



Linguistics Circle Colloquium Series 2021-22

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Friday, February 18

3:30–4:30p.m. (Pacific Time)

Zoom ([Join now](#))

Dialect Vowel Variation Reflects Phonology: Evidence from American Dialect Society Publications

Labov (1991) proposed that a major difference between accents of Modern North American English (MNAE) can be summed up with one vowel merger (Low Back Merger or LBM) and two vowel shifts (the Northern and Southern Vowel Chain Shifts or NCCS and SCCS, respectively). Regional variation arguably makes subvarieties of MNAE more distinct and potentially less understood across dialects. Many researchers take such shifts (along with the more recent Californian, Canadian and Elsewhere shifts) as potential precursors of eventual language change, analogous to the Great Vowel Shift. However, predicting linguistic futures is problematic at best: subsequent research shows that the NCCS is in decline (Dinkin 2011 et seq.) and that LBM has coexisted for some time with non-LBM speakers (Purnell et al. 2017, among others). In this talk I argue that we should not be surprised by observations of ‘shift undoing’ because vowel shifts in MNAE demonstrate abstract phonology to be robust throughout the speech chain. The variation we observe is then less an opportunity for language change than a reflection of group and individual variation within the confines of contemporary MNAE phonology.

A review of a hypermodular phonology that includes contrastive phonological features (as outlined in Purnell et al. 2019, built on Avery & Idsardi 2001 and Drescher 2008) along with a review of vowel research published by the American Dialect Society’s publications (*American Speech*, the *Publication of the American Dialect Society*) leads to the conclusion that not all potential movements in two-dimensional vowel space are possible. This stems from *realism* in the sense of Iverson & Salmons 1995: phonological contrasts, with their selection of articulatory dimensions, impose boundaries adhered to by articulatory gestures in order to signal contrasts for lexical access; nevertheless, vowel gestures within those boundaries are possible, and the ensuing family of acoustic characteristics employed reflect group membership, individual self-determinative speech, coarticulation, and statistical noise. At the end of the talk, I discuss implications for future publications overseen by the American Dialect Society and dialectology at large, as well as implications for Global Englishes.

Land Acknowledgements

- Gratitude to the Indigenous communities in Vancouver and Madison
 - We acknowledge and respect the ləkʷəŋən peoples on whose traditional territory the University of Victoria stands, and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.
 - The University of Wisconsin–Madison occupies ancestral Ho-Chunk land, a place their nation has called Teejop (day-JOPE) since time immemorial. In an 1832 treaty, the Ho-Chunk were forced to cede this territory. Decades of ethnic cleansing followed when both the federal and state government repeatedly, but unsuccessfully, sought to forcibly remove the Ho-Chunk from Wisconsin. This history of colonization informs our shared future of collaboration and innovation. Today, UW–Madison respects the inherent sovereignty of the Ho-Chunk Nation, along with the eleven other First Nations of Wisconsin.

Thanks also to ...

- UVic Linguistics Colloquium Committee: Mona Sawan, Chloë Farr, Erin Hashimoto, and Martha McGinnis
- University of Wisconsin-Madison colleagues: Eric Raimy and Joe Salmons
- Managing Editor at *American Speech*: Charles Carson

Outline



- Part 1: How to reconcile my phonological work with my sociophonetic work?
 - What is my view of phonology?
 - Are sociophonetic vowel shifts affected by phonology?
 - Is there an Invisible-Fence Shift? do anything that avoids conflicting with contrastive specification and articulatory controls?
 - Preserves Lexical Access by listener (relation to organizing and implementation boundaries)
- Part 2: What implications does this have outside of theory?
 - Movement in speaking, if not phonological, is important
 - Preserves Group Membership by listener (relation of speaker to social boundary)
 - Implications for Practice (individual, field, etc.)

Boundary Conditions

Part 1, Reconciling Sociophonetics with Phonological Theory

Labov 1991: "Three Dialects of English"

- Set up
 - We need to know our material. Where's the variation?
 - Surely, the variation is systematic, not just about a pile of irregular differences
 - Where the production differences affect perception, we need an understanding of "phonological space" through technology
 - Language change operates under phonological principles

Principles

- Chain Shifts

- I. Tense or long (peripheral) nuclei rise
- II. Lax or short (nonperipheral) nuclei fall
- III. Back vowels move to the front

- Pivot points in vowel space

- /æ/ ('short a')
- /a, ɔ/ ('long open o', 'short open o')
 - p. 12 "The unstable opposition of length has been resolved in one of two ways: increased differentiation by unrounding and lowering of the short vowel with raising and overrounding of the long vowel, or merger."

