



ELAN for APLS

Data Science for Linguists– Spring '25

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Worked under Dr. Dan Villarreal

Quick disclaimer

I'm no longer a member of the APLS lab, so the contents of this presentation may be a bit outdated (ELAN vs Praat)

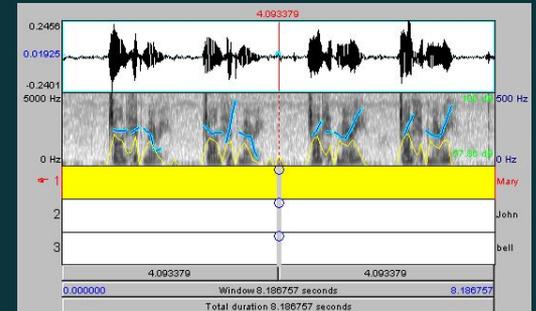


Table of contents

- 01. Background on APLS**
- 02. ELAN First Steps**
- 03. Modes of Transcription**
- 04. Shortcuts and Hotkeys**
- 05. General Processes**



01

Background on APLS

Background on APLS

- Archive of Pittsburgh Language and Speech (APLS)
 - Database of time-aligned transcripts of audio files powered by LaBB-CAT
 - LaBB-CAT: open source software written by Robert Fromont and Jen Hay (NZILBB), made to store audio and visual recordings and their transcripts
 - Pittsburgh Speech and Society Project (PSSP)
 - Directed by Barbara Johnstone and Scott Kiesling
 - From 2003-2005
 - Sociolinguistic interviews with Pittsburgh residents from 4 different neighborhoods
 - Still under construction, but will become available to the public
 - ~34 hours uploaded out of ~48 hours

Potential Research with APLS

- Search features in APLS
 - View entire transcripts and download into many different formats (TextGrid, EAF, PDF, plain text, etc.)
 - Search for specific words, see them in context, and export as CSV/TextGrid
 - Can use regular expressions when searching (ex: .* for 0 or more of any character)
 - Can use many different projects/layers when searching (ex: lemma, morphology, phonology, syntax, etc.)
- Applications
 - Provides a large quantity of usable data for researchers looking for specific phonemes/morphemes/words used by Pittsburgh speakers

Potential Research with APLS

Lemma layer for word “go”

Transcript with multiple layers

CB10interview4.eaf - Barbara Johnstone			
48.	✓	you	go to
49.	✓	to	going to
50.	✓	thing	going on
51.	✓	she	went back
52.	✓	you	go on
53.	✓	you	go to
54.	✓	actually	go there
55.	✓	ever	go to
56.	✓	you	go to
57.	✓	you	go for
58.	✓	were	going to
59.	✓	you'd	go down
CB10interview5.eaf - Barbara Johnstone			
60.	✓	you	go down
61.	✓	about	going out
62.	✓	of	going out
63.	✓	that	going out
LV04interview1.eaf - Barbara Johnstone			
64.	✓	you	go good
65.	✓	I	went there
66.	✓	mostly	went to
67.	✓	wife	go on
68.	✓	just	go back
69.	✓	wife	go out
70.	✓	you	go ?

participants

name
Barbara Johnstone

CB01

projects

- alignment
- frequency
- imported
- lexicon
- manual annotations
- phonology
- syntax
- testing

layers - include empty layers

- pos (syntax) IPA (unicode) ASCII
- phonemes (phonology) IPA (unicode) ASCII
- morphology (lexicon) IPA (unicode) ASCII
- lemma (lexicon) IPA (unicode) ASCII
- syllables (phonology) IPA (unicode) ASCII
- unisyn phonemes (phonology) IPA (unicode) ASCII
- orthography IPA (unicode) ASCII
- word IPA (unicode) ASCII
- segment IPA (unicode) ASCII

transcript

Barbara Johnstone

[thumb]papers shuffling...

	V	PRON	ADV	N	CCON	
	manipulate	some+one	now	i	want+to	
	manipulate	someone	now	um	i wanna	
	manipjoleit	SAMWAN	naʊ	ʌm	aɪ wɒnə	
	manipulate	someone	now	um	I wanna	

Barbara Johnstone

	V	A	N	V	V	PREP	PRON	PREP	N	A	N	PREP	N	N	PRON	V	CCON	V	N	ADV	A	N	CCON	ADV	N	PREP	PRON	PRON	V	N
	make	sure	i	have	start	with	some	of	a	little	bit	of	back+ground	inform+ation	this	be	going+to	be	a	very	in+formal	converse+ation	I+am	not	interest	in	how	you	talk	i
	make	sʊə	aɪ	hæv	stɔ:t	wɪθ	sʌm	ɒv	ə	lɪtl	bɪt	ɒv	bækgraʊnd	ɪnfɜ:məʃn	ðɪs	ɪz	gɔ:nə	bi: eɪ	vərɪ:	ɪnfɔ:rməl	kɒnvɜ:səʃn	aɪm	nɒt	ɪnrɪst	ɪn	haʊ	ju:	tɔ:k	aɪ	
	make	sure	I	have	start	with	some	of	a	little	bit	of	background	information	this	is	gonna	.be	a	very	informal	conversation	I'm	not	interest	in	how	you	talk	I



