

On the Status of Pause in Sociolinguistics¹

Toward a variationist, sociolinguistic analysis of pause

1. Motivating a sociolinguistic analysis of pause

- “One of the most common functions of discourse is to communicate something, but the proper study of linguistics is not communication. (In this case I agree with Chomsky.) Linguists are concerned with the use of language in communication, but that is a very different thing. To take an obvious example, conversation analysts [...] and psychologists [...] have shown the significance of pauses and silence in communicating. However, *there can be no linguistic analysis of silence, though pauses may be a guide to linguistic units.*” (Macaulay 2002: 284; emphasis added)
 - *On the contrary, this paper argues that a linguistic analysis of pause is indeed possible.*

2. Pause as a “linguistic variable”

- “The notion of the linguistic variable has been applied to a full range of levels within language, though not without some argument about its appropriate application. Phonological and morphosyntactic variation have tended to dominate language variation research in synchronic and apparent time studies while syntactic variation has been a significant locus of investigation in diachronic studies” (Wolfram 2006: 335; emphasis added).
- “The empirical reality is that the boundaries of significant and insignificant language variation are often gradient and obscure rather than discrete and transparent” (Wolfram 2006: 334).
 - *Additionally, this paper argues that the linguistic variable construct is helpful for a linguistic analysis of pause.*

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Methods and Data

3. The North Carolina Sociolinguistic Archive and Analysis Project (NC SLAAP)

Read more about NC SLAAP at: <http://ncslaap.lib.ncsu.edu/>

- NC SLAAP seeks to
 - Preserve the large sociolinguistic interview collection of the North Carolina Language and Life Project through digitization
 - Enable and explore new computer-enhanced techniques for sociolinguistic analysis
- Recordings are digitized and then transcribed in Praat² using TextGrids
 - Transcript lines are time-stamped to a high-degree of accuracy
 - A line of text corresponds to a phonetic utterance
 - Pauses are represented as blank lines (with start and end times)
- Audio files and transcripts are uploaded into the NC SLAAP web-based software
- Users can retrieve, interact with, and analyze the data from within the software.

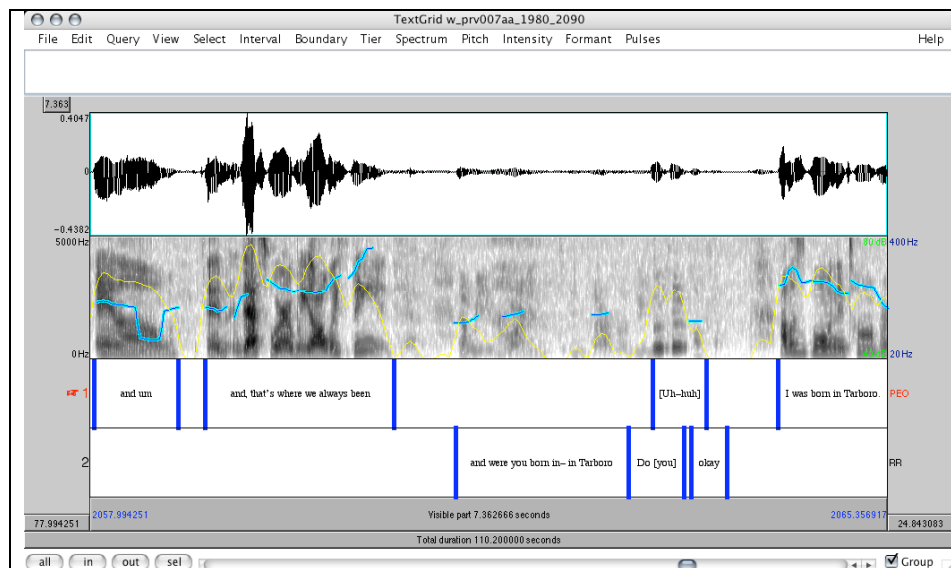


Figure 3.1: Praat Editor showing waveform, spectrogram, and TextGrid

² Information about Praat, the phonetic analysis software, is available at <http://praat.org/>.