Labov, Ash & Boberg 2006:16

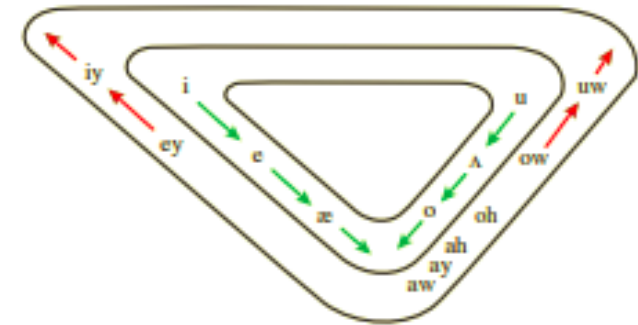


Figure 3.3. Directions of movement in chain shifts along peripheral and non-peripheral tracks

Dialect Differences From Principles

- SCCS
 - /æ/ stable
 - /ɔ/ moves up and back
 - /i/ and /e/ are lax and nuclei lower
 - Tense back vowels front
 - Monophthongization of /aj/ and nucleus of /aj/ moves back while /aw/ moves forward
- NCCS
 - /æ/ "tensed as a whole ... with a wide range of phonetic conditioning."
 - /ɔ/ "unrounded and low"
 - /a/ "eventually shifts forward"
- LBM
 - /ɔ/ and /a/ merge into a single back vowel

FIGURE 1
Front and Low Vowels of the Southern Vowel Shift

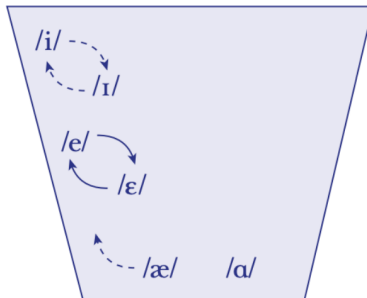
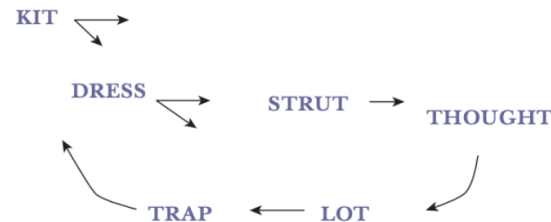
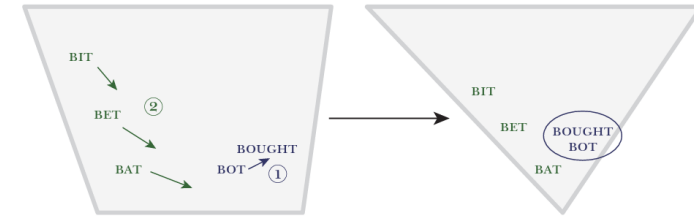


FIGURE 2
A Typical Northern Cities Shift Vowel Configuration



Nesbitt 2021: 334

FIGURE 2.1
A Schematic of the Low Back Merger and the Low-Back-Merger Shift
(Becker 2019 [this volume], 1)



Nesbitt 2021: 336

FIGURE 4
Low-Back-Merger Shift Vowel Configuration

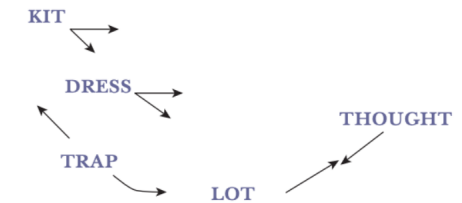
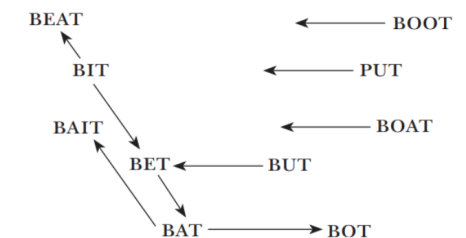


FIGURE 1
The California Vowel Shift
(based on Eckert 2008c, 34)