Recent Advances in Our Transcription

- The Beautiful Monster 
 - Combines ASR and STT to output a fully segmented and transcribed file!
 - ASR: an AI segmented file (courtesy of Alejandro Ciuba, CS PhD student at Pitt)
 - STT: Batchalign file (courtesy of Houjun Liu, who was a freshman at Stanford at the time :0)
- ELAN File Checker 
 - Input a completed ELAN file and it checks for...
 - Valid tier names and attributes
 - Out-of-dictionary words
 - Overlaps
 - If all of those come up clean, it outputs an ELAN file with aligned segment boundaries



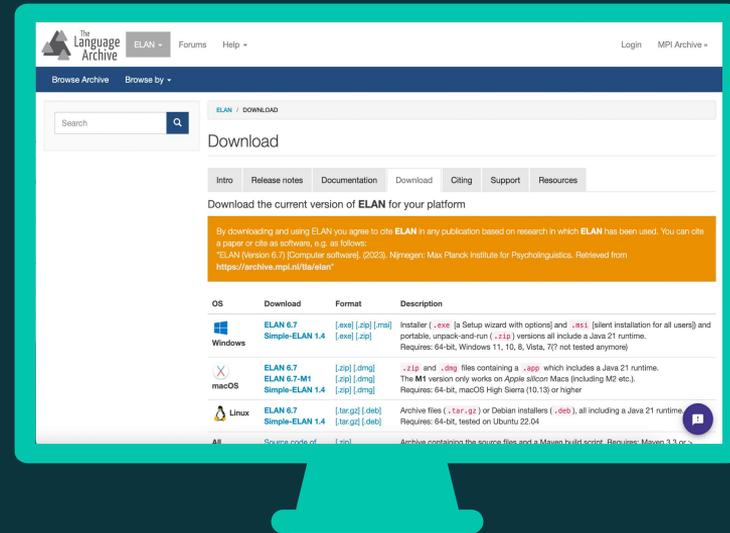
02

ELAN First Steps

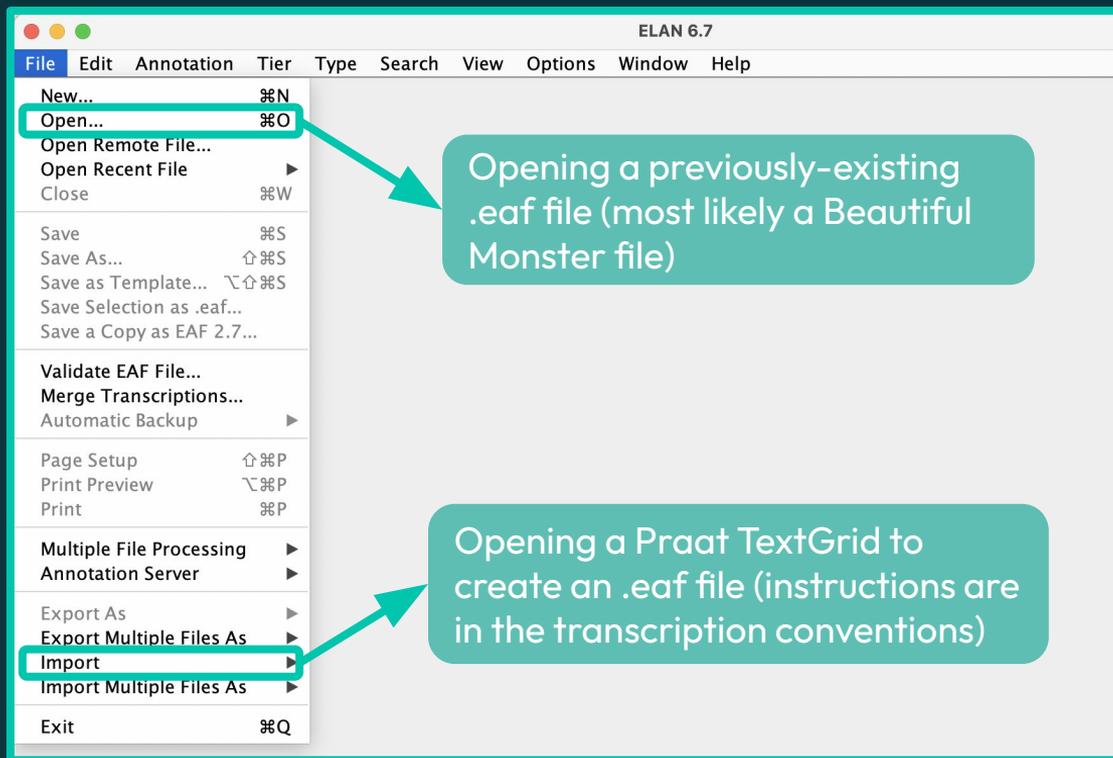
Download

Get ELAN for free on the internet:

