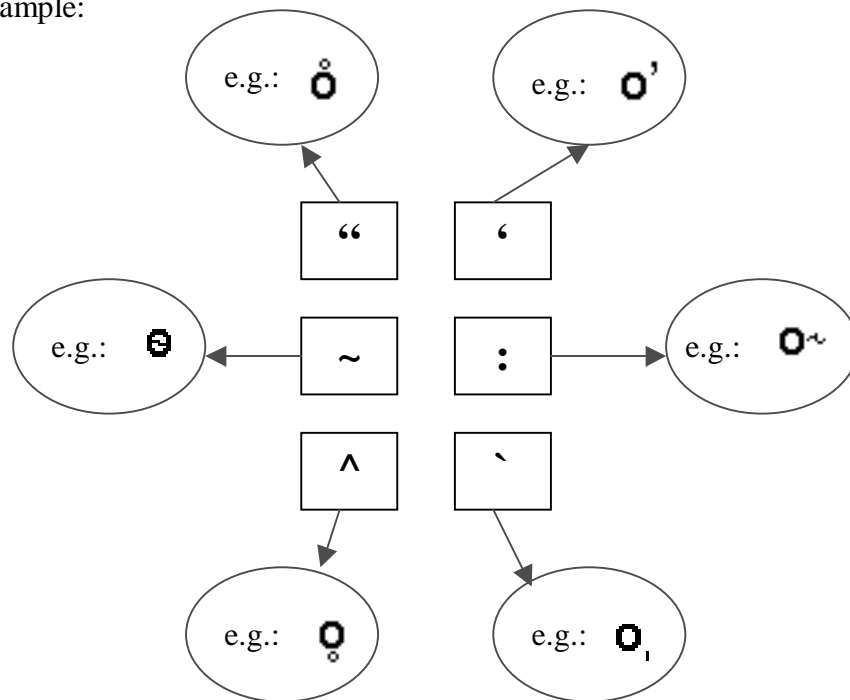
! Note: On Windows 2000, if you use an international keyboard, you have to type SPACE after typing the quotation mark (") or one of the accents (', `, ^).

! Note: It is possible to stack diacritics, but there may be problems displaying them.

(c) Chinese characters

Chinese characters, both traditional and simplified, are entered using the Pinyin method. Characters are selected by starting to type Roman characters. Candidates are shown in a lookup window while the user types along. The desired character is selected with the UP and DOWN arrow keys, e.g.:.
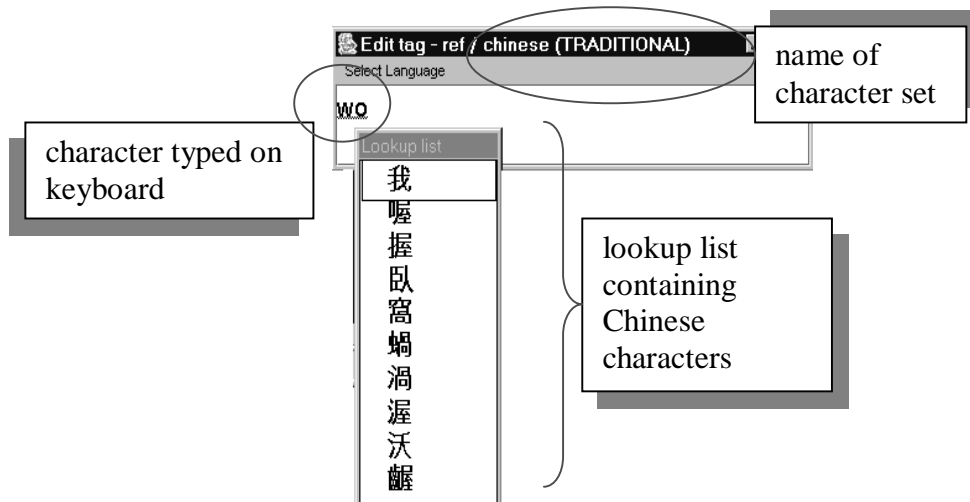
Use the following procedure:

- Enter the pinyin word with the keyboard. For each pinyin word, a list of Han symbols is shown in a popup window.