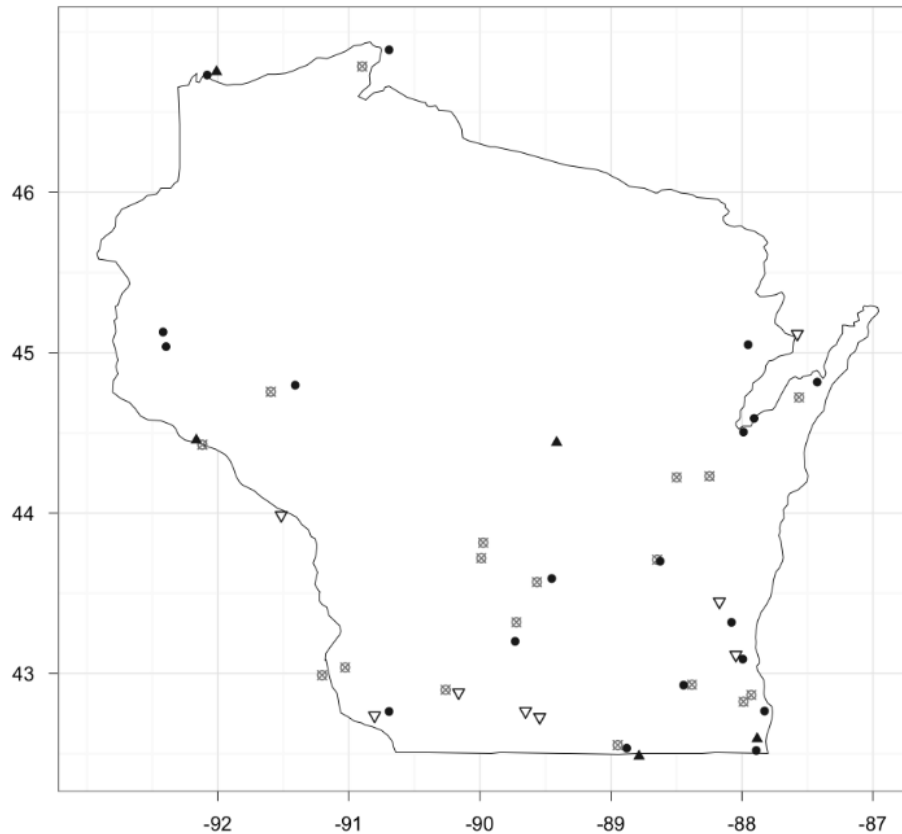
Podesva 2011: 33

30 years later ...

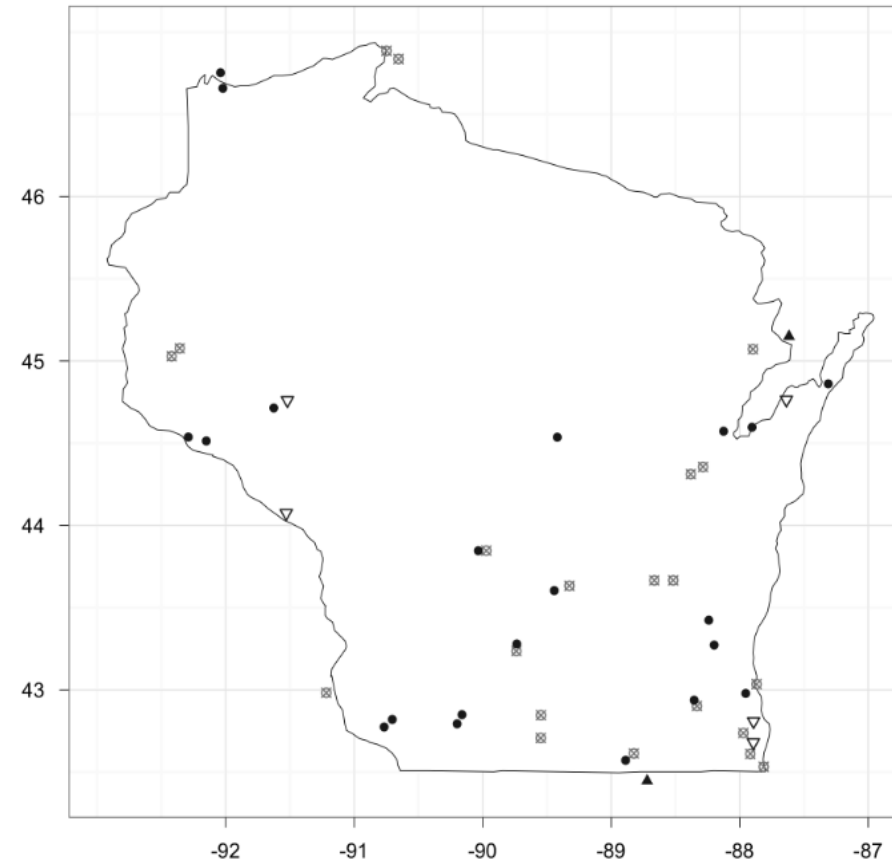
- Undoing shifted vowels to canonical positions (suggests underlying forms were consistent and unidirectionality may not be)
 - NCCS is in decline (Dinkin, Nesbitt)
 - SCCS is in decline among whites, particularly urban (Dodsworth)
 - AAES typically less shifted except for accommodation to local norms (Thomas, Fridland)
- Shifts are less systematic if they are deconstructive and gradient
 - St Louis and much of WI only shift /æ/ (ANAE, WI Englishes)
 - NCCS + LBM shouldn't be compatible, but is (Benson et al.)
 - AAE Shift not as strong as White SCCS (Fridland, Thomas)
- LBM was present when and where it wasn't supposed to be (Purnell, Raimy, Salmons)
- "Proliferation" of other shifts and sub-shifts
- Agree with Labov 1991: Having a clear phonological theory of NAE points outside of sociophonetics
- Possible answer: NAE contrasts are more similar than different across locations.

