# Speech Visualization via Visual Feedback: Pronunciation and Dialectology Teaching

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VISUAL FEEDBACK FOR PRONUNCIATION

1. To open Praat: Open Praat on your computer tablet
2. The window on the left that says "Praat Objects", click "Open"
3. Choose the first option "Read from file"
4. Find the .wav file you saved for "Di_____de nuevo", select it, then click "Open"
5. Once it is on your list, click on your file and click
"View & Edit" on the right hand side
6. Once you, have done this, select the first 3 sentences that start with "Di_____ de nuevo"
(you can do this by dragging your cursor, then hitting "sel" at the bottom of the window; to go back click "out")
7. Now, try finding the first word "Paco" within the first "Di_____ de nuevo"
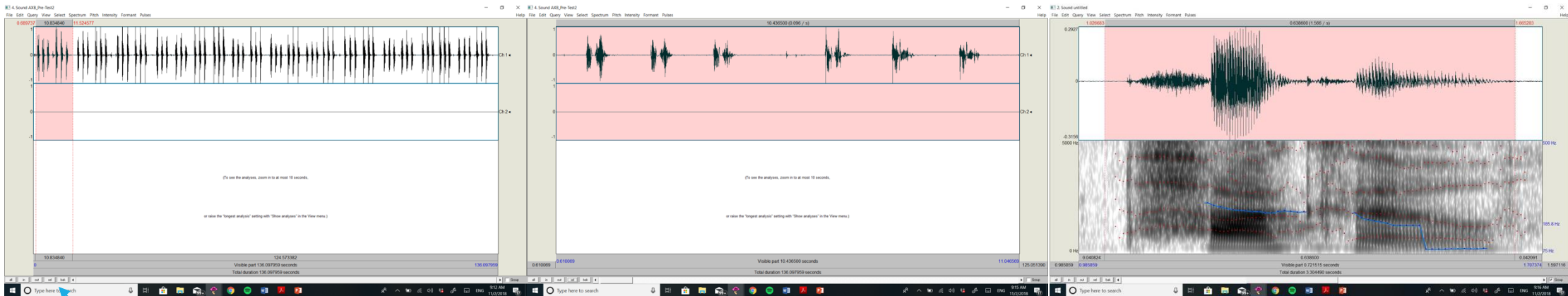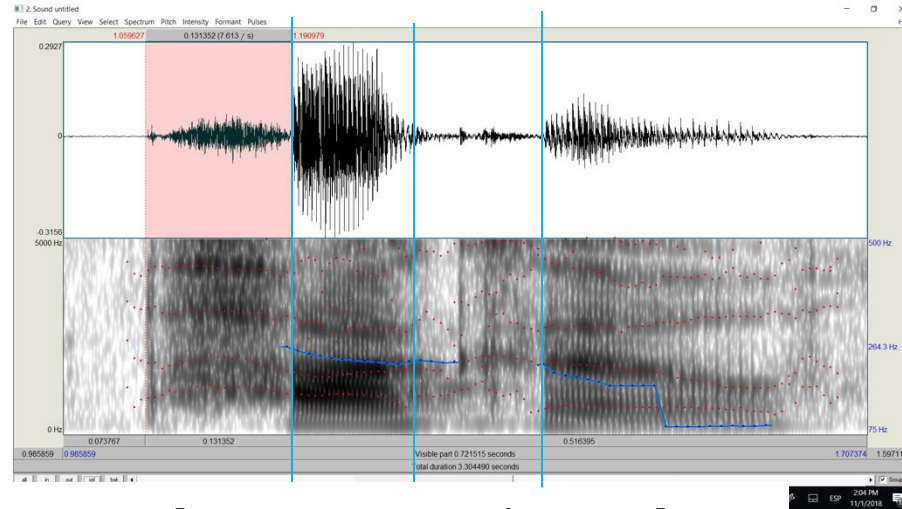
VISUAL FEEDBACK FOR PRONUNCIATION