- Navigate to a Han symbol with the UP and DOWN arrow keys.

- Page through the list with the PAGE UP and PAGE DOWN keys.

- Select a Han symbol with the SPACE or the ENTER key.

  ! Note: Do <u>not</u> use the mouse within the lookup window. If you do, the window will disappear.

  ! Note: On Windows 98, you cannot display both Chinese and IPA characters.

6 Search options

The ELAN tool allows you to search annotations within one document (see section 6.1.1), to display the results (see section 6.1.2) and to jump to the corresponding annotation the ELAN window (see section 6.1.3).

6.1 How to search annotations

6.1.1 Searching

To search for text, do the following:

1. Click on Search menu.

2. Go to Find…. (alternatively you can press CTRL+F) The following dialog window is displayed:

3. The following search options are available:

(1) Go to Annotation on tier and, from the pull-down menu, select the tier to be searched.

(2) Go to matches and type in the item to be searched.

! Note: You can always make use of regular expressions to conduct your searches   (see

(3) Click on Add new constraint to add a second (or third) tier and search item.

In this case, you can specify the number of annotations that can intervene between the first search item and the second search item (or between the second and third item). In the Search-Dialog box, the following terminology applies:

- One "utterance" corresponds to an annotation on an independent, time-alignable tier.

- One "word" corresponds to an annotation on a referring tier assigned to the "time subdivision" constraint.

- One "annotation" corresponds to an annotation of the tier specified in the first constraint.

For example:

tier	annotations							
st (sentence)	He sees trees and flowers.							
tx (word)	he	sees		trees		and	flowers	
mb (morpheme break)	…	see	-s	tree	-s	…	flower	-s
ps (part of speech)	…	V	SUF	N	SUF	…	N	SUF

utterance

words

It is possible to search on different tiers within one annotation. For example, the search parameters illustrated below search for all annotations on the tier tx, which contain "-s" in one of their morpheme breaks and "N" in one of their parts of speech. (Both "-s" and "N" are in distance of "0 words", i.e., they occur within the same word as specified on the tier tx.) I.e., these parameters would find "trees" and "flowers" in the above example, but not "sees".
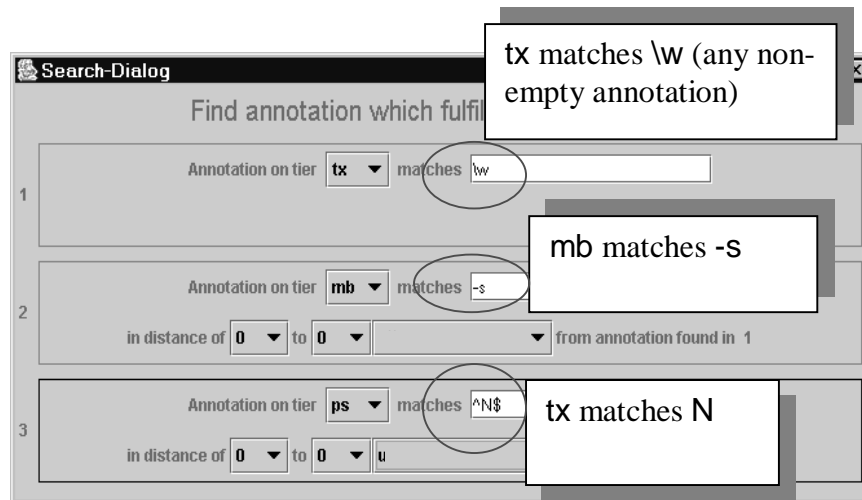
It is also possible to search for sequences of utterances, words or other annotations on the same tier, e.g.:
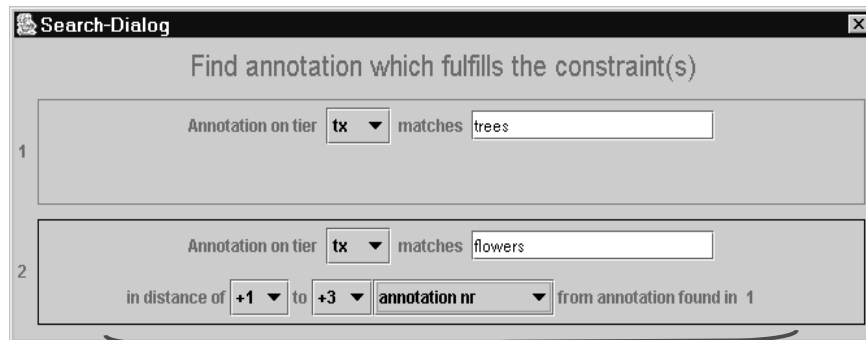
on the tier tx, the annotation "flowers" follows 1 to 3 annotations after the annotation "trees"