Cassidy's LANCS Data (b. 1850 – 1909)

A. frost



B. daughter



Neorealism in Phonology

- Privative features (Avery & Idsardi 2001)
with Superordinates (Purnell, Raimy & Salmons 2019)
- Contrastive acquisition via SDA (Dresher 2008)
- Moderately massive modularity (Carruthers 2003)
- Phonetic grammar (Kingston & Diehl 1994; Keating 1990/Browman & Goldstein 1992)



Test Alignment *American Speech* Vowel Plots with Labov 1991

- Sociophonetic gestures are governed
 - Governed by phonology
 - Governed by articulation
- Sociophonetic gestures are important
 - Not just random details that covary to create isoglosses
 - To speakers

AMERICAN SPEECH

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NAE Vowel Shifts

- Mergers
 - Context insensitive: LBM
 - Context sensitive: nasal, lateral, etc.
- White Vowels
 - Southern Cities Chain Shift
 - Northern Cities Chain Shift
 - Canadian Raising
 - Canadian Shift
 - California Shift
 - Elsewhere Shift
- AAE Shift and adherence (or not) to local White norms
- ChE and other dialect Vowels
- Point: develop distinctiveness among NAE speakers not in their phonological contrasts

Vowel Space reminder

- Vowel space problems

1. Pharynx and lips as influencers
2. Factor mismatch in corners
3. Statistical movement doesn't necessarily signal phonological import
4. Localization of vowels in brain is on two planes

FIGURE 1.4
Schematic Depiction of the Acoustic Effect of the Articulation of PVR:
Lip Extension, Jaw Raising, and Tongue Advancement

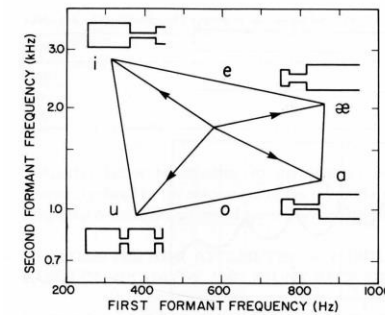
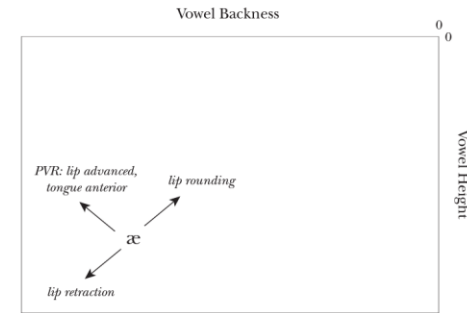
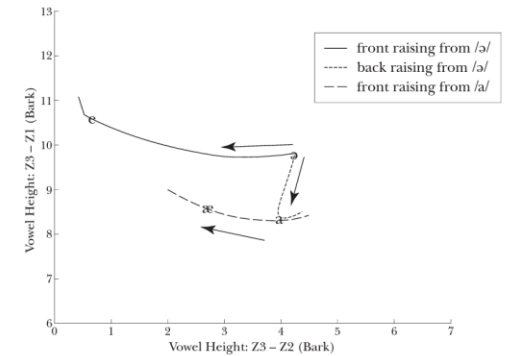


Figure 6.16 Plot of F_2 vs. F_1 showing how formants shift when the shape of an acoustic tube is perturbed in different ways. The midpoint represents equally spaced formants for a uniform tube of length 15.4 cm. The lines with arrows indicate how the formant frequencies change when the tube is modified as shown by the tube shapes. The corners of the diagram are labeled with vowel symbols corresponding roughly to the tube shapes. Approximate locations for the vowels /e/ and /a/ are also shown. Dimensions are selected to approximate the vocal tract size of an adult female speaker.