1. To play the sound so that you can hear where your word is drag and select a section (in pink) and click the first gray bar at the bottom
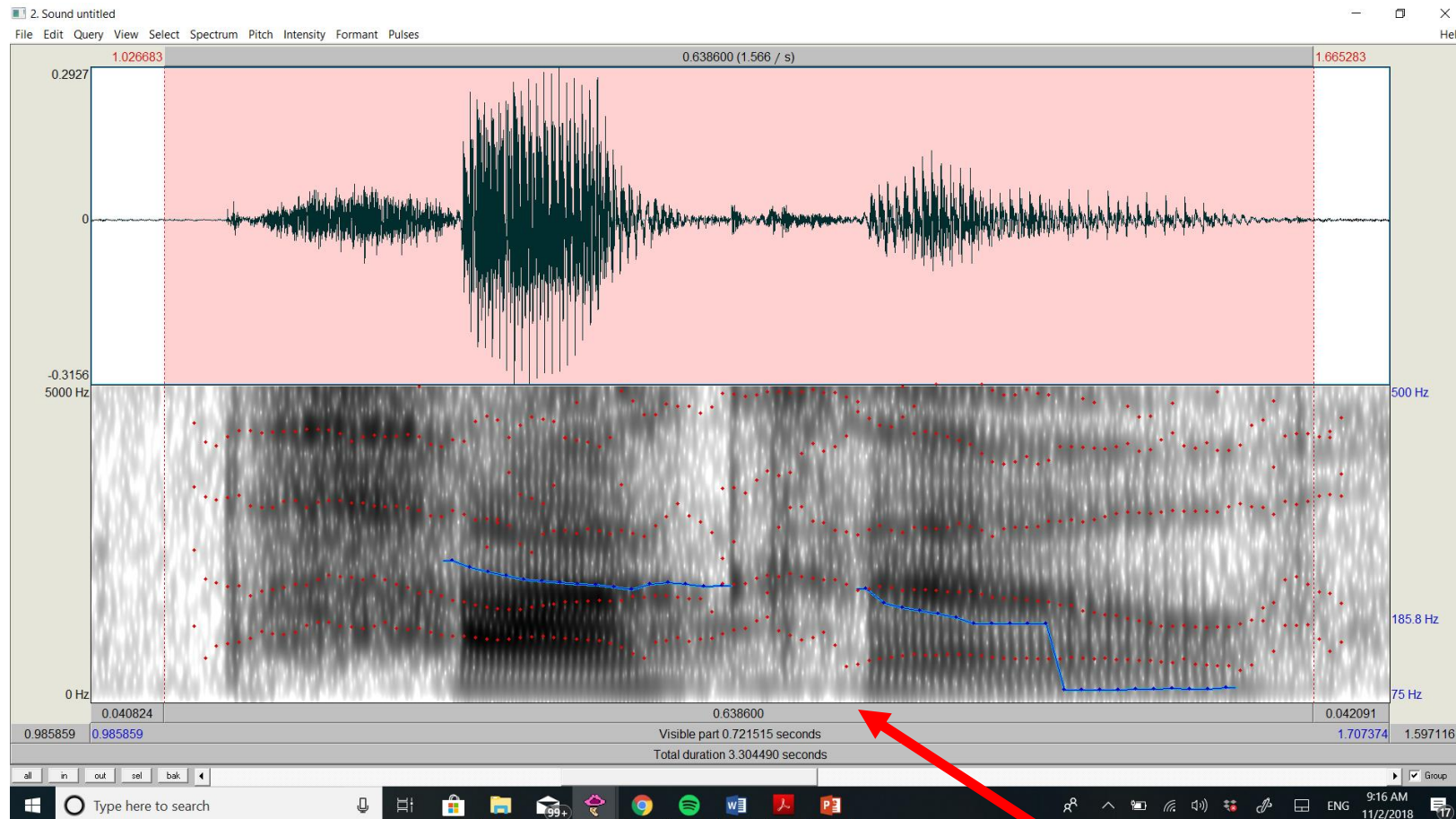
English and Spanish