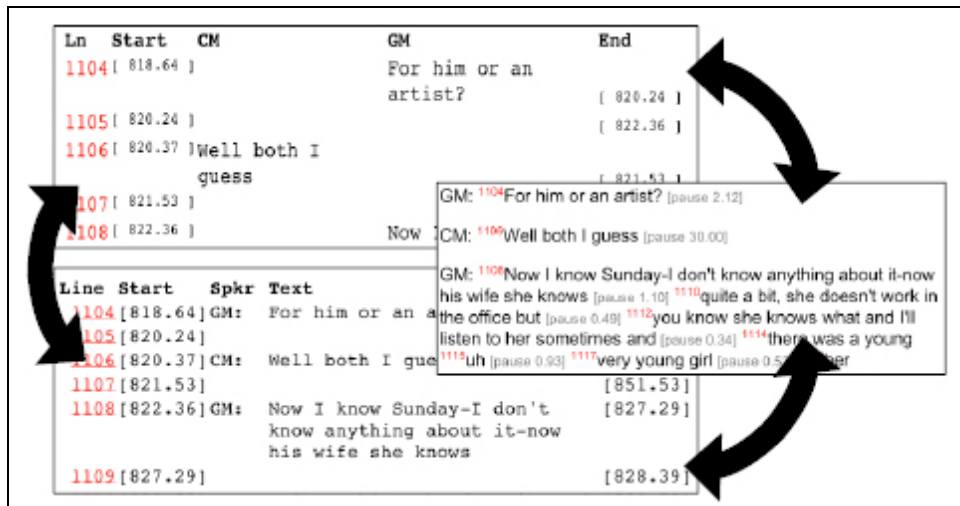


Figure 3.2: Three interchangeable transcript views from NC SLAAP

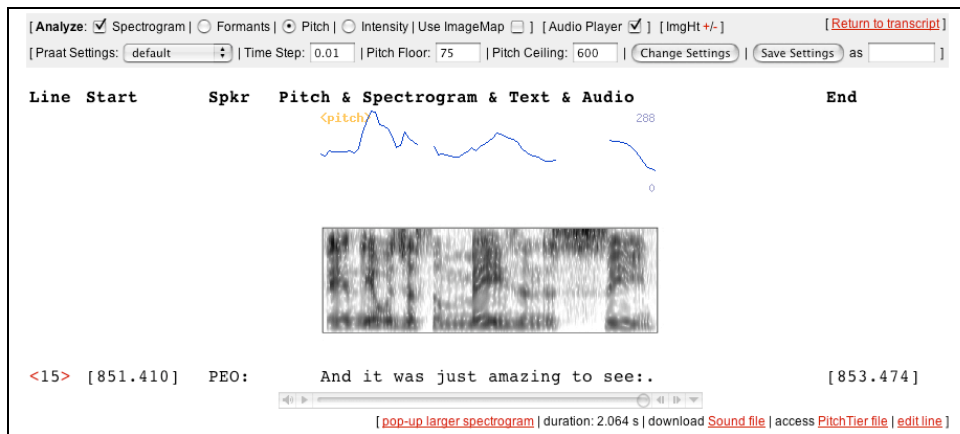


Figure 3.3: Line analysis screen shot from NC SLAAP

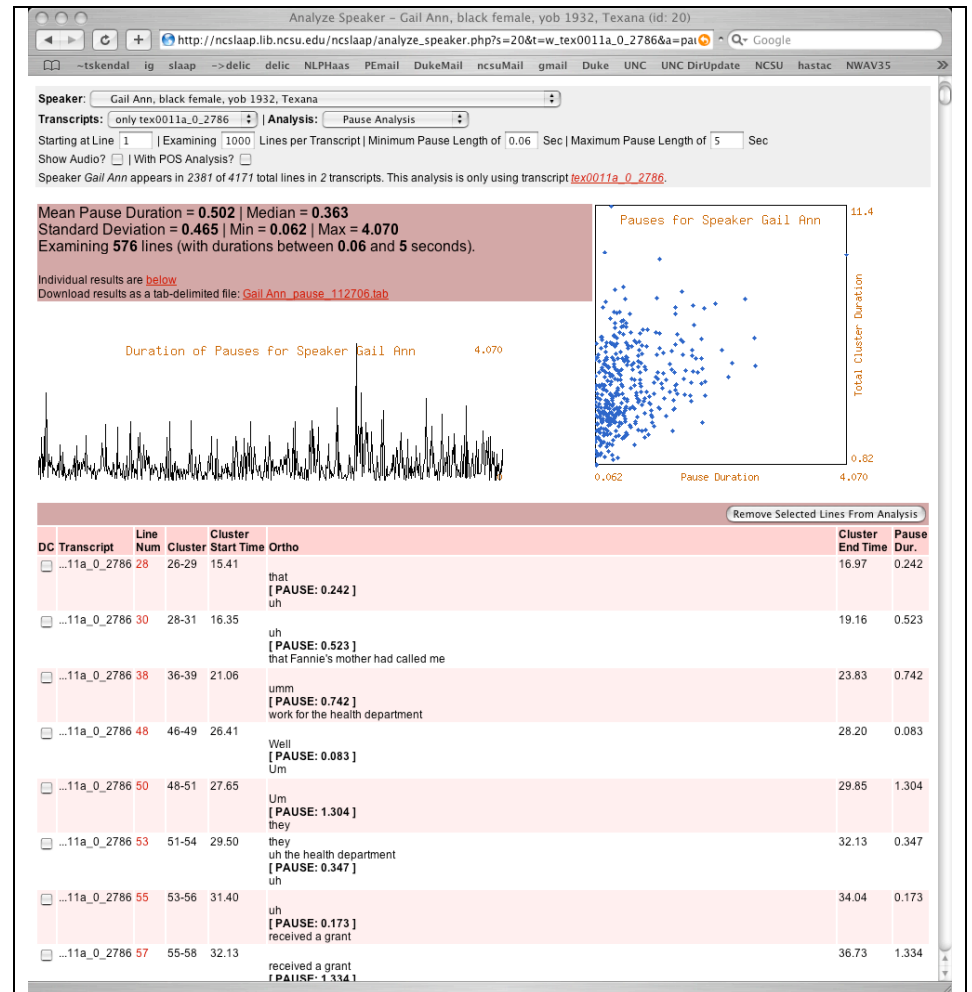


Figure 3.4: NC SLAAP Pause analysis screen for one speaker

4. Count vs. don't count forms

- Turn-internal, uninterrupted pauses only
e.g.,
453 FW: ... she thought most of them stayed around here but
454 [*don't count*: 221 ms]
455 G: I think most of them did
456 G: [**count**: 222 ms]
457 G: but now my children left
458 [*don't count*: 42 ms]
459 FW: yeah
- Thresholds
 - Only counting pauses longer than 60 milliseconds (low threshold) and shorter than 5 seconds (high threshold).

5. Measuring pause

- Arithmetic mean is unreliable for pause
 - Using median as a better indicator of central tendency.
- NC SLAAP pause analysis feature (Fig. 3.4 above) conducts the count in real-time
 - Generates
 - (Basic) statistics
 - Charts (a work in progress)
 - Overviews of the results

