










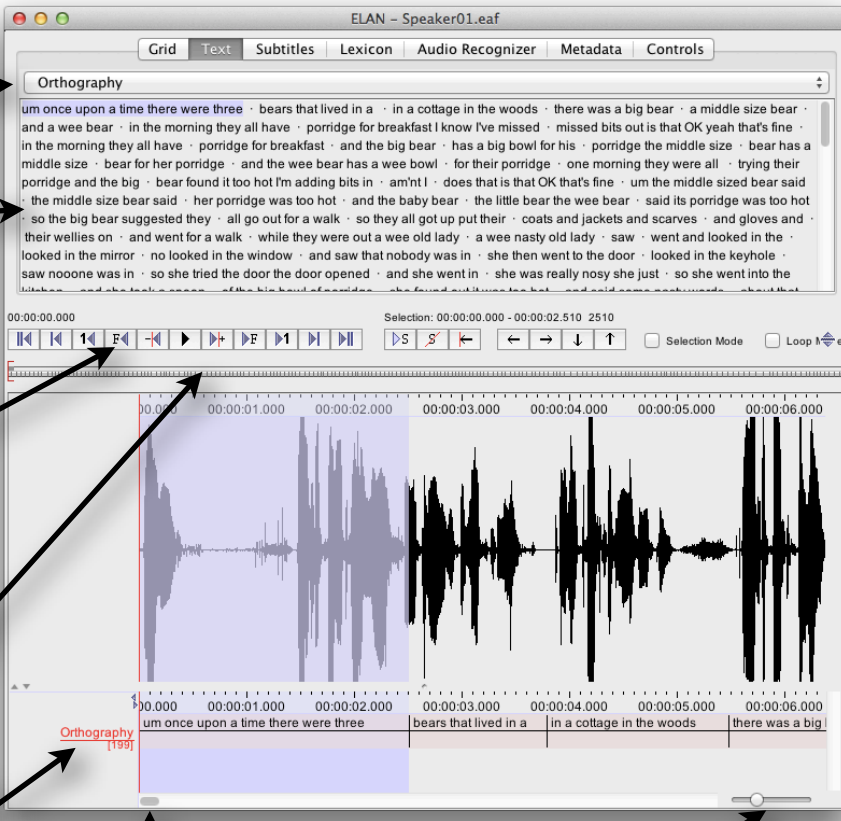
Transcription basics

ELAN creates annotation files (.eaf) which are linked to audio or video media. The .eaf files are actually just XML text files, containing individual annotations and their timings. ELAN also creates a “preferences” file for each .eaf file, with the extension .pfsx. These files store details of how the ELAN window was arranged when you last worked on that annotation. I recommend naming your .eaf files with the same file name as your media, as in the demonstration files for this workshop. This just helps you to keep track of what audio goes with what transcription.

	Speaker01.eaf	Today 12:42
	Speaker01.pfsx	Today 12:47
	Speaker01.wav	Today 11:42
	Speaker02.eaf	Today 12:34
	Speaker02.pfsx	Today 12:47
	Speaker02.wav	Today 12:13
	Speaker03.eaf	Today 12:38
	Speaker03.pfsx	Today 12:47
	Speaker03.wav	Today 12:22

Task 1: playback

Open Speaker01.eaf. Because I have already been working with this file, ELAN will also read the .pfsx file and the window should open as below.



The screenshot shows the ELAN interface for 'Speaker01.eaf'. At the top, there are tabs for 'Grid', 'Text', 'Subtitles', 'Lexicon', 'Audio Recognizer', 'Metadata', and 'Controls'. The main text area displays a transcription of a story about three bears. Below the text is a playback control bar with a timeline from 00:00:00.000 to 00:00:06.000. A waveform of the audio is visible above the timeline. At the bottom, there are transcription tiers, with one tier labeled 'Orthography' containing the text. A scroll bar is located at the bottom center, and a horizontal zoom slider is at the bottom right.

Annotations (yellow boxes) pointing to the interface:

- Tier selection for upper half of window
- Upper half of window in text mode with clickable annotations (test out grid or subtitles modes too)
- Playback controls (hover over each for a pop up label)
- Clickable time line
- Transcription tiers (only one in this file so far)
- Scroll bar
- Horizontal zoom slider

Keyboard shortcuts

CTRL+SPACE: play from cursor
 SHIFT+SPACE: play selected audio
 SHIFT+RIGHT ARROW: forward 1 second
 SHIFT+LEFT ARROW: back 1 second
 ALT+N: new annotation on the active tier
 CTRL+RETURN: commit new transcription

Try playing the file and test out the different controls. For example, you can click on an annotation in the top half of the window to jump to that part of the audio. You can explore the different views (grid, text, subtitles), and in the Controls tab, you can adjust the playback rate and volume of the audio.
Important: go to File --> Automatic backup --> 1 minute While we are not making any changes to this particular file, it is sensible to have ELAN make automatic backups, just in case it crashes!