Visual Feedback

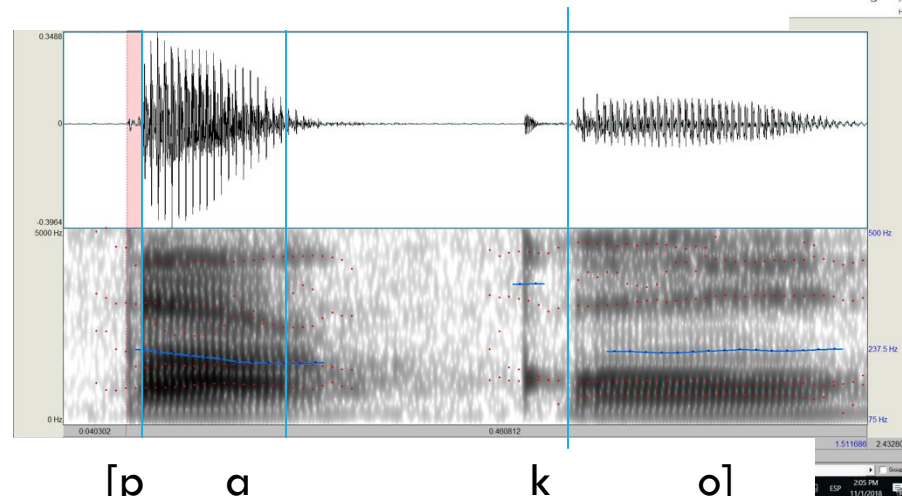# WHERE IS THE "P" /P/ AND THE "A" /A/ FOR BOTH?

"Paco"
$[p^h] = {\sim}60ms$

"Paco"
$[p] = {\sim}4ms$

American English Speaker
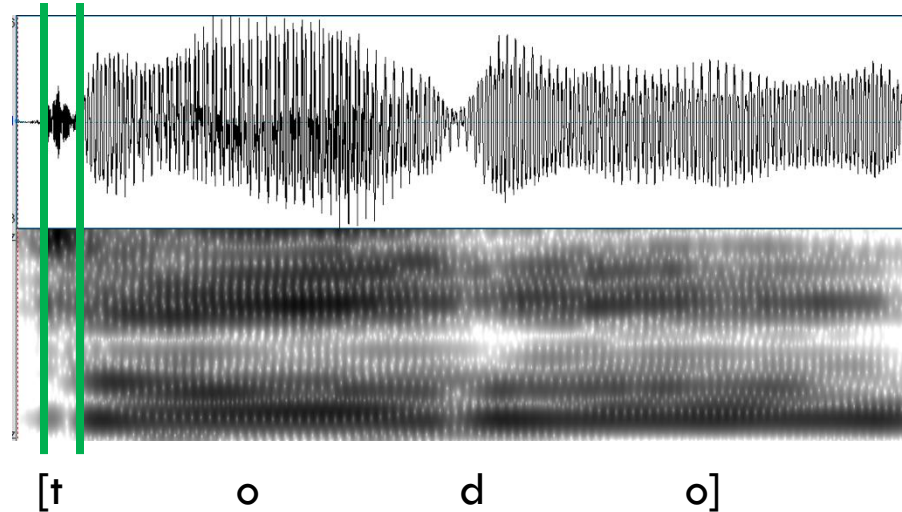
Native Spanish Speaker (PR)

WHERE IS THE "T" /T/ AND THE "O" /O/ FOR BOTH?
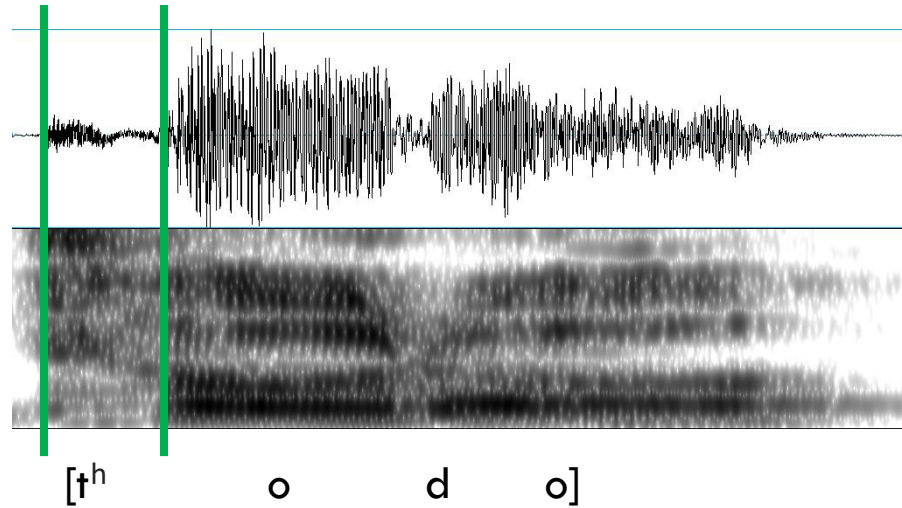
American English
Speaker