<https://archive.mpi.nl/tla/elan/download>

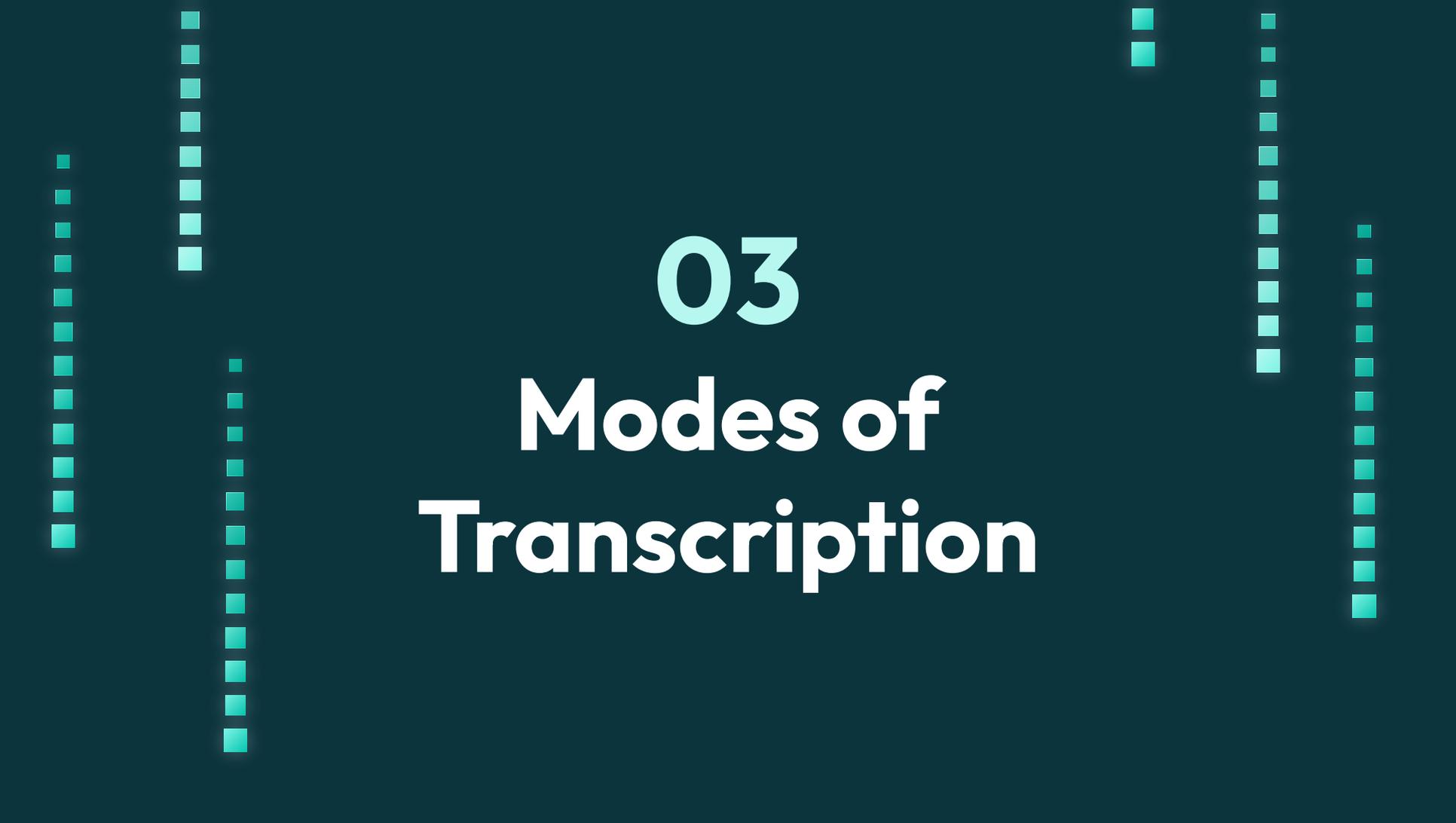


First Steps



Add Audio

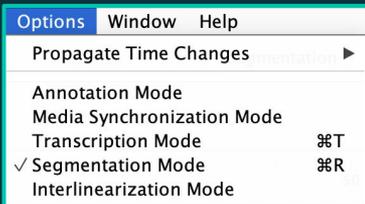
Edit	Annotation	Tier	Type	Search
	Undo Set Author...			⌘Z
	Redo			⌘Y
	Copy Current Time			⇧⌘G
	Edit Controlled Vocabularies...			⇧⌘C
	Set Author...			
	Document Properties...			
	Linked Files...			⇧⌘L