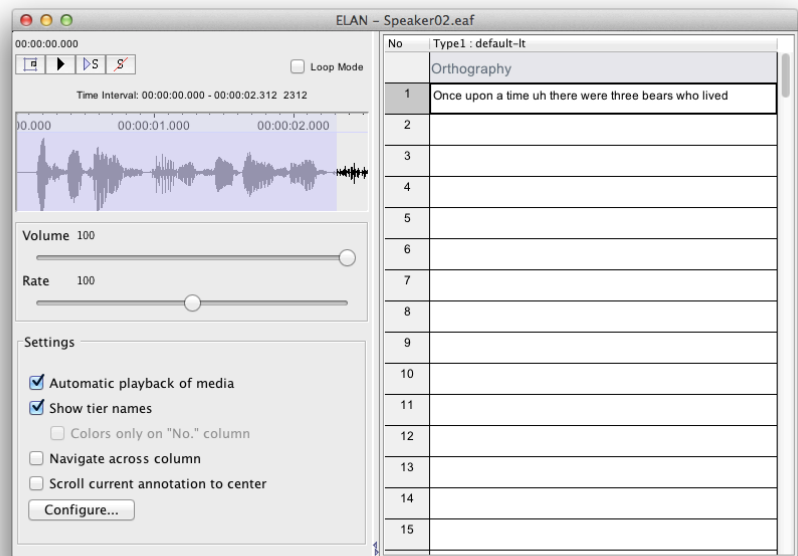
Task 2: transcription mode

A recent addition to ELAN is a dedicated Transcription mode as an alternative to creating annotations directly in the timeline view. (This is very similar to the first version of another piece of software, Transcriber).

Open Speaker2.eaf. It should open in transcription mode: this recording has already been roughly segmented but only the first annotation has been typed in. You can use the mouse to click in the list of segments on the right side of the window: the relevant segment of audio will play automatically. It is much quicker to use the keyboard though:

Return = move to next segment
ALT+up arrow = move to previous segment

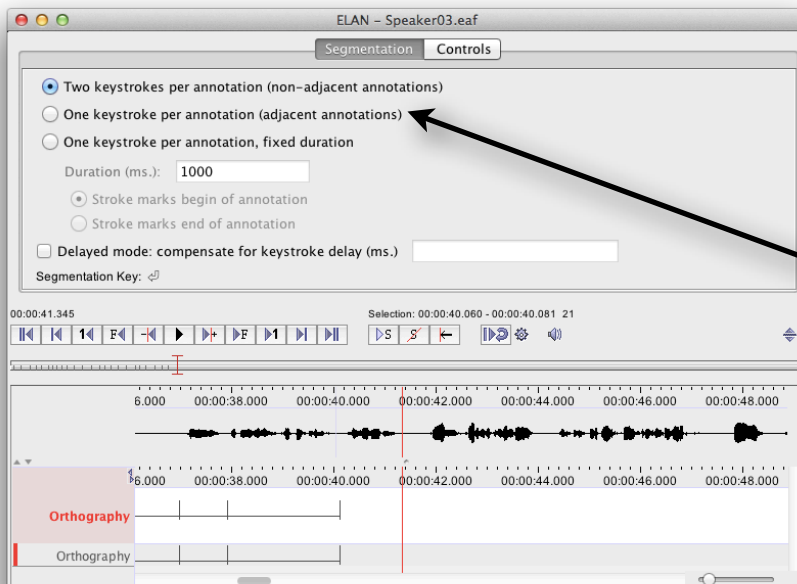
Work your way through the recording, typing annotations.



You can go to **Options --> Annotation mode** to see your annotations in the standard ELAN window, as we used in Task 1. I have found this method of transcription to be very efficient: once the file has been segmented, typing in the annotations becomes something you can do without having to move your hands from the keyboard. **Save this transcription.**

Task 3: segmentation mode

This allows us to segment an audio file, in order to use the transcription mode we used in Task 2.

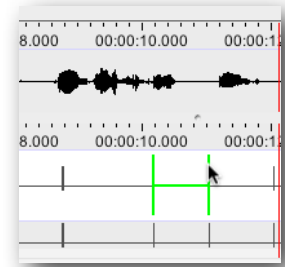


Open Speaker3.eaf. It should open in segmentation mode: the first few utterances have been segmented but the rest of the audio remains to be done. There are several alternative approaches but I find it easiest to select "One keystroke per annotation" and to use the return key to mark segments. For an orthographic transcription of a sociolinguistic interview, I recommend **short segments** of perhaps a couple of seconds each. It doesn't matter if these are not precisely lined up with syllable boundaries: you're likely to be using this orthographic

transcription to home in on relevant parts of a long interview. If you do want to do fine-grained phonetic analysis, you will be transferring relevant short extracts to Praat anyway, so I recommend a somewhat 'rough and ready' approach to just getting a first pass orthographic transcription done quickly and then making any adjustments later. So, press play (or CTRL+SPACE) then press Return each time you want to start a new segment. Use the scrolling waveform display to guide you about the speaker's utterances, but don't be afraid to make several short segments for any one complete utterance: this makes typing transcriptions easier.

If you want to adjust the segment boundaries you have made, move your mouse cursor over the boundaries: you'll see that you can click and drag to adjust the start or end boundary of any segment.

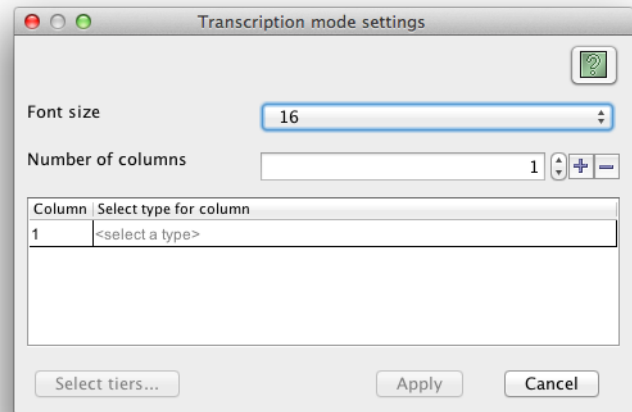
Alternatively, go to **Options --> Annotation mode** and you'll see the standard ELAN window. You can adjust the start or end of a segment by holding **alt** and clicking and dragging one of the vertical segment boundary lines.



Task 4: setting up the transcription mode

Having segmented the audio, we now want to use the transcription mode we used in Task 2.