"todo"
[tʰ] = ~ 70ms

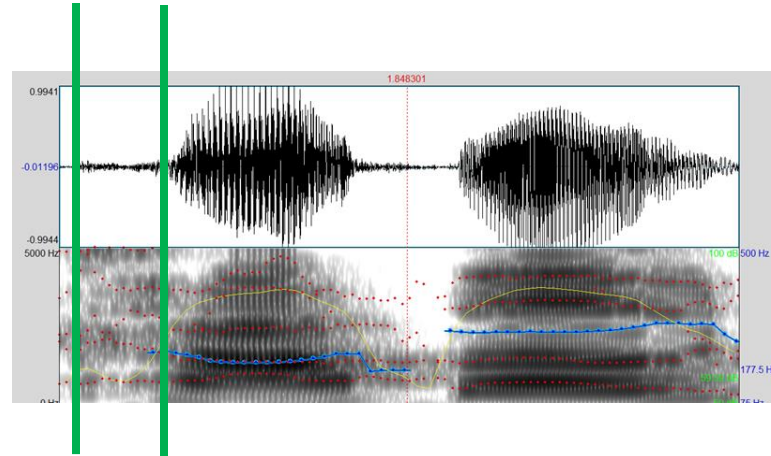[tʰ   o   d   o]

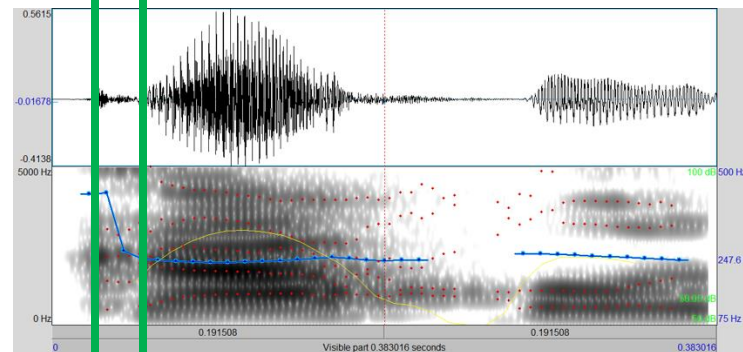Native Spanish
Speaker (PR)

"todo"
[t] = ~10ms

[t   o   d   o]

WHERE IS THE "C" /K/ AND THE "A" /A/ FOR BOTH?

"capo"
[kʰ] = ~80ms

American English
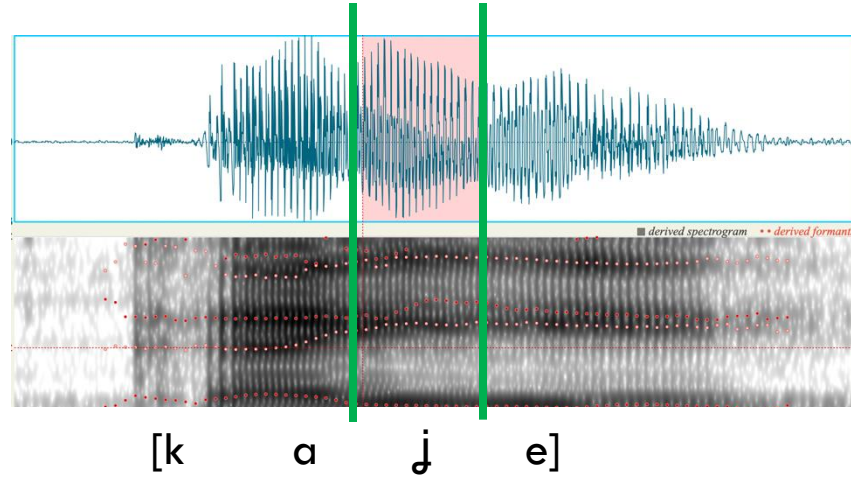Speaker

"capo"
[k] = ~30ms

Native Spanish
Speaker (PR)