You can delete the second (or third) search item. Click on Delete last constraint to delete it.

(4) Click on **View dependencies** to view the dependency relations between tiers.

(5) Go to **Select language** to change the input character set from the pull-down menu.

You only need this option if you want to select a non-default character set. The box automatically displays the default set of the selected tier (see section 5.2.3).

If you search for two (or three) items (by making use of the option **Add new constraint**), the **Select language** box displays the language corresponding to the currently active constraint. Make the constraint active by clicking in the box to the right of **matches**.

4. After you have specified your search parameters, click **Search** to start the search process.

6.1.2   Displaying search results

After the Search is completed, ELAN displays the following search results:

- The number of annotations where the search item was found.

- The full content of each annotation where the search item was found.

- The beginning and end time of each annotation where the search item was found.
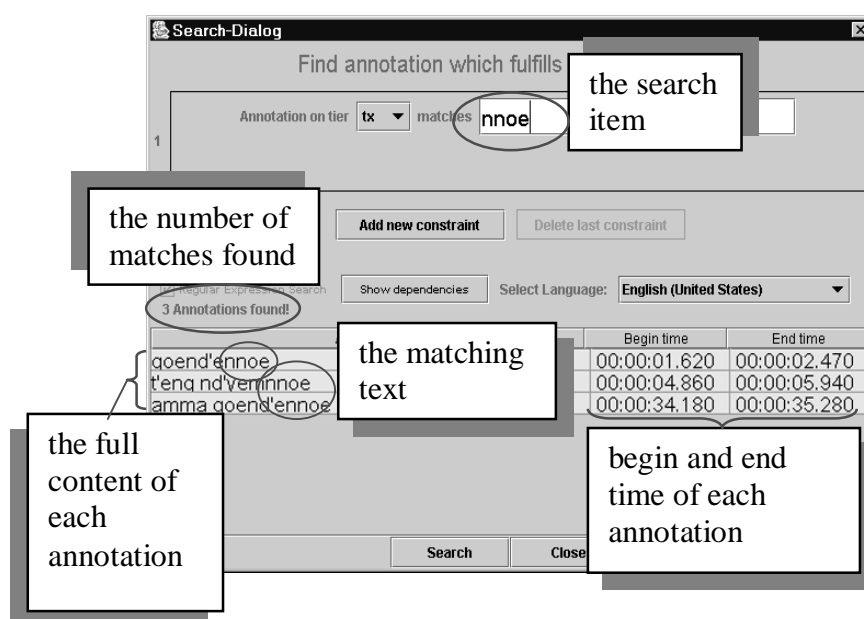
! Note: In this version of ELAN it is not yet possible to save search results or to print them. You can only see them on your screen.

6.1.3 Jumping from the search results to annotations

You can jump from the annotations displayed in the Search-Dialog window to the corresponding annotations in the ELAN window. This option allows you to access other types of information that are linked to the annotations found: to listen to the audio, to watch the video, to view the waveform or to read the annotations on different tiers.

Do the following: In the Search-Dialog window, click on the annotation that you want to jump to. It will be highlighted in blue color. In the ELAN window, the corresponding annotation is automatically accessed.