Putative Analysis

6. European Americans, median pause durations from sociolinguistic interviews

ORH	EBH	SM	LW	MMC	SP
Male	Male	Male	Female	Male	Male
YOB 1938	YOB 1952	YOB 1975	YOB 1983	YOB 1910	YOB 1958
Western NC	Central NC	Central NC	Central NC	Eastern NC	Eastern NC
543 ms	303 ms	472 ms	372 ms	524 ms	507 ms

7. African Americans, median pause durations from sociolinguistic interviews

Karen	Gail Ann	Yvonne	Mayor	Manager	Commissioner
Female	Female	Female	Female	Male	Female
YOB 1916	YOB 1932	YOB 1971	YOB 1964	YOB 1948	YOB 1941
Western NC	Western NC	Western NC	Central NC	Central NC	Eastern NC
311 ms	363 ms	557 ms	334 ms	322 ms	371 ms

8. Latinos, median pause durations from (English) sociolinguistic interviews

CV	RC	AG	TC	PR
Female	Male	Female	Male	Male
YOB 1926	YOB 1937	YOB 1951	YOB 1965	YOB 1987
Pearsall, TX	Pearsall, TX	Pearsall, TX	Pearsall, TX	Pearsall, TX
347 ms	422 ms	309 ms	539 ms	372 ms

9. All speakers, ordered by median pause duration

The dashed line separates the speakers above and below the mean (410 ms).

