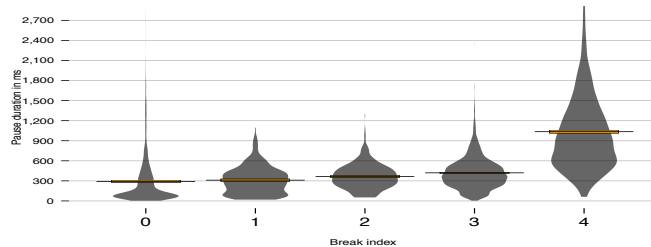


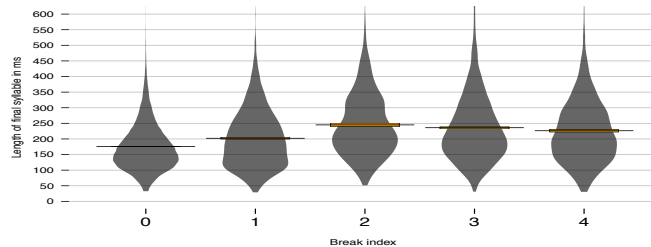
# Pauses and other prosodic boundary cues are not monotonically correlated

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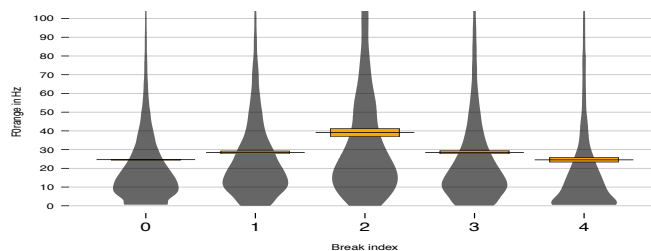
## Pause duration



## Final lengthening



## Pitch range

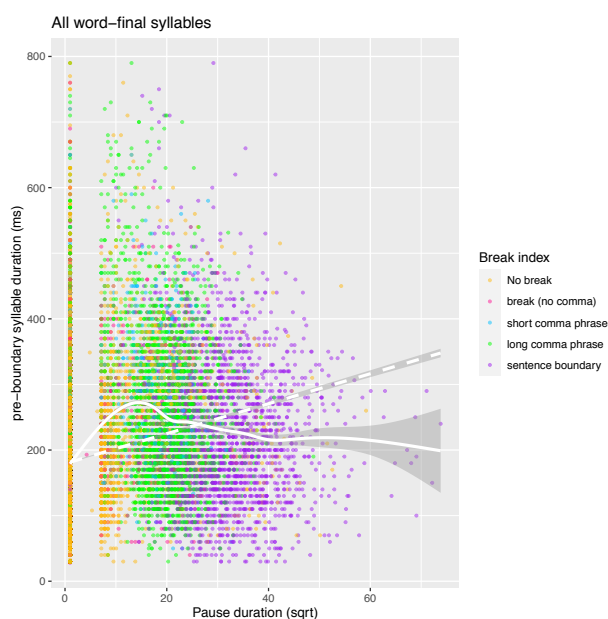


## Successive differences

Pause duration (log):  
 1-0:  $t = 5.012$ ,  $p < 0.001$   
 2-1:  $t = 35.996$ ,  $p < 0.001$   
 3-2:  $t = 6.214$ ,  $p < 0.001$   
 4-3:  $t = 75.028$ ,  $p < 0.001$

Duration of pre-boundary syllable (log):  
 1-0:  $t = 15.67$ ,  $p < 0.001$   
 2-1:  $t = 13.83$ ,  $p < 0.001$   
**3-2:  $t = -3.24$ ,  $p < 0.001$**   
**4-3:  $t = -4.62$ ,  $p < 0.001$**

Pitch range on pre-boundary syllable (log):  
 1-0:  $t = 13.46$ ,  $p < 0.001$   
 2-1:  $t = 7.11$ ,  $p < 0.001$   
**3-2:  $t = -8.34$ ,  $p < 0.001$**   
**4-3:  $t = -11.27$ ,  $p < 0.001$**



Gam-smoothing shows non-monotonic correlation between pause duration and pre-boundary lengthening. Linear correlation underestimates pre-boundary lengthening for small breaks but overestimates lengthening for large breaks.