The screen display should look similar to the following illustration:
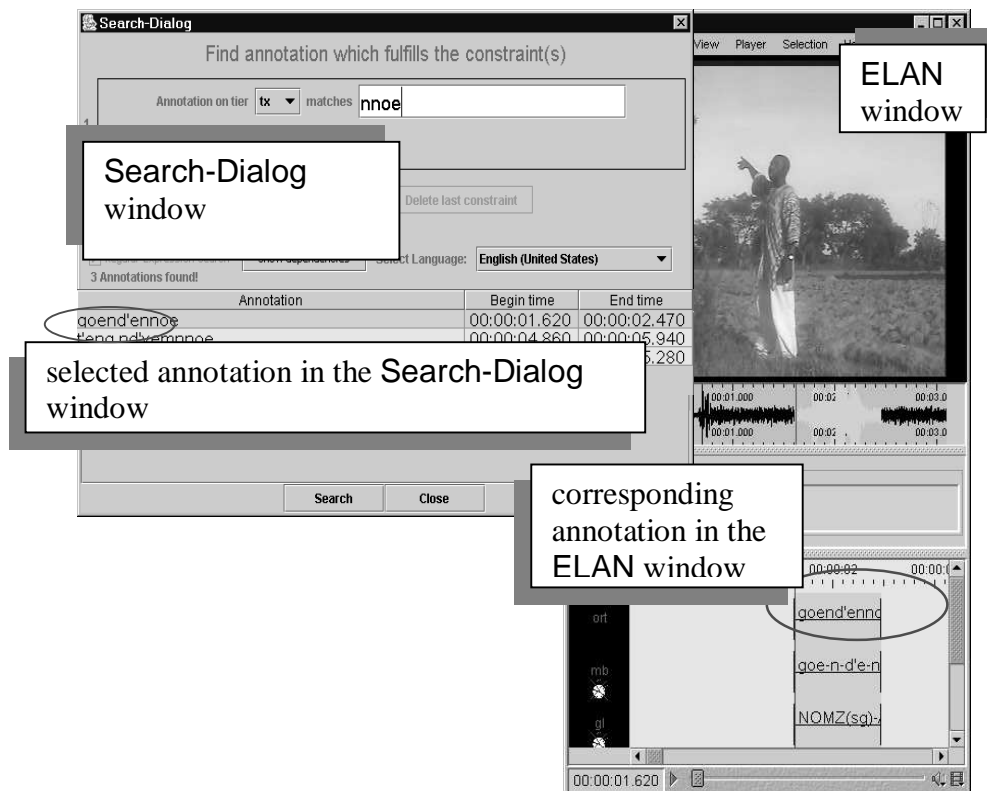
PART III: REFERENCE GUIDE

In this reference guide, you find concise descriptions of the mouse options (1), the menu item (2), and the shortcut keys (3). In addition, a brief definition of key concepts is provided (4), and the new features of version 1.4 (compared to earlier versions) are listed (5).

1. The Mouse Options

Resizing Viewers

- Click on the up/down arrows in the split-pane to increase/decrease the size of the corresponding Viewer.

- Go with the mouse to the split-pane and move it up/down to increase/decrease the size of the corresponding Viewer.

Rearranging the order of tiers

- Drag a tier label from its place in the Timeline or Interlinear Viewer to any other place in the Timeline Viewer.

Make a tier the active tier

- Double click on a tier label.

- Right click in the Timeline or Interlinear Viewer and choose Active Tier.

Accessing points in time

- Click on any place in the Timeline, Waveform or Annotation Density Viewer to jump to this point in time.

- Click on one of the media controls to go forward/backward in time.

- Click on the timecode box and enter a timecode to jump to this point in time.

Playing a document

- Click on the Play/Pause icon to start or pause the playback.

- Use the Rate slider (in the Controls tab) to increase/decrease the playback rate.

Making a selection

- Click with the mouse on any point in the Timeline or Waveform Viewer, and drag it to another point to select a time interval. Or click on an annotation in the Grid Viewer and drag the mouse to another annotation.

- Click on an annotation in the Timeline or Interlinear Viewer to select it.