Go to **Options --> Transcription mode** and you'll see the setting window. I like to use quite a big font, but it is up to you. We are only using one column for this task (because we are only producing a single orthographic 'tier' of annotation for now. You need to select a 'type' for this column: use the *default-It* type that pops up when you click <select a type>. Then click the **Select tiers...** button and choose the Orthography tier (the only tier we currently have in this .eaf file). Once you click **Apply** you should see the transcription window as in Task 2. You can now go through the file typing transcriptions.

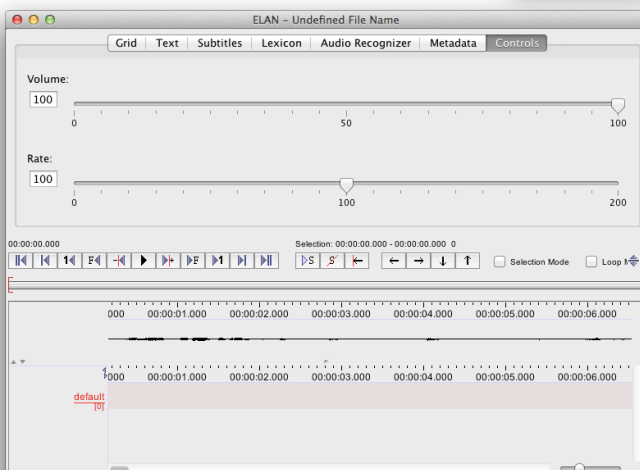
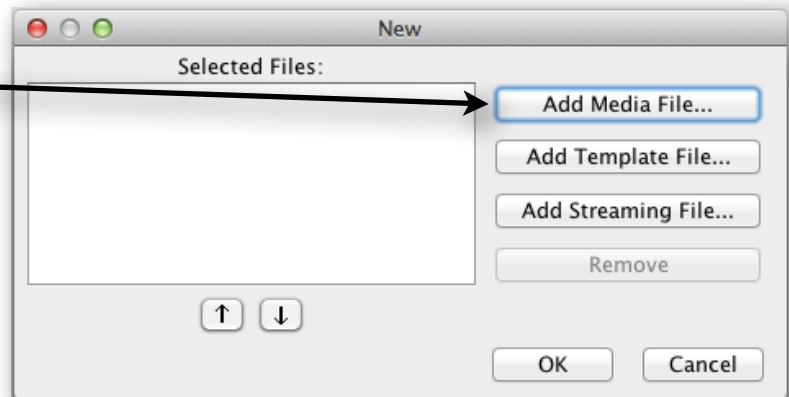


Task 5: setting up a transcription file from scratch

We now have .eaf files for three speakers, but we have an additional recording for Speaker04.

Go to **File --> New...**

You will see the window to the left. Use the file browser to locate your ELAN Workshop folder. Select Speaker04.wav you should see it listed under "Selected Files". Then press OK and you will see a very basic ELAN window. **Save this file as Speaker04.eaf**

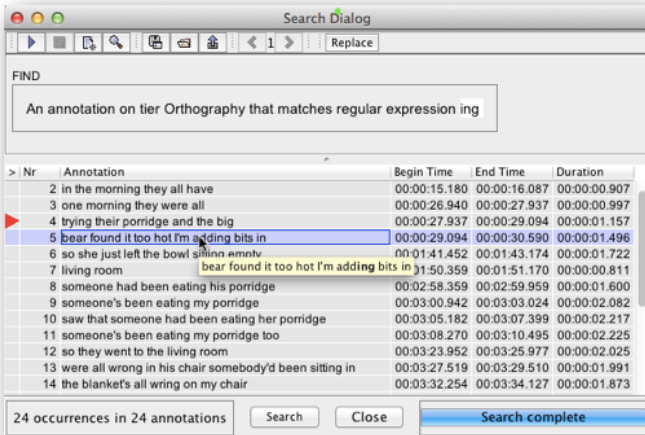
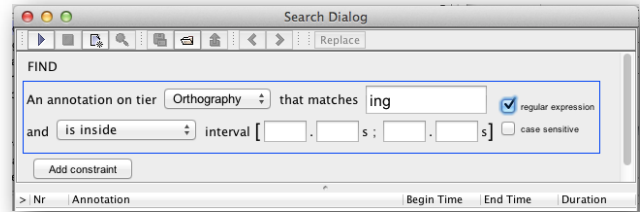


Right click on the *default* tier label and select **Change Attributes Of default**. You can now give it a more useful label (Orthography). You can right click on the waveform display and select a higher Vertical Zoom setting (try 1000%). Now work on transcribing this file. Use the segmentation mode covered in task 3 and the transcription mode used in tasks 2 and 4.

We now have a mini-corpus of four orthographically transcribed recordings.

Task 6: basic searching

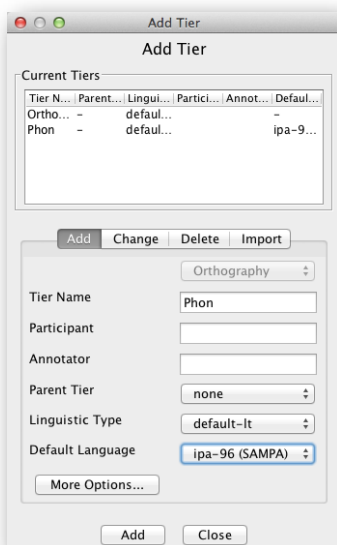
Although we can play back our .eaf files and see the time-aligned annotations, we really want to be able to search for things. We will start by searching within a single .eaf file. Go to **Search --> Find (and Replace)**. Search for occurrences of *ing* in the orthographic transcription as shown to the right. **Select the regular expression tick box**. This will return a list of each occurrence in the current .eaf file.