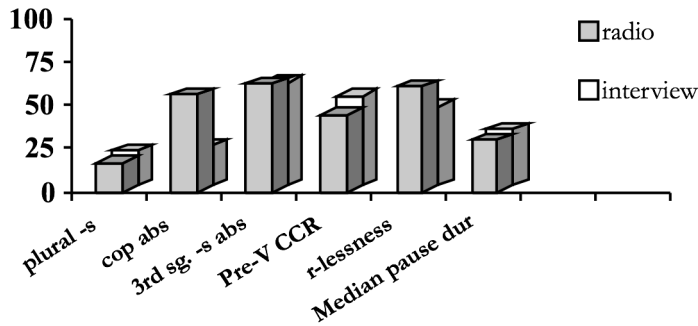
Speaker	Ethnicity	Gender	YOB	Location	Pause Dur.
EBH	Euro. Am.	Male	1952	Central NC	303 ms
AG	Latino	Female	1951	Pearsall, Texas	309 ms
Karen	Afr. Am.	Female	1916	Western NC	311 ms
Manager	Afr. Am.	Male	1948	Central NC	322 ms
Mayor	Afr. Am.	Female	1964	Central NC	334 ms
CV	Latino	Female	1926	Pearsall, Texas	347 ms
Gail Ann	Afr. Am.	Female	1932	Western NC	363 ms
Commissioner	Afr. Am.	Female	1941	Eastern NC	371 ms
LW	Euro. Am.	Female	1983	Central NC	372 ms
PR	Latino	Male	1987	Pearsall, Texas	372 ms
RC	Latino	Male	1937	Pearsall, Texas	422 ms
SM	Euro. Am.	Male	1975	Central NC	472 ms
SP	Euro. Am.	Male	1958	Eastern NC	507 ms
MMC	Euro. Am.	Male	1910	Eastern NC	524 ms
TC	Latino	Male	1965	Pearsall, Texas	539 ms
ORH	Euro. Am.	Male	1938	Western NC	543 ms
Yvonne	Afr. Am.	Female	1971	Western NC	557 ms

10. Comparison of pause with diagnostic variables in two speech situations for the Town Manager of Princeville

	Plural -s Abs.	Copula Abs.	3rd Sg. -s Abs.	Past Tense be Reg.	Pre-V CCR	Post-V r- lessness	Median Pause Dur.
Radio Interview	4/24 16.7%	5/9 (4/7 are) 55.6%	10/16 62.5%	5/7 71.4%	5/11 45.5%	42/68 61.7%	300 ms
Sociolinguistic Interview	19/96 19.8%	7/31 (3/7 are) 22.6%	6/10 60%	26/36 72.2%	30/57 52.6%	46/100 46%	322 ms

Graphic Comparison of Selected Variables for the Manager

Median pause duration is in centiseconds (hundredths of second, not ms)

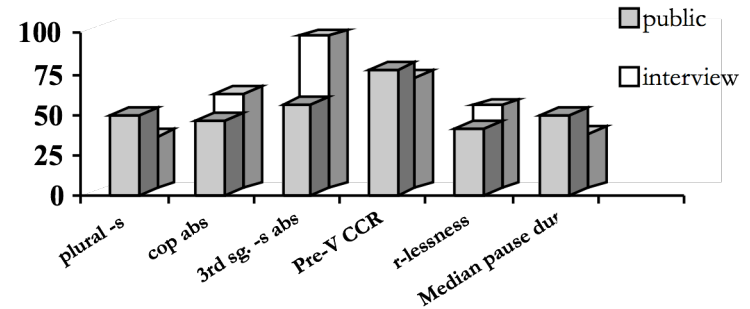


11. Comparison of pause with diagnostic variables in two speech situations for the Princeville Mayor

	Plural -s Abs.	Copula Abs.	3rd Sg. -s Abs.	Past Tense be Reg.	Pre-V CCR	Post-V r- lessness	Median Pause Dur.
Public Speech at Town Event	14/28 50.0%	6/13 (4/6 are) 46.2%	10/18 55.6%	0/0 NA	7/9 77.8%	39/93 41.9%	500 ms
Sociolinguistic Interview	30/94 31.9%	7/12 (4/4 are) 58.3%	17/18 94.4%	15/24 62.5%	45/66 68.2%	51/100 51.0%	334 ms

Graphic Comparison of Selected Variables for the Mayor

Median pause duration is in centiseconds (hundredths of second, not ms)



What Next?

12. Findings and future directions

- Putative correlations appear to exist between median pause duration and
 - Gender
 - Ethnicity
 - Style
- While not conclusive, evidence seems to indicate
 - Pause can be studied fruitfully within variationist sociolinguistics!
- Data need further investigation via
 - Ethnographic and discourse analytic approaches
 - Comparison with other speech timing features (e.g., speech rate)
 - Statistical testing
- Need (much) more data
 - I'm continuing to transcribe and digitize
 - An advantage with NC SLAAP is that all data that is added to the archive becomes available (with the PI's permission) immediately for this (and other) analyses
- I'm continuing to develop the analysis tool
 - POS Tagging for pause location analysis
 - Refining count algorithm, statistics, graphic generation, ...
- More than this particular question, I'm interested in developing tools (NC SLAAP features) to aid in new analyses and the testing of new hypotheses

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