Adding/modifying an annotation

- Double-click on an annotation or selection (at about the height of the tier where you want to enter an annotation). The Inline Edit box appears and you can enter the annotation.

2. The Menu Items

! Note: The starred options (*) are also available whenever you right-click somewhere within the Timeline or Interlinear Viewer (at about the height of the relevant tier).

File menu

- New: Creates a new annotation file (***.eaf**) for an existing media file (***.wav**, ***.mpg**/***.mov**).

- Open: Opens an existing annotation file (***.eaf**).

- Close: Closes the current ELAN document.

- Save: Saves changes to the annotation file (***.eaf**).

- Automatic backup: Creates an automatic backup copy.

- Import > Shoebox file …: Imports a Shoebox file (***.txt**).

- Export > as Shoebox file …: Exports the document as a Shoebox file (***.txt**).

- Import > Word Annotation Converter file …: Imports a WAC (Word Annotation Converter) file (***.wac.txt**).

- Export > as tab-delimited text …: Exports the document as a tab-delimited text file (***.txt**).

- Quit: Quits the ELAN window.

Edit menu

- (*) New annotation here: Creates a new annotation on the active tier. The option is only available if a time interval or an annotation is selected.

- (*) New annotation before: Subdivides an existing annotation (and adds the new part to the left of the old annotation). The option is only available if an annotation is selected and if the corresponding tier is assigned to either the stereotype Time Subdivision or Symbolic Subdivision.

- (*) New annotation after: Subdivides an existing annotation (and adds the new part to the right of the old annotation). The option is only available if an annotation is selected and if the corresponding tier is assigned to either the stereotype Time Subdivision or Symbolic Subdivision.

- (*) Modify annotation value: Modifies the content of an annotation. The option is only available if an annotation is selected.

- (*) Delete annotation: Deletes an existing annotation. The option is only available if an annotation is selected.

- Add tier: Displays a dialog window that allows you to add a new tier.

- (*) Change tier attributes: Changes the attributes of an existing tier.

- (*) Delete tier: Deletes an existing tier.

- **Add linguistic type**: Displays a dialog window that allows you to add a new linguistic type.

- **Change linguistic type**: Changes the attributes of an existing linguistic type.

- **Delete linguistic type**: Deletes an existing linguistic type.

Search menu

- **Search …**: Allows you to search for text within an ELAN document.

- **Go To …** : Go to a certain point of time.

View menu

- **Tier Dependencies**: Shows the hierarchical relations between tiers.

- **Shortcuts**: Displays a list of shortcut keys.

Selection menu

- **Step mode**: Sets the step size for moving through the file.

- **Go to selection**: Moves the crosshair from any place in the file to the beginning of the current selection.

- **Deselect**: Deselects the current selection.

- **Play selection**: Plays the current selection.

- **Play around selection**: Plays a few (milli-)seconds before and after the current selection.

Options menu

- **Bulldozer mode**: (De)activates the Bulldozer mode.

- **Play around crosshair**: Plays a few (milli-)seconds before and after the crosshair.

- **Annotation / Media Synchronisation Mode**: toggle between these 2 modes

- **Video Standard**: make a choice between PAL and NTSC

- **Language**: choose the interface language

Help menu

- **About EUDICO Linguistic Annotator**: Displays the version and copyright information.