03

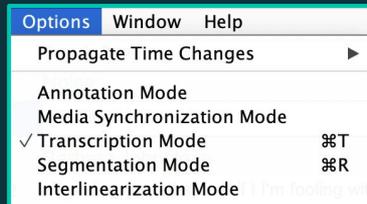
Modes of Transcription

3 Modes of Transcription



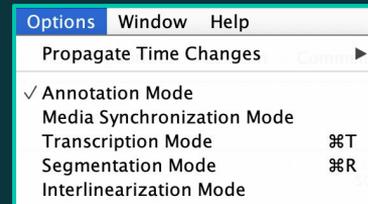
Segmentation

Used for creating and adjusting segments on all tiers



Transcription

Used for inputting transcriptions into segments



Annotation

Used for editing transcriptions directly on segments

We only really use these two

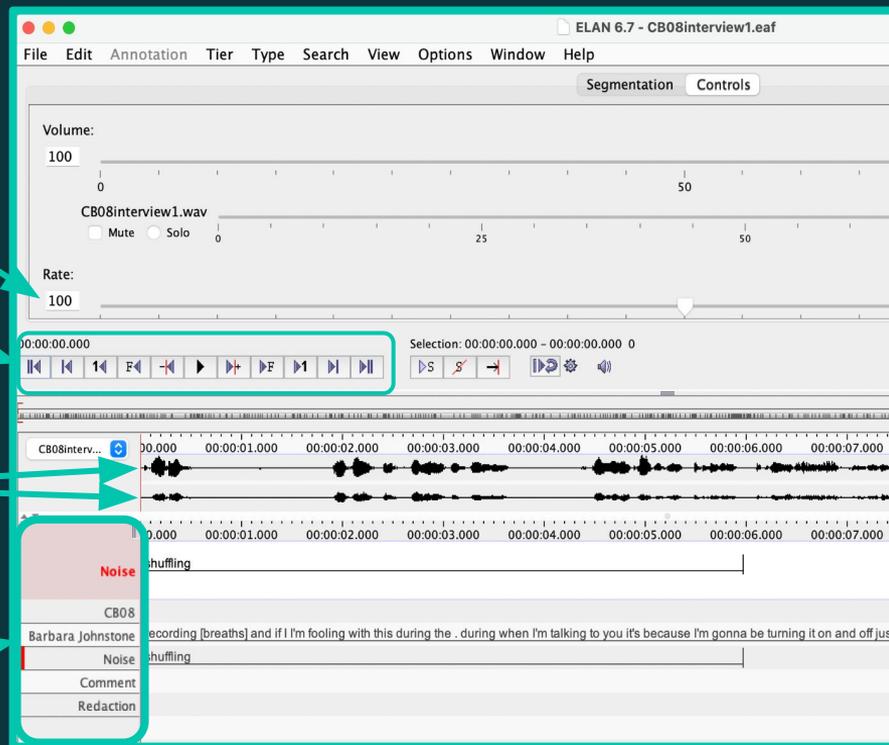
Segmentation Mode

Slider can slow down and speed up rate of speech

Play and pause button, among other things

The two channels: top is usually interviewer, bottom is usually interviewee

You can change current tier by double clicking the one you want to work with (or by using the up and down arrows)