Spanish Dialectal Variation

Visual Feedback

/ʝ/ ("Y" SOUND) VS. /ʃ/ ("SH" SOUND) IN THE SPANISH WORD "CALLE"

"yeísmo" Spanish

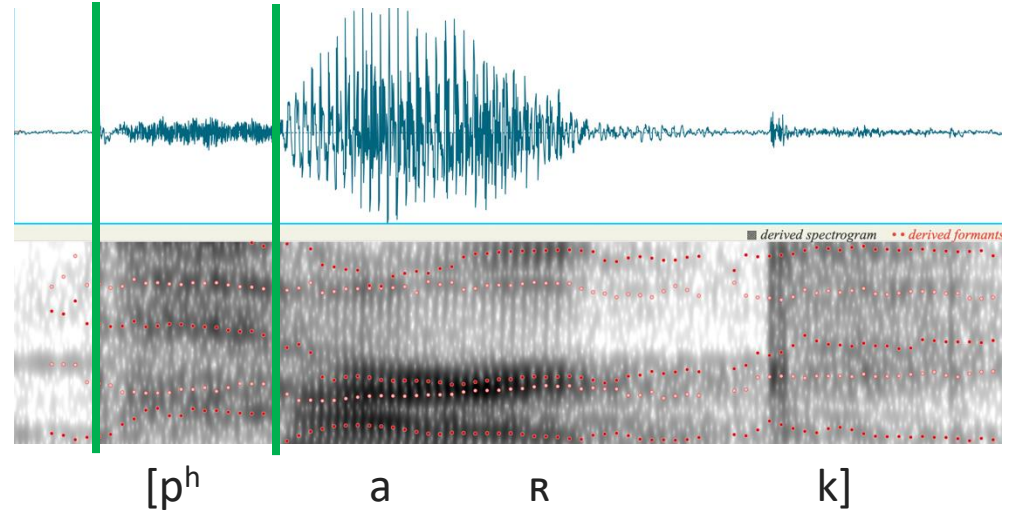"calle"   [k   a   ʝ   e]
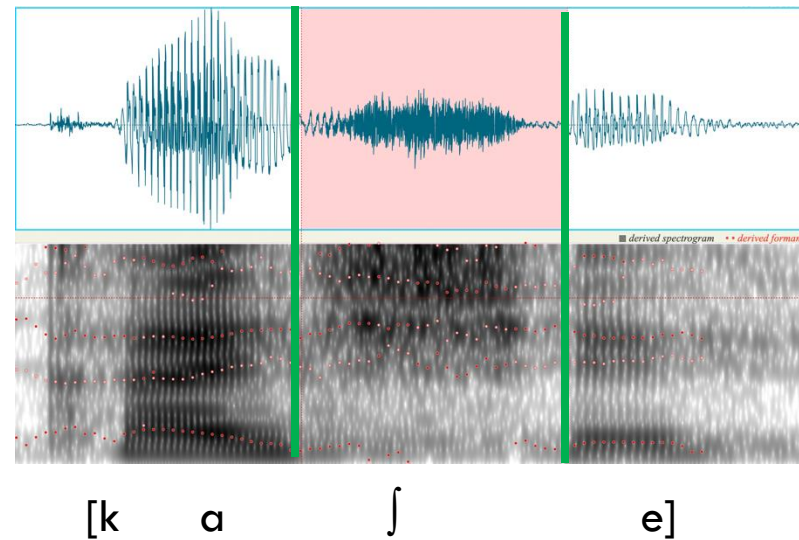
"sheísmo"
Spanish from
Buenos Aires,
Argentina
(example)

"calle"   [k   a   ʃ   e]

French

Visual Feedback

WHERE IS THE "P" /P/ FOR BOTH?