3. The Shortcut Keys

File options

CTRL+S   Saves the current project

CTRL+Q   Quits the session

Playing a document & making selections	
CTRL+SPACE	Starts or stops the Media Player
CTRL+B	Go to the beginning of the video/audio fragment
CTRL+PAGE UP	Go to the previous scroll view
SHIFT+LEFT	Go back one second
CTRL+LEFT	Go back one frame
CTRL+SHIFT+LEFT	Go back one "pixel" on the annotation density viewer
CTRL+SHIFT+RIGHT	Go to the next "pixel" on the annotation density viewer
CTRL+RIGHT	Go to the next frame
SHIFT+RIGHT	Go to the next second
CTRL+PAGE DOWN	Go to the next scroll view
CTRL+E	Go to the end of the media fragment
Working with annotations	
ALT+N	Opens the Inline Edit box for inserting a new annotation (only available if a time interval or annotation is selected)
ALT+M	Opens the Inline Edit box for modifying an annotation (only available if an annotation is selected)
ALT+D	Deletes an annotation (only available if an annotation is selected)
CTRL+ENTER	Saves the changes made to the Inline Edit box or the Edit annotation box
ESC	(from within the Inline Edit box or the Edit annotation box): exits the box without saving the changes
ESC	(in all other contexts): deselects a selection
SHIFT+ENTER	Allows you to switch between the Inline Edit box and the Edit annotation box
Working with selections	
CTRL+B	Moves the beginning of the selection to the left
CTRL+ALT+B	Moves the beginning of the selection to the right
CTRL+E	Moves the end of the selection to the left
CTRL+ALT+E	Moves the end of the selection to the right
ESC	Deselects the selection
Displaying shortcut keys	
CTRL+H	Help: displays the list of shortcut keys

4. Key concepts of ELAN

Annotation file (*.eaf)

An annotation file is the document that contains all the information about tiers (their attributes and dependency relations), annotations and time alignments.

Media file (*.mpg/*.mov, *.wav)

A media file contains the digitized video/audio (***.mpg**/***.mov**) or only the audio (***.wav**) data. It determines the time axis to which the annotation file (***.eaf**) is linked.

Annotation

An annotation is any type of text (e.g. a transcription, a translation, coding, etc.) that is entered on a tier. It is assigned to a selected time interval of the video/audio file (e.g., to the time interval corresponding to the utterance of a speaker) or to an annotation on another tier (e.g., a translation is assigned to an orthographic transcription).

Tier

A tier is a set of annotations that share the same characteristics, e.g., one tier containing the orthographic transcription, or another tier containing the free translation.

A tier can be 'independent' and 'time-alignable', in which case it is directly linked to a time interval of the media file (e.g., the 'orthographic transcription' tier). Or it can be 'referring', in which case it is linked to another tier, its so-called parent tier (e.g., the 'orthographic transcription' tier is a parent tier to the 'free translation' tier). The referring tier shares its time alignment with its parent tier. Some referring tiers can be assigned to the time axis, but only to an interval that is contained within the interval of their parent annotation.

It is possible to build nested hierarchies, e.g., the 'orthographic transcription' tier is the parent tier to a 'word' tier, and the 'word' tier is the parent tier to a 'morpheme break' tier.

Tiers are assigned to linguistic types, which specify certain constraints. The following constraints exist: None (independent, time-alignable tiers), Time Subdivision (the annotation on the referring tier can be subdivided and linked to the time axis), Symbolic Subdivision (the annotation on the referring tier can be subdivided, but not linked to the time axis), Symbolic Association (one annotation on the referring tier corresponds to exactly one annotation on the parent tier).

5. Comparison to earlier versions

The following features were added or changed in version 1.2:

- Exporting a document as a tab-delimited text file (section 3.2.9).

- Importing and exporting between ELAN and Shoebox (sections 3.2.6, 3.2.7).

- The Interlinear Viewer (sections 4.1.7, 4.2.5).

- Color coding to visualize complex hierarchies (section 4.1.10);

- Slider (for playing in slow motion) (section 4.3.4).

- New options for dependency relations between tiers and constraints on tiers (sections 5.1, 5.3).

- Support of two modes: Overwrite and Bulldozer modes (section 5.4.8).

- Entering annotations via the Inline Edit box (section 5.5.1).

- Subdividing annotations, i.e., entering annotations before/after existing annotations (section 5.5.3).

- Modifying annotations from within the Grid Viewer (section 5.5.4).

- Improved search options (chapter 6,

APPENDIX: REGULAR EXPRESSION SEARCH).

The following features were added or changed in version 1.3:

It was possible to provide workarounds for some JMF (Java Media Framework) bugs. A number of errors were fixed in this way, and, as a result, the performance of ELAN has improved considerably (for details, see the release notes under http://www.mpi.nl/tools/elan/release-notes.html).