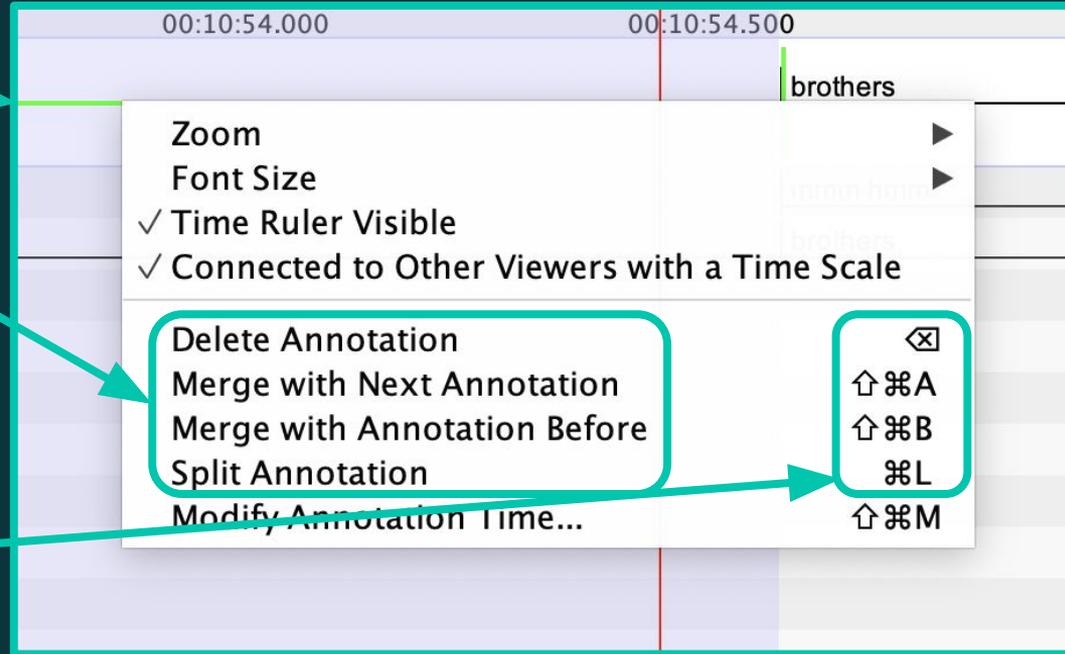


Segmentation Mode

Right-click on the segment (it HAS to turn green)

These are the 4 you will use most often

Can also use hotkeys...but we have had issues with them in the past



Transcription Mode

The two channels

Slider can slow down and speed up rate of speech

Tier name

Transcription inside segment

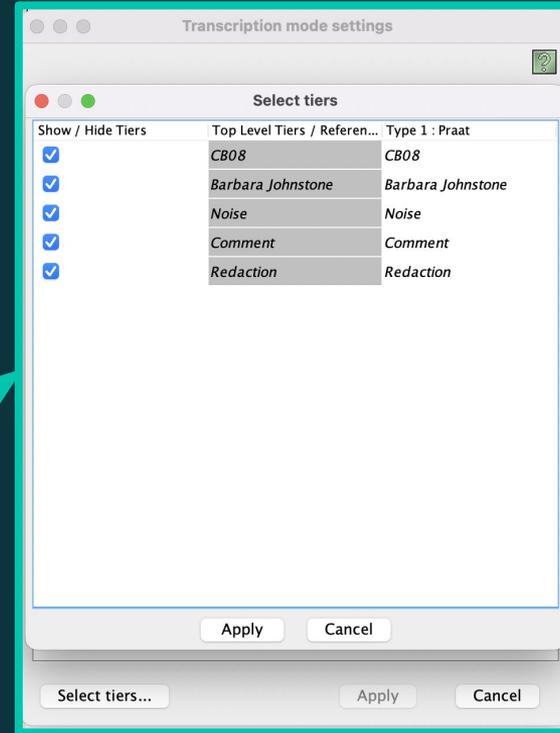
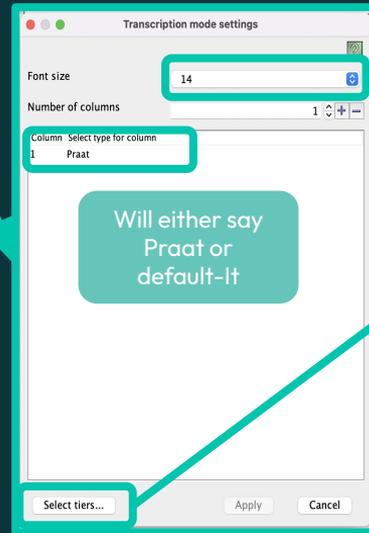
The screenshot displays the ELAN 6.7 interface for a file named 'CB08interview1.eaf'. The top menu bar includes File, Edit, Annotation, Tier, Type, Search, View, Options, Window, and Help. The main window is divided into several sections:

- Audio Waveform:** Shows two channels of audio with a time interval of 00:00:00.000 to 00:00:05.974. A 'Loop Mode' checkbox is present.
- Volume and Rate Sliders:** The Volume slider is set to 100. The Rate slider is also set to 100.
- Settings Panel:** Contains several checked options: 'Automatic playback of media', 'Create missing annotations', 'Show tier names', 'Navigate across column', and 'Scroll current annotation to center'. There is an unchecked option for 'Colors only on "No." column' and a 'Configure...' button.
- Annotation Table:** A table with columns 'No.' and 'Type 1 : Praat'. It lists 11 segments with various transcription tiers and content:

No.	Type 1 : Praat
	Noise
1	shuffling
	Barbara Johnstone
2	recording [breaths] and if I'm fooling with this during the . during off just so I don't get these huge . big
	Noise
3	shuffling
	CB08
4	sure
	Barbara Johnstone
5	files these is a digital recorder and um - don't wanna overdo it . so
6	um
	CB08
7	okay
	Barbara Johnstone
8	with the card [breath] um just for my records I'm talking to
9	REDACT
	Redaction
10	speaker's name
	Barbara Johnstone
11	is that . how you say

