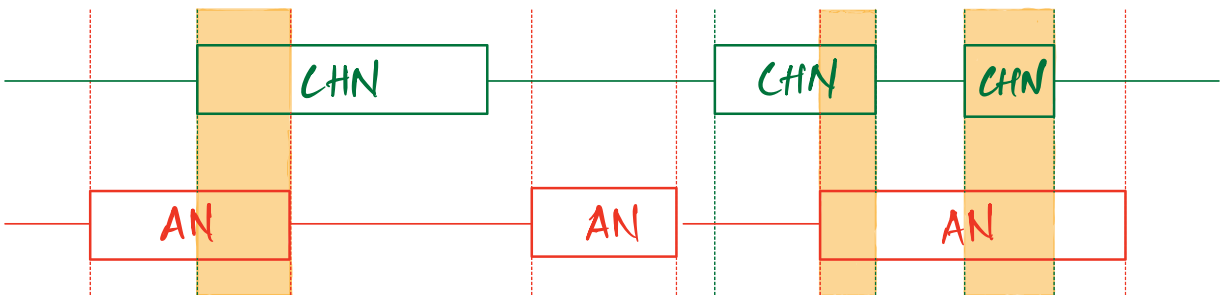


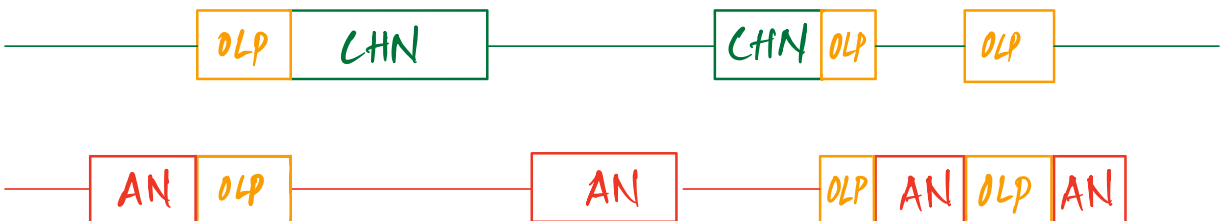
An illustrated guide to processing overlaps in the human-listener data processing pipeline.

i) Chopping up overlapping vocalisations into mutually exclusive non-overlapping subvocalisations by removing overlapping subvocalisations

Sample input vocalisation time series





Sample output vocalisation time series



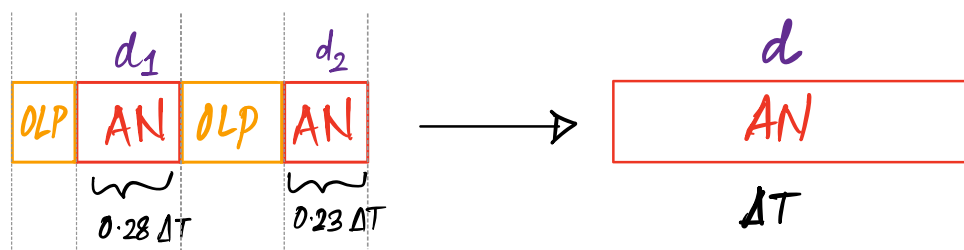
ii) Computing acoustic estimates for vocalisations composed of overlapping & non-overlapping sub vocalisations.

Step 1: Estimate % of total vocalisation duration accounted for by each non-overlapping subvocalisation.

	OLP	AN	OLP	AN
Duration (s)	0.3	0.42	0.45	0.35
		 $0.28 \Delta T$		 $0.23 \Delta T$
Amplitude (dB)	NA	d_1	NA	d_2

Total duration
 $= 1.52 \text{ s} = \Delta T$

Step 2: Estimate acoustics (amplitude or frequency) of original vocalisation by doing a weighted average of the acoustics of the constituent non-overlapping parts



The fractional durations of the two non-overlapping subvocalisations can be scaled such that they sum to 1.

This results in $0.28 \Delta T \approx 55\%$

and $0.23 \Delta T \approx 45\%$.

Using these rescaled fractions the approx.
amplitude of the original vocalisation is
computed as

$$d = 0.55 d_1 + 0.45 d$$