You can click any item in the list and ELAN will jump to that point in the audio. As we have a corpus of four .eaf files, we can do the same search across all four files. Go to **Search --> Search Multiple eaf...** Click **Define search domain**. You will need to tell ELAN where to search. Do this by clicking the **New Domain** button and browsing to find the ELAN Workshop folder. With the folder itself highlighted, press the **>>** button, then press OK and give this search domain a useful name, such as **ELAN Workshop**.

Now if you run a similar search, such as a regular expression search for the string of characters *ing*, the results will include each occurrence in all the transcription files in your ELAN Workshop folder. If you wanted to find every occurrence of *bear* you could search for that across all the transcription files, again making sure to tick the regular expression box.

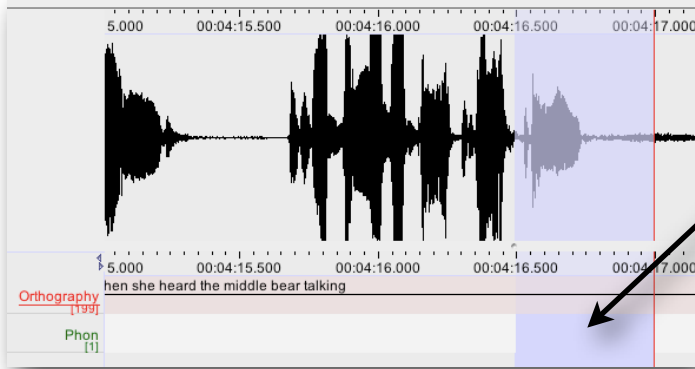
The use of Regular Expressions allows you to search in a precise manner. For instance, try *ing\b* which should bring up only examples where *ing* is at the end of a word, or *ing\b* which should bring up only examples where *ing* is **not** at the end of a word. If you're investigating (ing) you might not want tokens of *thing*: the Regular Expression *(?!th)ing* will find examples of *ing* which are **not** preceded by *th*. (However, this would miss examples such as *breathing* so you'd need to find out more about Regular Expressions in order to construct your search query more precisely).



Task 7: add another tier

So far we have just been transcribing orthographically, but you might well want to add further tiers of annotation, perhaps including use of IPA for a phonetic or phonemic level of transcription. Go to Speaker01.eaf and click **Tier --> Add New Tier**. Name it Phon and set the default language to ipa-96 SAMPA from the drop down list.

One possible use for this tier would be if you were interested in variation in (ing) between [ɪŋ] and [ɪn]. Find an example of (ing), perhaps by using the search function we tried in Task 6. Go to **Search --> Find (and Replace)** search for *ing* in the Orthography tier. Remember to tick the **regular expression** tick box.



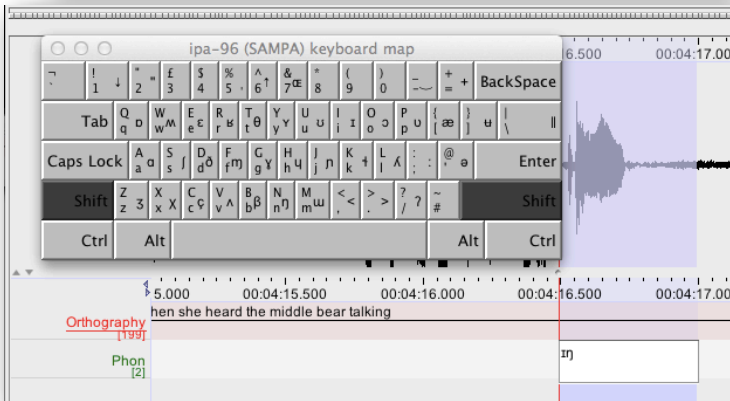
I have highlighted the second syllable in *talking* by clicking and dragging in the waveform display. You can press **SHIFT +SPACE** to play your selected audio.

Now double click the highlighted section in the Phon tier.

You will see a pop up keyboard map which will show you which IPA symbols are typed when you press particular keys (press shift to see more IPA characters).

Press **CMD+ENTER** (Windows **CTRL +ENTER**) to 'commit' that annotation (by default ELAN is set to require you to commit changes like this: you can change this in the preferences so that simply clicking away from the annotation will place the annotation).

Add some more annotations on your Phon tier. You can also try changing the default language of your Phon tier to IPA rtr, but this is quite a slow method.

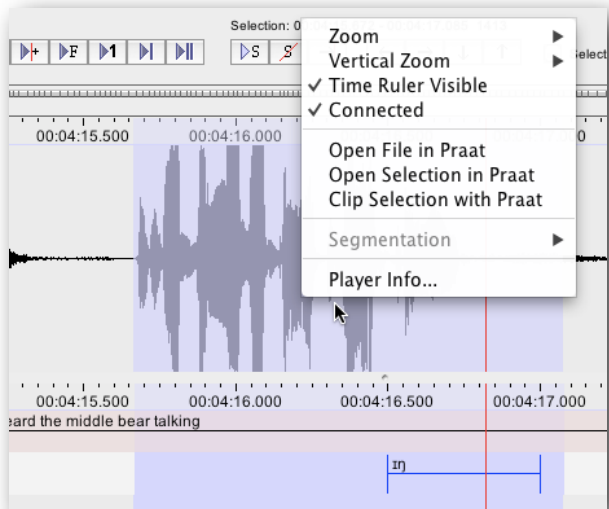


Task 8: export audio clips to Praat

Having used ELAN's transcription tools to transcribe an interview, you may want to carry out acoustic analysis in Praat. First, launch Praat. Then, in ELAN, highlight the section of audio you'd like to transfer. Right click and choose **Clip Selection with Praat**