Transcription Mode

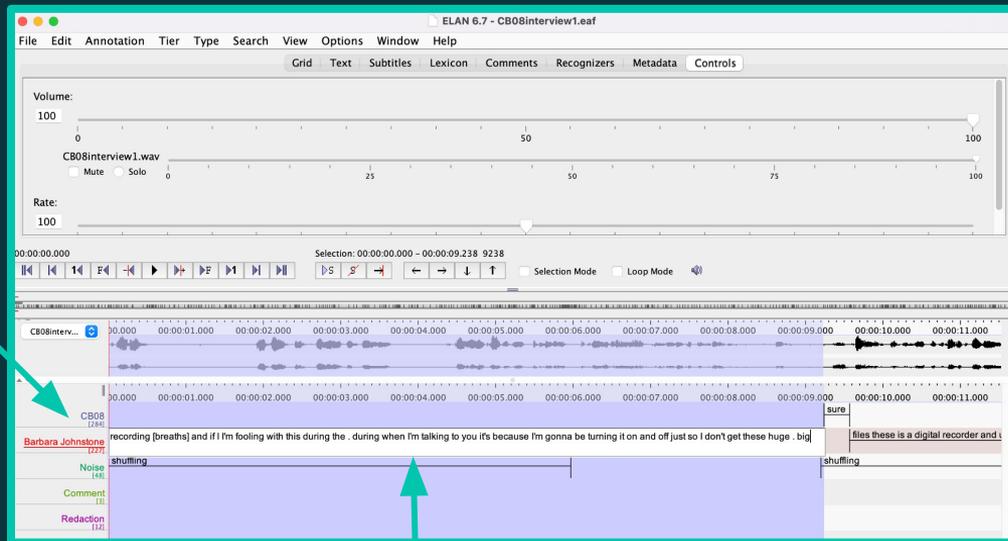
Configure...



Annotation Mode

Shows number of segments on each tier

Double click the tier you want to work on



Can't adjust segments but can edit text inside the segments by double clicking them

Annotation Mode

CB08interv... 00:00:40.000 00:00:41.000 00:00:42.000 00:00:43.000

00:00:40.000 00:00:41.000 00:00:42.000 00:00:43.000

CB08 [284] right

Barbara Johnstone [227] I'm almost know the zip code by heart now one six O six

Noise [48]

Comment [3]

Redaction [13]

Copy segments onto other tiers:

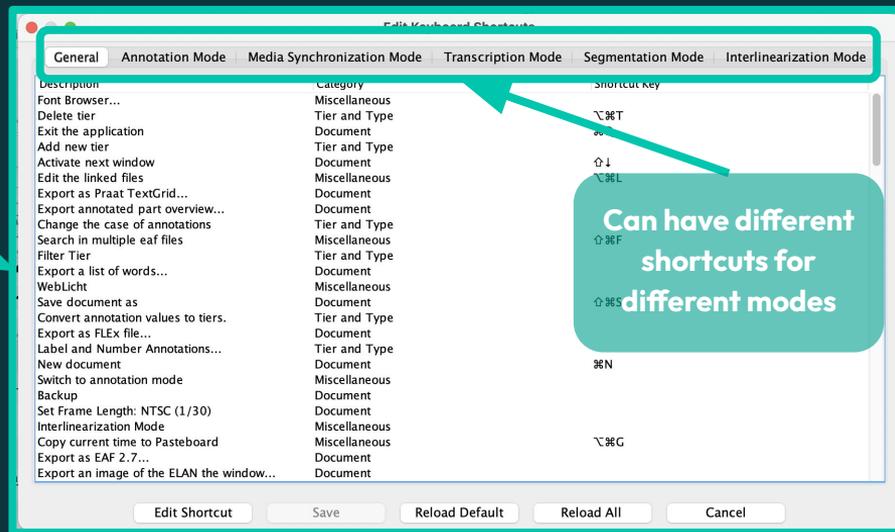
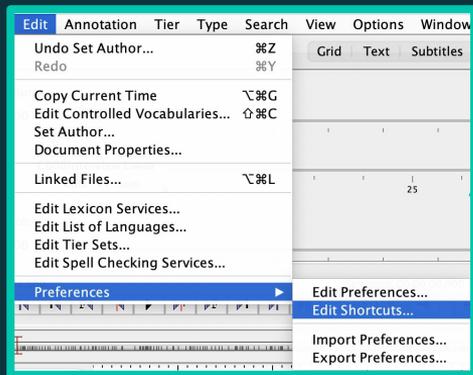
1. Choose the tier that currently has the segment
2. Click segment until it is highlighted in purple
3. Double click on the tier that you want the new segment on
4. *Optional* write in the transcription directly