"parc"
[pʰ] = ~99ms

American English Speaker

"parc"
[p] = ~8ms
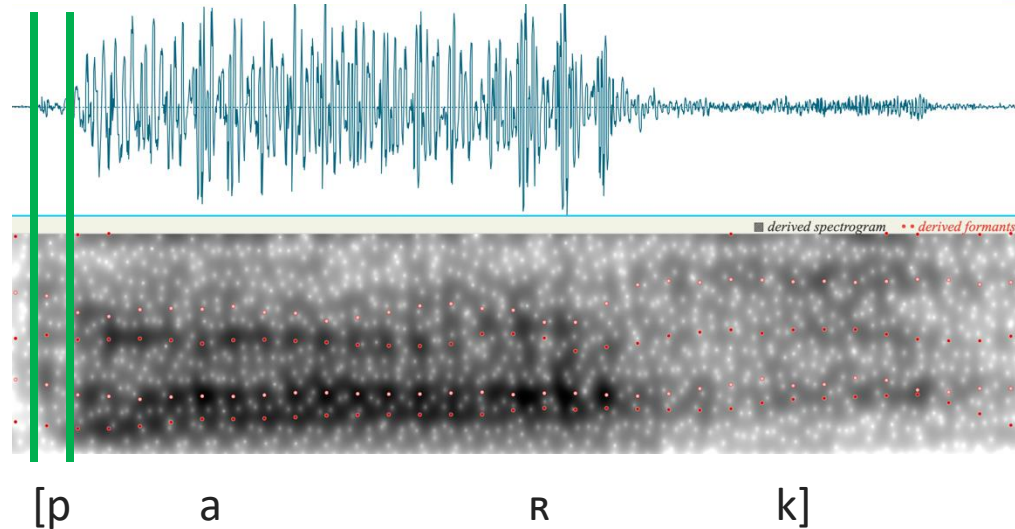
Native French Speaker

German

Visual Feedback

WHERE IS THE "P" /P/ FOR BOTH?

"park"

~99ms

[pʰ   a   ʁ   k]

"Park"
~51ms

[pʰ   a   ʁ   k]
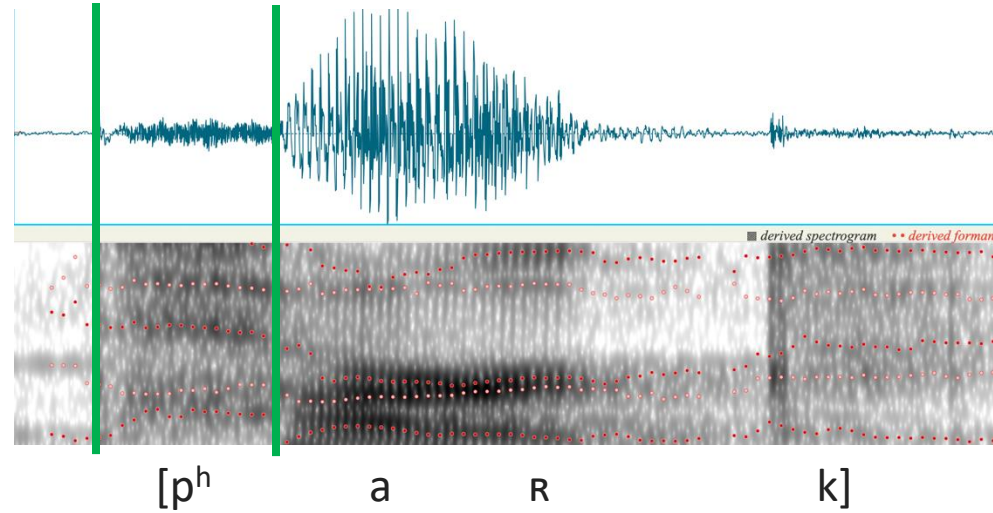
American English
Speaker

Native German
Speaker

Mandarin

Visual Feedback

WHERE IS THE "P" /P/ FOR BOTH?

"pao"

[pʰ   aʊ̯]

~88ms

Native Mandarin
Speaker

"bao"
~8ms

[p   aʊ̯]

Native Mandarin
Speaker