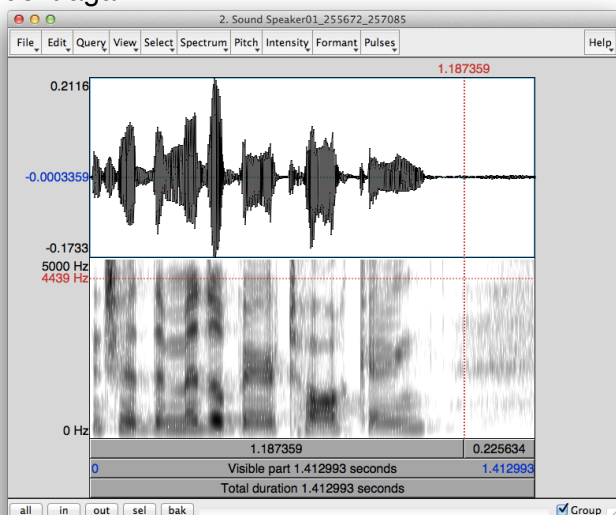
Selection with Praat

The first time you do this, ELAN will ask for the location of the 'sendpraat executable'. I have included sendpraat for Intel Macs, PowerPC Macs and Windows in the ELAN Workshop folder. For the moment you can just navigate to the relevant instance of sendpraat and press OK (if you are using your own computer, you might want to place sendpraat in a sensible location, such as in your Applications or Utilities folder: once you have set ELAN up to interface with Praat, you will not need to do it again.



You should see your selected audio open in Praat.

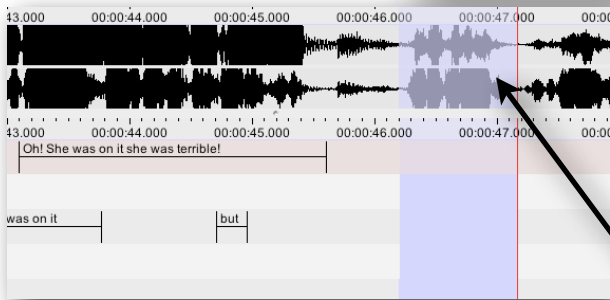
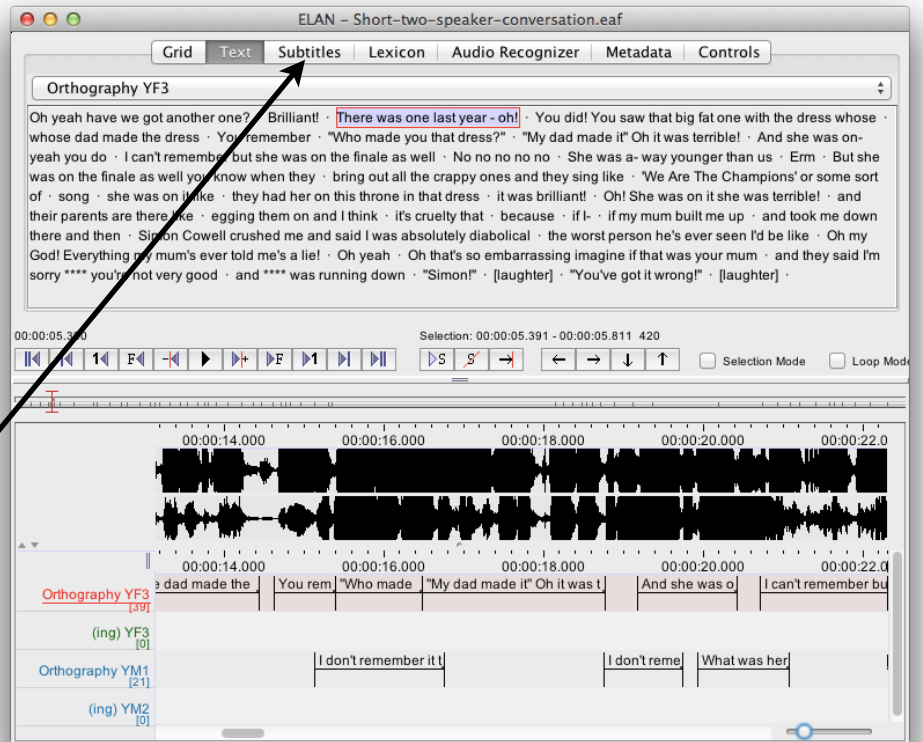
ELAN has made a copy of the section of highlighted audio and put it in the same folder as the original file, appending the timings (in ms) to the file name. In my case I was working with Speaker01.wav and I now also have the extract named Speaker01_255672_257085.wav. This can be useful if you want to extract short clips from a long recording for other purposes, such as to use in presentations.



Task 9: working with more than one speaker

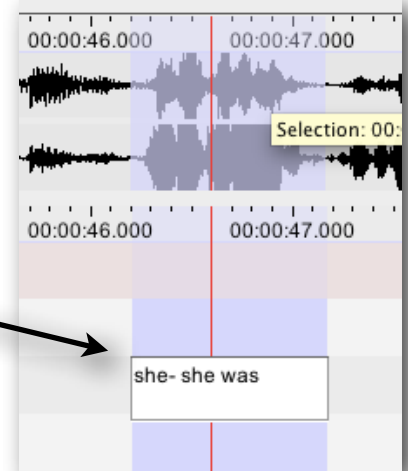
Open the file Short-two-speaker-conversation.eaf. You will see that this time there are two speakers in conversation (you'll also hear me from time to time).