04

Shortcuts and Hotkeys

Shortcuts



My Shortcuts: Segmentation

Description	Category	Shortcut Key
Set time 1 second back	Media Navigation	⌘←
Split annotation	Annotation Editing	⌘L
Go to next scrollview	Media Navigation	⌘PageDown
Merge with Next Annotation	Annotation Editing	⌘⌘A
Go to next pixel	Media Navigation	⌘⌘→
Go to next frame	Media Navigation	⌘→
Segmentation Key	Annotation Editing	A
Go to previous pixel	Media Navigation	⌘⌘←
Go to begin of media	Media Navigation	⌘B
Set next tier active	Tier and Type	↓
Switch to Bulldozer mode	Miscellaneous	
Go to time	Media Navigation	⌘G
Switch to shift mode	Miscellaneous	
Go to previous scrollview	Media Navigation	⌘PageUp
Zoom to default size (in the main viewer)	Miscellaneous	⌘0
Switch to normal propagation mode	Miscellaneous	
Go to end of media	Media Navigation	⌘E
Set previous tier active	Tier and Type	↑
Merge with Annotation Before	Annotation Editing	⌘⌘B
Move crosshair to left / right of selection	Selection	⌘ /
Play around selection	Media Navigation	⌘N
Play selection	Media Navigation	⌘M
Toggle the playback rate	Miscellaneous	⌘⌘R
Go to previous frame	Media Navigation	⌘←
Move crosshair to center of selection	Selection	⌘⌘ /
Play / pause step-and-repeat mode	Media Navigation	
Delete annotation	Annotation Editing	⌘X
Set time 1 second ahead	Media Navigation	⌘→
Play / Pause the media	Media Navigation	⌘⌘
Toggle the playback volume	Miscellaneous	⌘⌘R
Zoom out (in the main viewer)	Miscellaneous	⌘-
Play Around Selection...	Media Navigation	
Clear selection	Selection	⌘⌘C
Modify the annotation time by entering time val...	Annotation Editing	⌘⌘M
Zoom in (in the main viewer)	Miscellaneous	⌘I
Change rate and volume toggle value...	Media Navigation	

Segmentation Key A
Delete Annotation Delete
Zoom Out Command Zero
Zoom In Command I
Play/Pause Return

My Shortcuts: Transcription

Description	Category	Shortcut Key
Set time 1 second back	Media Navigation	⌘←
Edit in Annotation Mode	Miscellaneous	
Merge with Next Annotation	Annotation Editing	⌘⌘A
Go to next pixel	Media Navigation	⌘⌘→
Go to next frame	Media Navigation	⌘→
Go to previous pixel	Media Navigation	⌘⌘←
Cancel changes made to the annotation	Annotation Editing	⌘
Toggle Loop mode	Media Navigation	⌘L
Hide all tiers linked with this tier	Miscellaneous	
Zoom to default size (in the main viewer)	Miscellaneous	⌘0
Saves the current annotation and moves to the ...	Annotation Editing	↵
Moves right to the next cell and saves the curre...	Annotation Navigation	⌘→
Plays back the current annotation from the begi...	Media Navigation	⌘⇧H
Merge with Annotation Before	Annotation Editing	⌘⌘B
Move crosshair to left / right of selection	Selection	⌘/
Play around selection	Media Navigation	⇧⇧Space
Moves left to the next cell and saves the current...	Annotation Navigation	⌘←
Play selection	Media Navigation	⇧Space
Go to previous frame	Media Navigation	⌘←
Move crosshair to center of selection	Selection	⌘⌘/
Make a tier editable / non-editable	Miscellaneous	
Delete annotation	Annotation Editing	⇧Delete
Set time 1 second ahead	Media Navigation	⌘→
Moves down to the next cell and saves the curr...	Annotation Navigation	⌘↓
Play / Pause the media	Media Navigation	⇧H
Moves up to the next cell and saves the current ...	Annotation Navigation	⌘↑
Zoom out (in the main viewer)	Miscellaneous	⌘-
Clear selection	Selection	⇧⌘C
Zoom in (in the main viewer)	Miscellaneous	⌘=