FIGURE 4
Modeling Vowel Trajectories through Vowel Space



Purnell 2008:380, 398

Stevens 1998:286

Sharinger, Idsardi & Poe 2011:3978

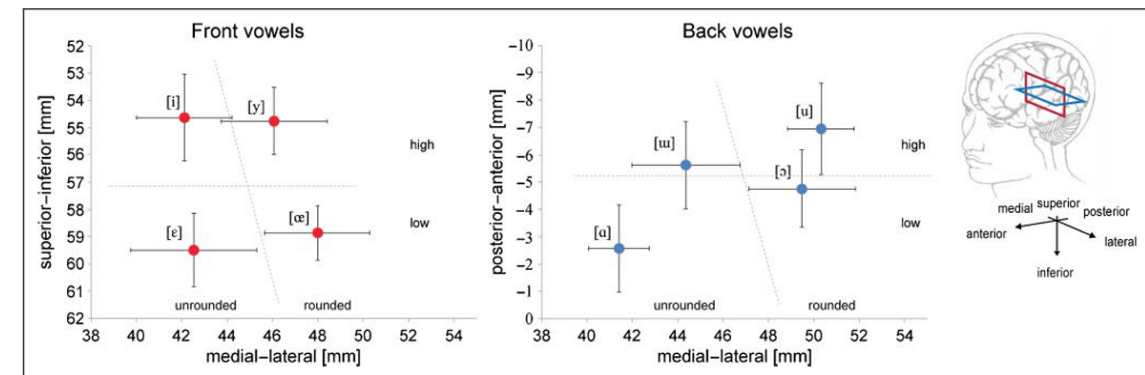
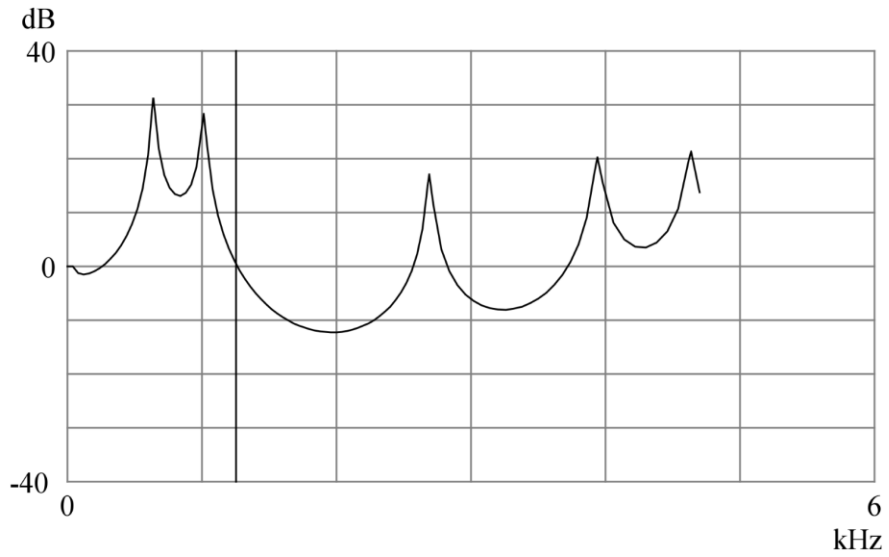
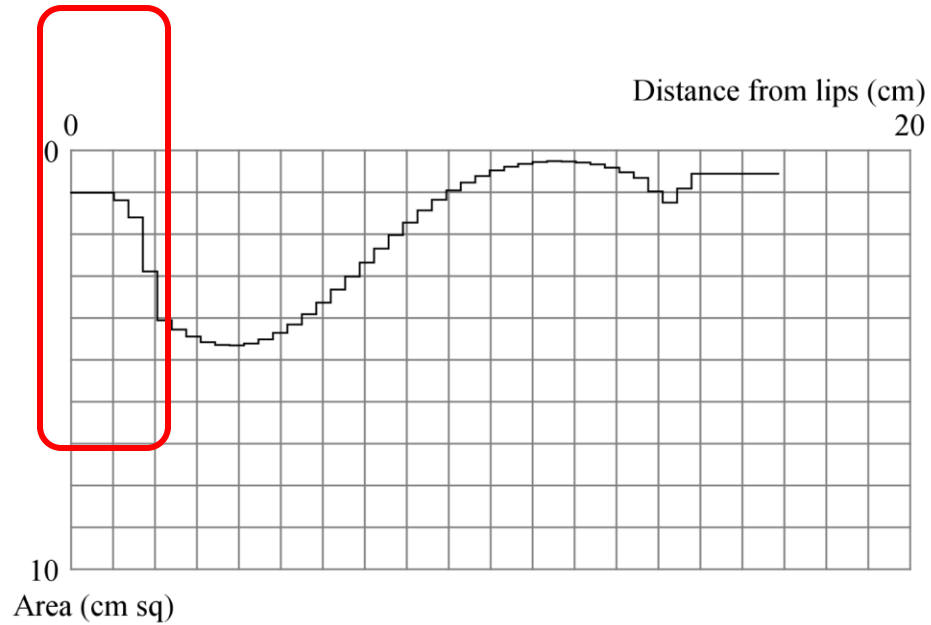


Figure 4. Dipole locations in spherical coordinates, pooled across both hemispheres. A distinct vertical front vowel map parallels acoustic and articulatory vowel distinctions in superior-inferior and medial-lateral dimensions. A horizontal back vowel map, orthogonal to the front vowel map, reflects acoustic and articulatory differences in posterior-anterior and medial-lateral dimensions. $SEM (\pm)$ are indicated by whiskers.