Other changes:

- Imported files (Shoebox, Word Annotation Converter) can be saved as ELAN files (***.eaf**) (section 3.2.4).

- Creation of automatic backup copies (section 3.2.5).

- Imported SIL IPA characters are converted into Unicode characters (section 3.2.6).

- Import of WAC (Word Annotation Converter) files (section 3.2.8).

- The JMF (Java Media Framework) Media Player has been reduced to a single Play button, a Timecode box, and a Slider (section 4.1.9).

- The active tier can be selected by using the pull-down menu (section 4.1.16).

The following features were added or changed in version 1.4:

ELAN can now work with Quicktime (as an alternative to the Java Media Framework), which also runs on MacOS 10 (for details, see the release notes under http://www.mpi.nl/tools/elan/release-notes.html).

Other changes:

- The active tier can be selected by clicking on it (section 4.1.16).

- A selection can be played from the position of the crosshair (section 4.3.3).

- The color of the tier labels is maintained (section 5.1).

- Make a selection while playing (section 5.4.4).

- Use the shortcut key ESC to deselect a selection (section 5.4.6).

The following features were added or changed in version 2.0:

- Navigate through a file with drag and drop while pressing ALT.

- Separation of the Active Tier and the Subtitle Viewer.

- Addition of the Text Viewer and the Annotation Density Viewer.

- Media controls are rebuilt and expanded.

- A complete revamp of the selection procedure.

- The waveform now supports stereo sound.

- Some keyboard shortcuts have been changed (CTRL+X became ALT+X).

- Addition of context menus (when one clicks with the right mouse button).

- ***.eaf** files don't have to be any longer in the same directory as the media files.

- A multilingual interface has been added.

- Possibility to work with more than 1 video and synchronisation of multiple videos.

APPENDIX: REGULAR EXPRESSION SEARCH

(package gnu.regexp; Syntax and Usage Notes; last updated on 22 June 2001)

Brief Background

A regular expression consists of a character string where some characters are given special meaning with regard to pattern matching. Regular expressions have been in use from the early days of computing, and provide a powerful and efficient way to parse, interpret and search and replace text within an application.

Supported Syntax

Within a regular expression, the following characters have special meaning:

- *Positional Operators*

^	matches at the beginning of a line[2]
$	matches at the end of a line[3]
\A	matches the start of the entire string
\Z	matches the end of the entire string
\b	matches at a word break (Perl5 syntax only)
\B	matches at a non-word break (opposite of \b) (Perl5 syntax only)
\<	matches at the start of a word (egrep syntax only)
\>	matches at the end of a word (egrep syntax only)

- *One-Character Operators*

.	matches any single character[4]
\d	matches any decimal digit
\D	matches any non-digit
\n	matches a newline character
\r	matches a return character
\s	matches any whitespace character
\S	matches any non-whitespace character
\t	matches a horizontal tab character
\w	matches any word (alphanumeric) character
\W	matches any non-word (alphanumeric) character
\x	matches the character x, if x is not one of the above listed escape sequences.

- *Character Class Operator*

[abc]	matches any character in the set a, b or c

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[2] but see the REG_NOTEOL and REG_MULTILINE flags
[3] but see the REG_NOTEOL and REG_MULTILINE flags
[4] but see the REG_MULTILINE flag

[^abc]	matches any character not in the set a, b or c
[a-z]	matches any character in the range a to z, inclusive

A leading or trailing dash will be interpreted literally.

Within a character class expression, the following sequences have special meaning if the syntax bit RE_CHAR_CLASSES is on:

[:alnum:]	Any alphanumeric character
[:alpha:]	Any alphabetical character
[:blank:]	A space or horizontal tab
[:cntrl:]	A control character
[:digit:]	A decimal digit
[:graph:]	A non-space, non-control character
[:lower:]	A lowercase letter
[:print:]	Same as graph, but also space and tab
[:punct:]	A punctuation character
[:space:]	Any whitespace character, including newline and return
[:upper:]	An uppercase letter
[:xdigit:]	A valid hexadecimal digit

- *Subexpressions and Backreferences*

(abc)	matches whatever the expression abc would match, and saves it as a subexpression. Also used for grouping.
(?:...)	pure grouping operator, does not save contents
(?#...)	embedded comment, ignored by engine
\n	where $0 < n < 10$, matches the same thing the nth subexpression matched.