Move to next segment
Play/Pause

Return
Tab

Edit Shortcut

Save

Reload Default

Reload All

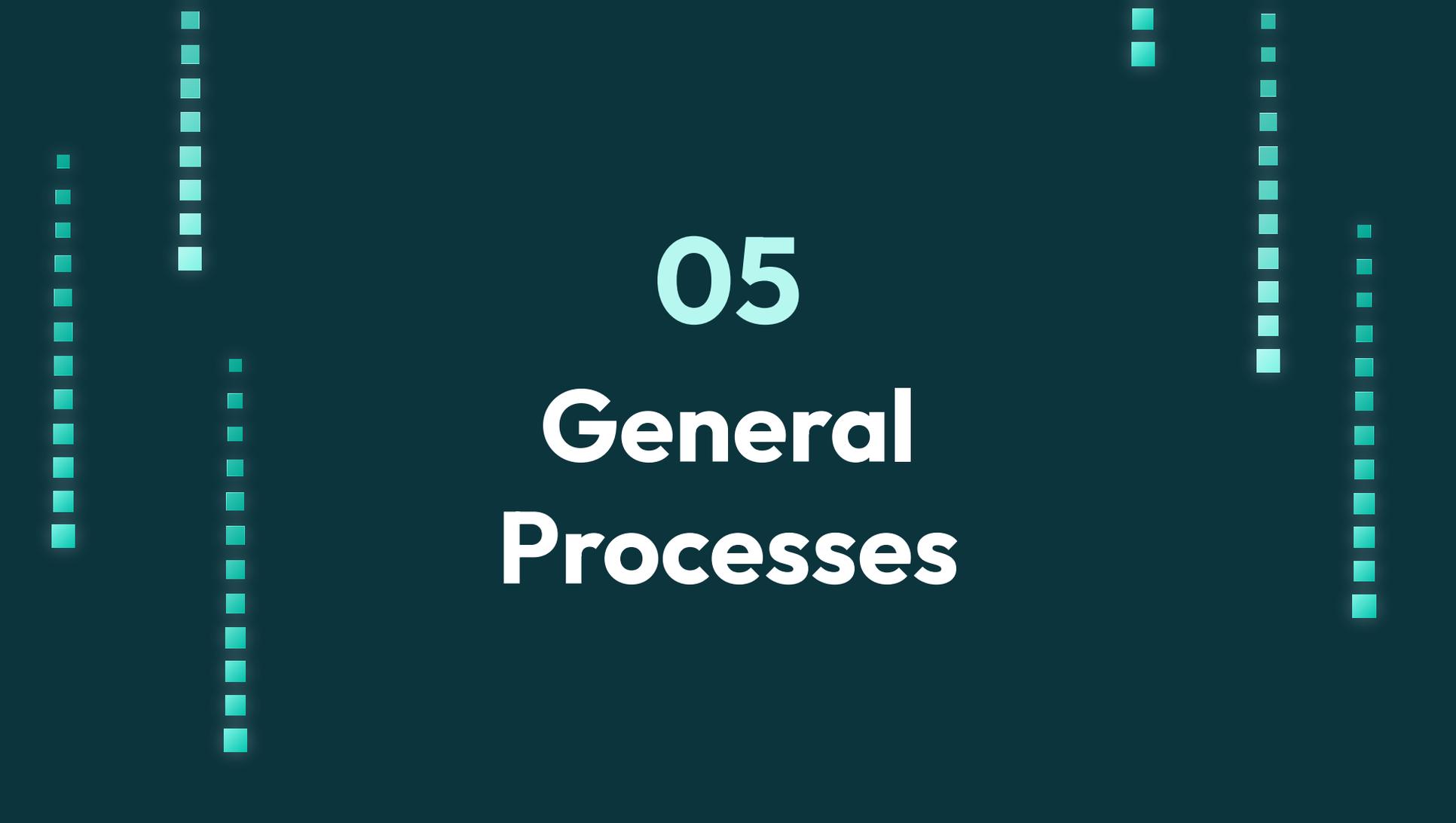
C

THE MOST IMPORTANT SHORTCUT:



Control/Command S





05

**General
Processes**

My Process

I fix the segments using
Segmentation Mode

I listen through the entire file
and segment on the Noise tier
using *Segmentation Mode*

Segmentation

Noises

I usually repeat these
two steps in 2-5
minute increments

Transcription

Rechecks

I input the transcription using
Transcription Mode

I use the ELAN File Checker to
clean up the file and find
out-of-dictionary words

The background is a dark teal color. It is decorated with several vertical lines of small, light teal squares. There are four lines on the left side and four lines on the right side, arranged in a roughly rectangular pattern around the central text.

Thanks!
Questions?

Sources and Helpful Links

LaBB-CAT. (n.d.). SourceForge. Retrieved November 29, 2022, from <https://onzeminer.sourceforge.net/#:~:text=LaBB%2DCAT%20is%20a%20browser,automatically%20generated%20or%20manually%20added>

New Zealand Institute of Language, Brain and Behavior. (2003-2022). *LaBB-CAT* (20221013.1114). University of Canterbury, New Zealand. <https://labb-cat.linguistics.pitt.edu/labbcat/>

University of Pittsburgh. (n.d.). *Pittsburgh Speech & Society*. Research. <https://pittsburghspeech.pitt.edu/index.html>

ELAN:

<https://archive.mpi.nl/tla/elan/download>

Batchalign:

<https://github.com/talkbank/batchalign2>

PSSP:

<https://pittsburghspeech.pitt.edu/>

Alejandro Ciuba's Website:

<https://alejandrociuba.github.io/>

Houjun Liu's LinkedIn:

<https://www.linkedin.com/in/houjun-liu/>