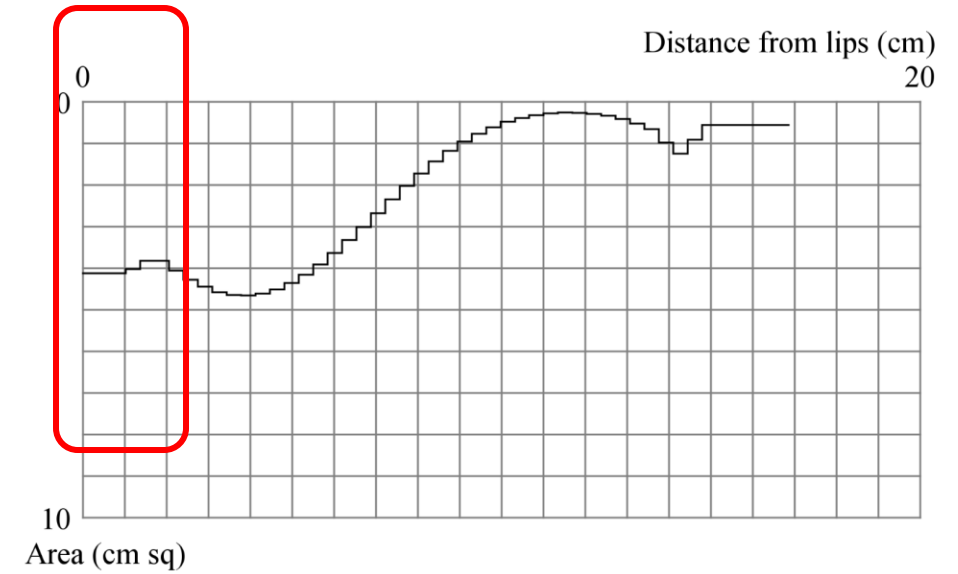
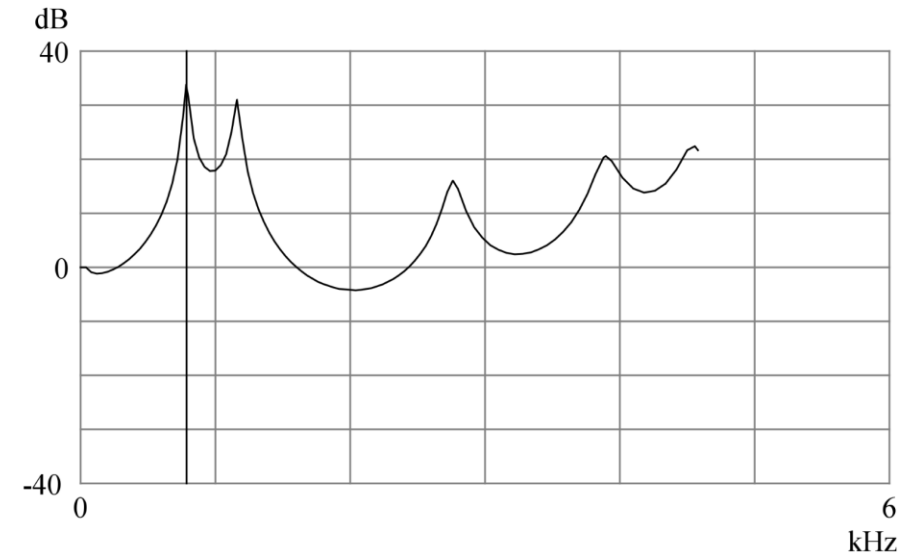
[b]



Higher = more lip rounding



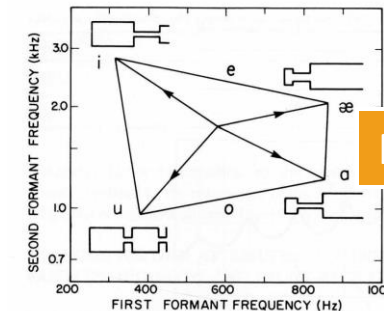
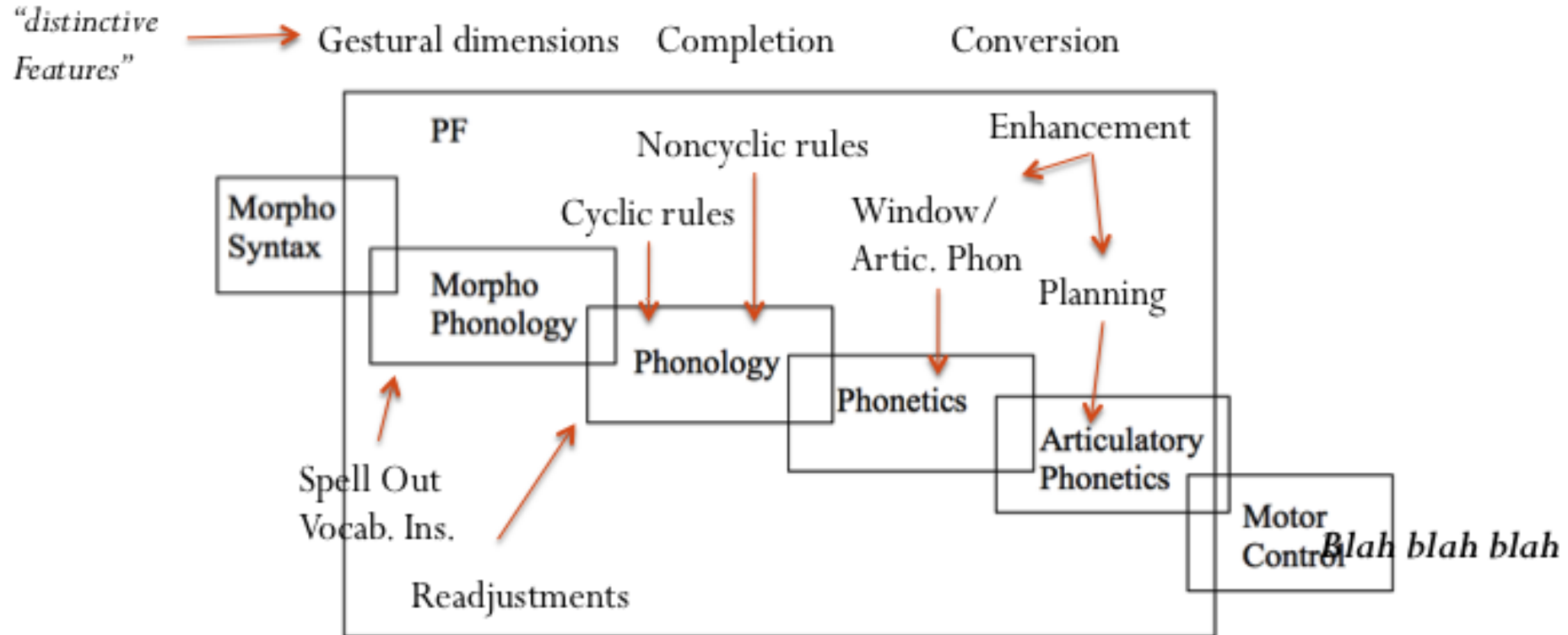
[a]