You can play the transcription file and see that there are Orthography tiers for the two speakers. You can also click the Subtitles tab and select both orthography tiers (this can be used with transcriptions of video files, and ELAN can re-encode the video with the subtitles embedded in the file).



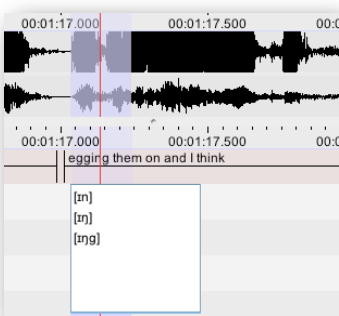
There is a section in the middle of the audio that is not transcribed. You can add annotations directly to the timeline in the main Annotation mode window.

Click and drag on the waveform to select the relevant section (you can press shift+space to



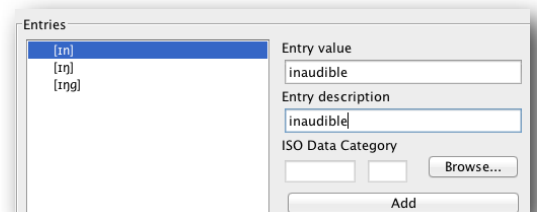
play your selection to check it's right). Then double click in the relevant tier (so YM1 for the male speaker, and YF3 for the female speaker) and type in the annotation. You need to commit this annotation by pressing ctrl+enter (cmd+enter on a Mac). Work your way through, filling in the missing annotations (they have been done for you from 1m16s into the file: it's only a short section that is missing).

Task 10: controlled vocabulary



This allows you to specify a drop-down list of values for an annotation, and is useful for transcribing variables, where you want to use a defined set of possible variants. Find an example of (ing) using the search method from Task 6. Then click and drag to select the relevant audio and double click in the (ing) tier for that speaker. This time, rather than an IPA keyboard, you will see a drop down list of three variants: double-click one to put that variant in the annotation.

If you want to, you can add another variant to the controlled vocabulary list: go to **Edit --> Edit controlled vocabularies** and you'll see the three variants we already have. You might want a fourth label for inaudible tokens: type in your new value (and a description if you want) and press add. It will then appear in the drop-down list.



Task 11: exporting a transcript

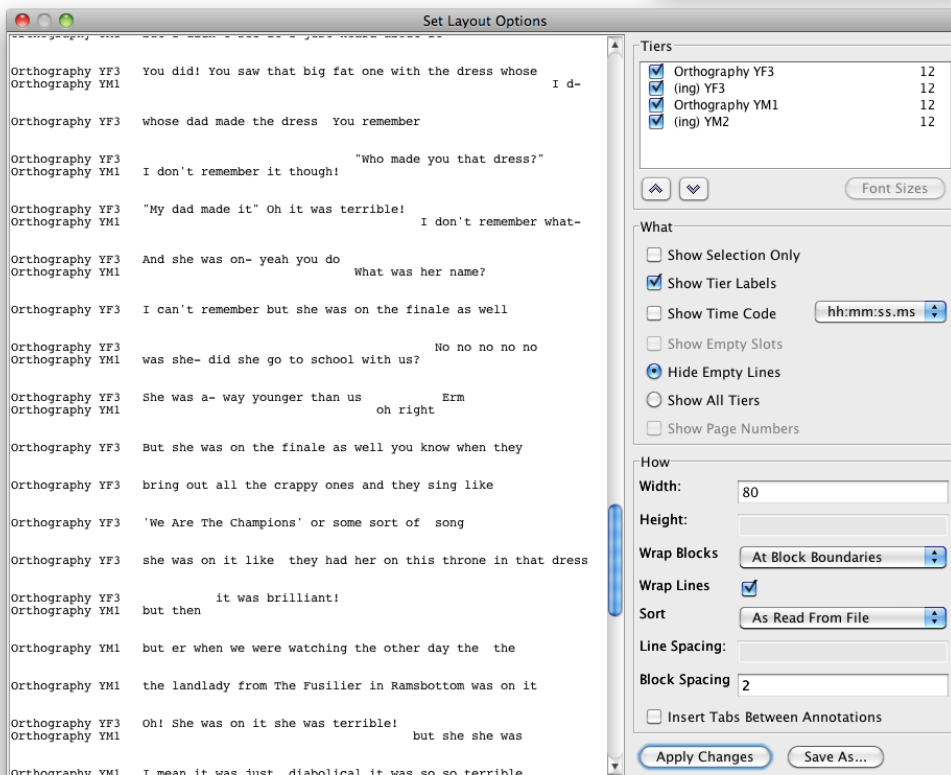
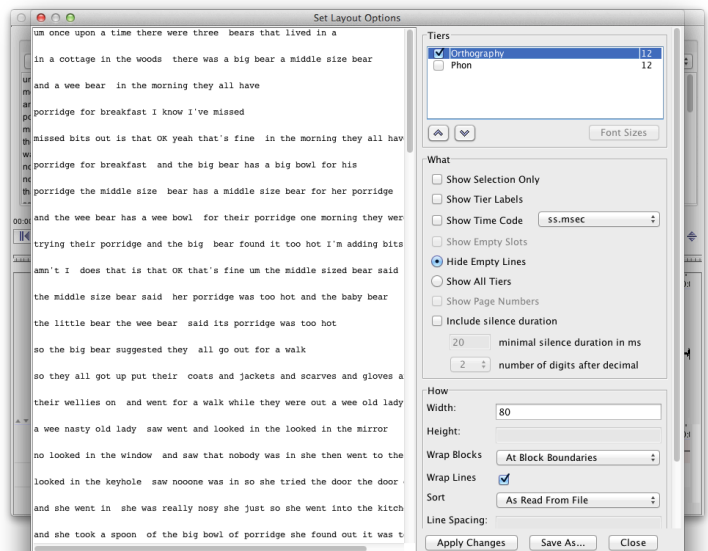
Click **File --> Export As --> Interlinear Text**

This will bring up a preview of how your transcription will be exported.