- *Branching (Alternation) Operator*

a|b	matches whatever the expression a would match, or whatever the expression b would match.

- *Repeating Operators*

These symbols operate on the previous atomic expression.

?	matches the preceding expression or the null string
*	matches the null string or any number of repetitions of the preceding expression
+	matches one or more repetitions of the preceding expression
{m}	matches exactly m repetitions of the one-character expression
{m,n}	matches between m and n repetitions of the preceding expression, inclusive
{m,}	matches m or more repetitions of the preceding expression

- *Stingy (Minimal) Matching*

  If a repeating operator (above) is immediately followed by a ?, the repeating operator will stop at the smallest number of repetitions that can complete the rest of the match.

- *Lookahead*

  Lookahead refers to the ability to match part of an expression without consuming any of the input text. There are two variations to this:

(?=foo)	matches at any position where foo would match, but does not consume any characters of the input.
(?!foo)	matches at any position where foo would not match, but does not consume any characters of the input.

Unsupported Syntax

Some flavors of regular expression utilities support additional escape sequences, and this is not meant to be an exhaustive list. In the future, gnu.regexp may support some or all of the following:

(?mods)	inlined compilation/execution modifiers (Perl5)
\G	end of previous match (Perl5)
[.symbol.]	collating symbol in class expression (POSIX)
[=class=]	equivalence class in class expression (POSIX)
s/foo/bar/	style expressions as in sed and awk (note: these can be accomplished through other means in the API)

Java Integration

In a Java environment, a regular expression operates on a string of Unicode characters, represented either as an instance of java.lang.String or as an array of the primitive char type. This means that the unit of matching is a Unicode character, not a single byte. Generally this will not present problems in a Java program, because Java takes pains to ensure that all textual data uses the Unicode standard.

Because Java string processing takes care of certain escape sequences, they are not implemented in gnu.regexp. You should be aware that the following escape sequences are handled by the Java compiler if found in the Java source:

\b	backspace
\f	form feed
\n	newline
\r	carriage return
\t	horizontal tab
\"	double quote
\'	single quote
\\	backslash
\xxx	character, in octal (000-377)

\uxxxx   Unicode character, in hexadecimal (0000-FFFF)

In addition, note that the \u escape sequences are meaningful anywhere in a Java program, not merely within a singly- or doubly-quoted character string, and are converted prior to any of the other escape sequences. For example, the line gnu.regexp.RE exp = new gnu.regexp.RE("\u005cn"); would be converted by first replacing \u005c with a backslash, then converting \n to a newline. By the time the RE constructor is called, it will be passed a String object containing only the Unicode newline character.

The POSIX character classes (above), and the equivalent shorthand escapes (\d, \w and the like) are implemented to use the java.lang.Character static functions whenever possible. For example, \w and [:alnum:] (the latter only from within a class expression) will invoke the Java function Character.isLetterOrDigit() when executing. It is always better to use the POSIX expressions than a range such as [a-zA-Z0-9], because the latter will not match any letter characters in non-ISO 9660 encodings (for example, the umlaut character, "ü").

Reference Material

- ***Print Books and Publications***

  Friedl, Jeffrey E.F., Mastering Regular Expressions. O'Reilly & Associates, Inc., Sebastopol, California, 1997.

- ***Software Manuals and Guides***

  Berry, Karl and Hargreaves, Kathryn A., GNU Info Regex Manual Edition 0.12a, 19 September 1992.

  perlre(1) man page (Perl Programmer's Reference Guide)

  regcomp(3) man page (GNU C)

  gawk(1) man page (GNU utilities)

  sed(1) man page (GNU utilities)

  ed(1) man page (GNU utilities)

  grep(1) man page (GNU utilities)

  regexp(n) and regsub(n) man pages (TCL)