Cross-section of vocal tract: lips on left, pharynx on right.

Paul Milenkovic's VT Scan program (cited in Purnell 2008)

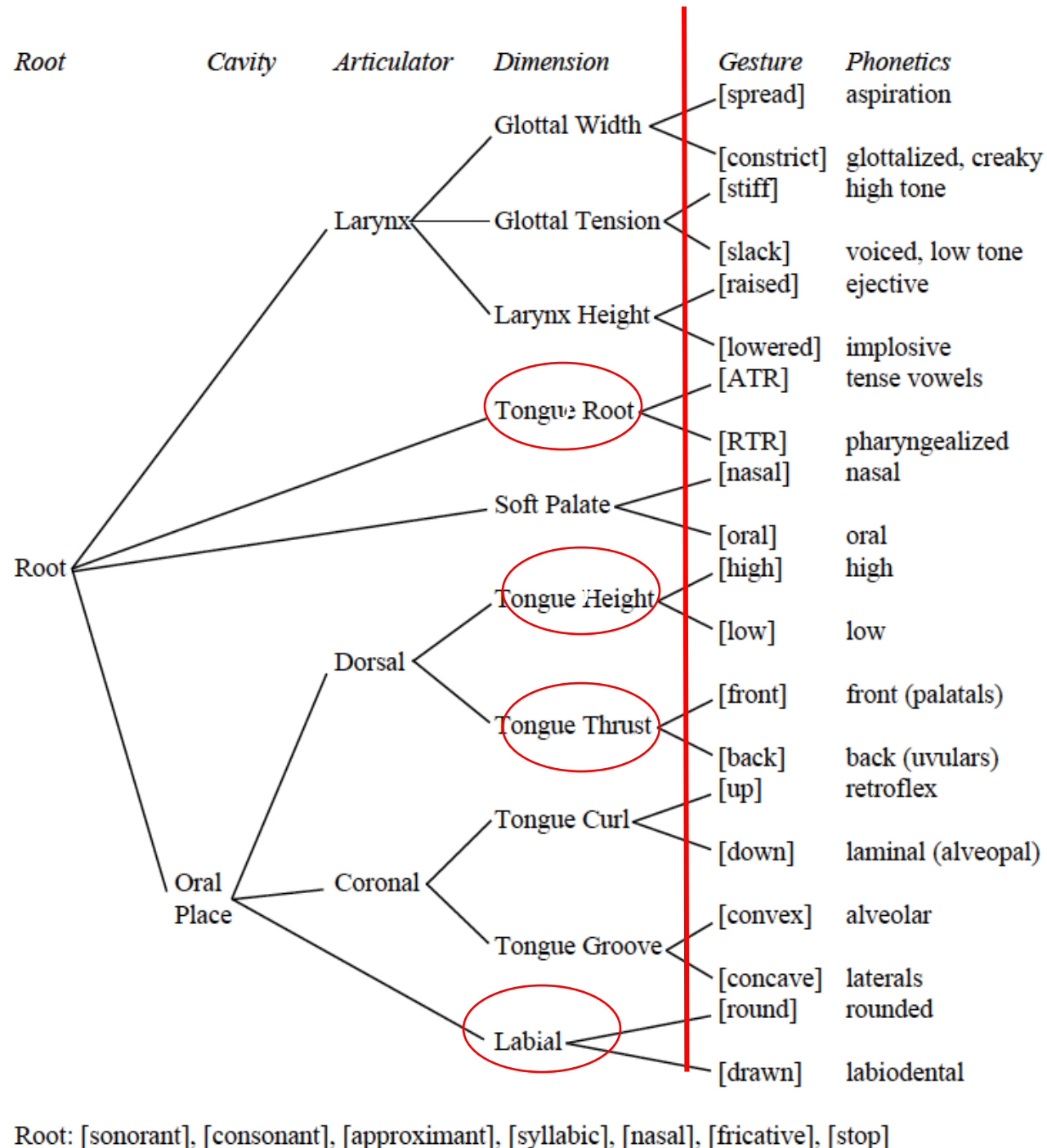
Hypermmodularity



Phonetic Boundaries

Privative Features

- Oppositional gestures
- Phonology@Dimensions or above
- Privative dimensions + completion rule
- Example: /i/: TH, TT; /u/: TH
 - TH > [high]
 - TT > [front]