Experiment with the different options:

- ➔ Which tiers to include
- ➔ Whether to include tier labels
- ➔ Whether to include timecode
- ➔ Click Apply Changes to preview each change

You can then save the file as a text file which can be imported into word processing software. Use of a fixed width font such as Courier will preserve the layout that ELAN creates.



Our *Three Bears* monologues do not produce particularly interesting exported transcripts, but to the left is an example of a conversation transcribed in ELAN, containing overlapping speech and turn taking.

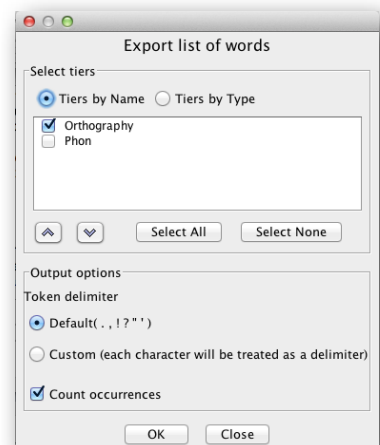
Task 12: Use the 'export as list of words' function and then import into a spreadsheet

Working with Speaker01.eaf, go to **File --> Export As --> List of Words...**

Select the Orthography tier, and tick the "Count occurrences" box.

Click OK to save the list as a text file (UTF-8 encoding should be fine: this means that the text file will use unicode text encoding, which is important if you are using extended sets of characters (IPA, Cyrillic etc)).

This file can be imported into a spreadsheet



In Excel, there is an import function which will guide you through the process of importing this text file. The words and the frequency counts are delimited by tabs: Excel will convert this into columns as shown on the right. You can then sort the data, produce bar charts etc.

	A	B	C	D	E	F
1	Item	Frequency				
2	the	75				
3	and	69				
4	she	53				
5	in	35				
6	bear	32				
7	was	25				
8	that	24				
9	it	19				
10	so	19				
11	a	18				
12	s	17				
13	they	17				
14	porridge	16				
15	went	16				
16	all	15				
17	big	15				
18	too	15				
19	middle	13				
20	said	13				
21	wee	13				
22	saw	12				
23	been	11				
24	her	11				

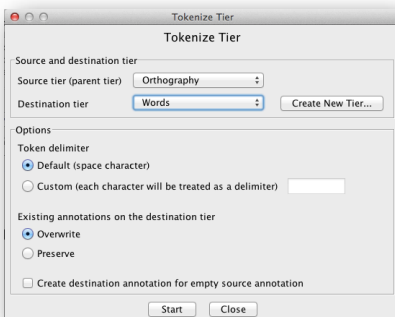
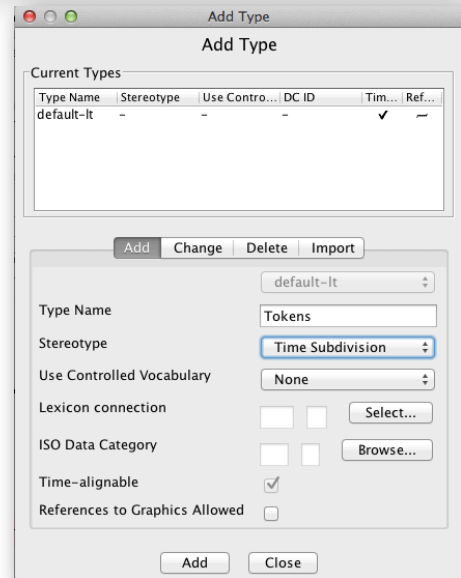
Task 13: Tokenise your orthographic transcription

Having created a first pass orthographic transcription, you might want to tag certain words within each of your annotations. ELAN can create a new, 'tokenised' tier for you. NB the individual words will not automatically line up with the audio, although you could move the boundaries by hand if you wanted to achieve that.

First we need to create a new 'linguistic type' (a confusing label, but this is to tell ELAN that our new tier will be the 'child' of our original orthographic 'parent' tier). Go to **Type --> Add New Linguistic Type**

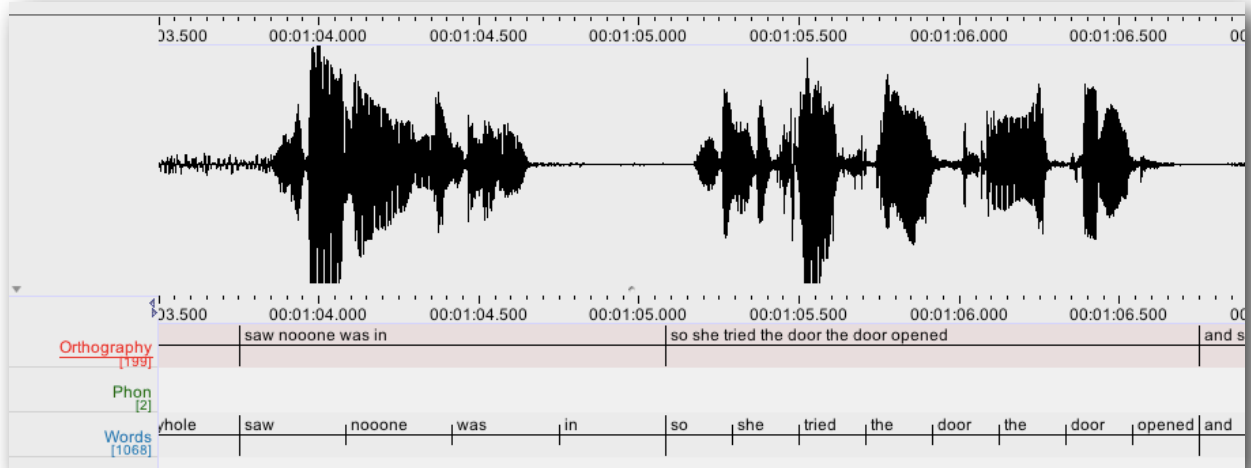
Type --> Add New Linguistic Type

Call this type 'Tokens' and (more confusing jargon!) set the 'stereotype' to Time Subdivision. Then **Add** this new type.



Now go to **Tier --> Add New Tier**. Call the tier *Words*, set the Parent Tier to Orthography and the Linguistic Type to Tokens. Finally, go to **Tier --> Tokenize Tier**

Set the source tier to Orthography and the destination tier to Words and press Start. You'll see a new set of annotations on the Words tier.





FAVE (<http://fave.ling.upenn.edu>)

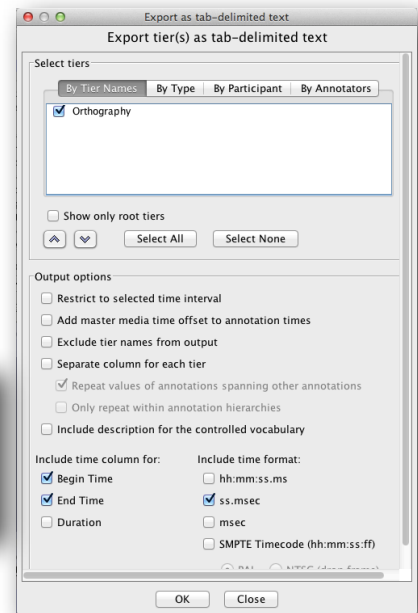
This project, based at the University of Pennsylvania and accessible online, will take an orthographic transcription, such as the ones we have generated in ELAN, and force align the transcription at word and phone level, generating a Praat textgrid.

You need to **Export As --> Tab Delimited Text** with options set as shown to the right, to include Begin Time and End Time in seconds.

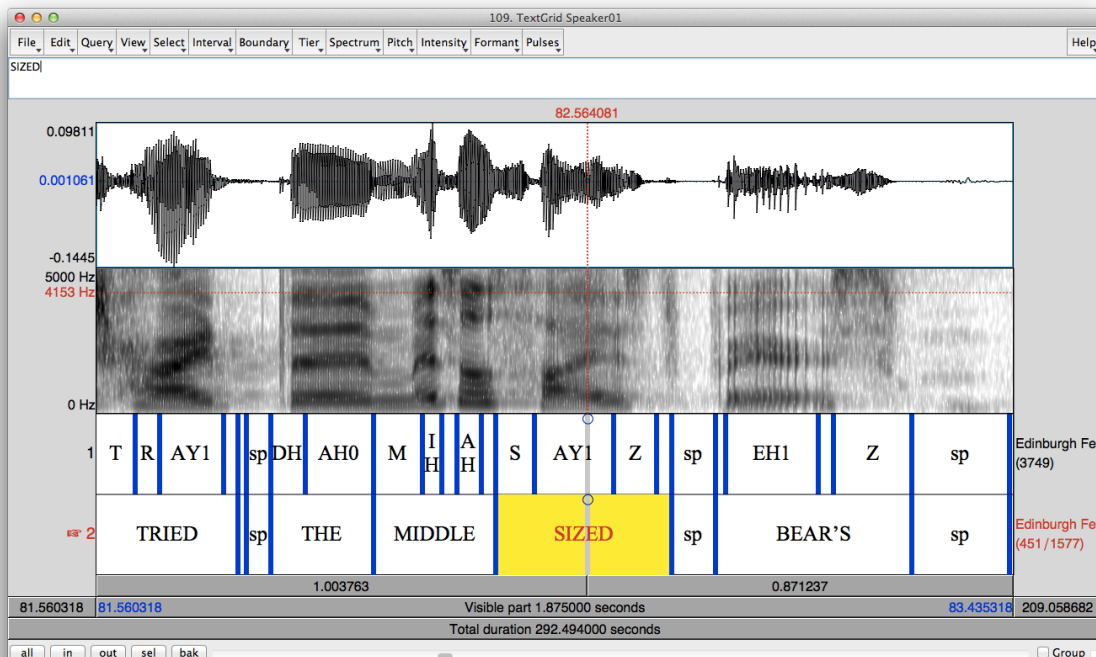
Your text file should have five tab-delimited columns containing: speaker ID, speaker name, beginning of annotation unit (in seconds), end of annotation unit (in seconds), transcribed text.

(Open it in a text editor to check (or Quicklook it on a Mac):

Orthography	Edinburgh	F	0.0	2.51	um once upon a time there were three
Orthography	Edinburgh	F	2.51	3.799	bears that lived in a
Orthography	Edinburgh	F	3.799	5.487	in a cottage in the woods
Orthography	Edinburgh	F	5.487	7.11	there was a big bear
Orthography	Edinburgh	F	7.11	8.27	a middle size bear
Orthography	Edinburgh	F	8.27	10.062	and a wee bear



This is the result for the Speaker01.eaf file we have been working with:



This is very impressive indeed! While this result was not 100% accurate, I did not optimise the orthographic transcription *at all* for processing by FAVE, and the timings were quite rough and ready, yet it still produced a very accurate result. A small amount of tweaking the orthographic transcription before submitting it to FAVE would make it even more accurate.