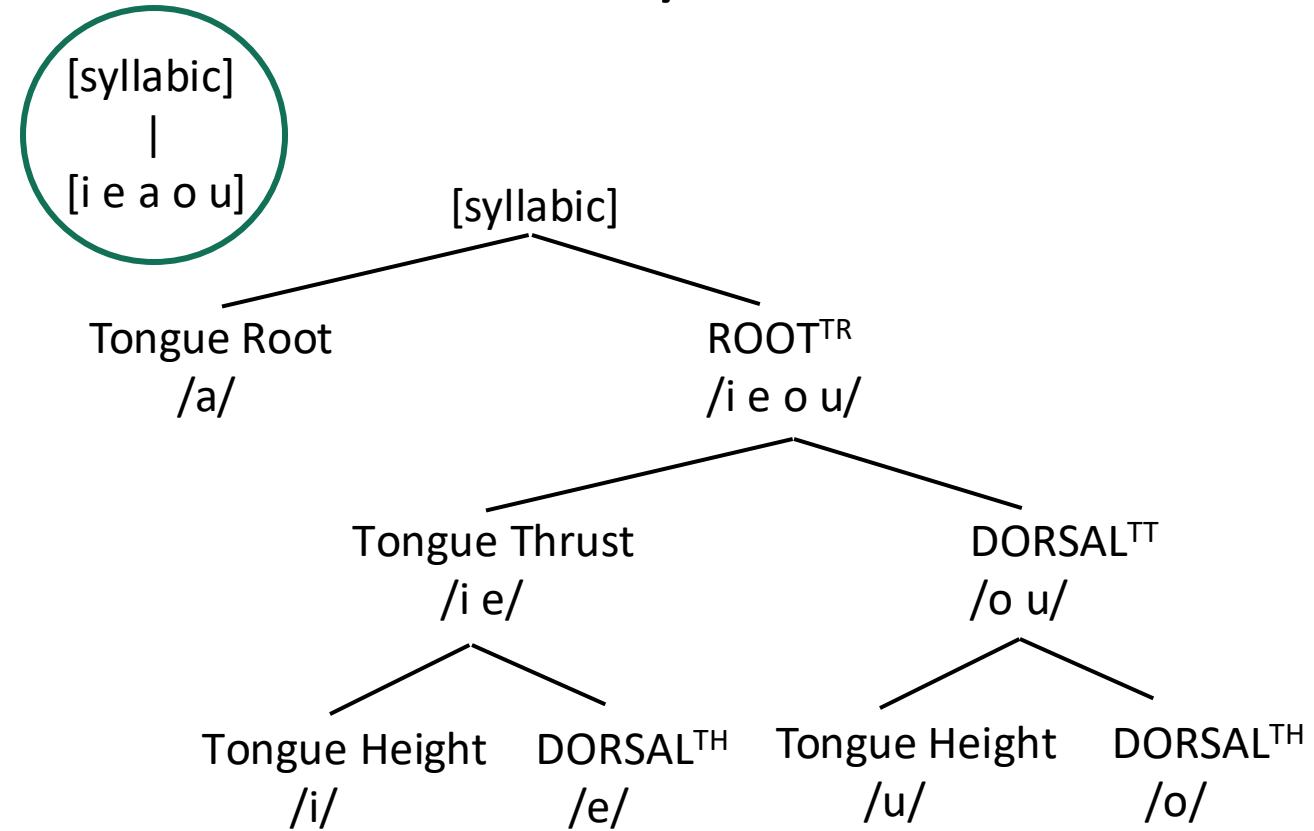


Successive Division Algorithm (SDA, Drescher 2008)

- a) In the initial state, all tokens in inventory I are assumed to be variants of a single member. Set $I = S$, the set of all members.
- b) i) If S is found to have more than one member, proceed to (c).
ii) Otherwise, stop. If a member, M , has not been designated contrastive with respect to a dimension, G , then G is redundant for M .
- c) Select a new n -ary feature, F , from the set of dimensions. F splits members of the input set, S , into n sets, $F_1 - F_n$, depending on what value of F is true of each member of S .
- d) i) If all but one of $F_1 - F_n$ is empty, then loop back to (c).
ii) Otherwise, F is contrastive for all members of S .
e. For each set F_i , loop back to (b), replacing S by F_i .

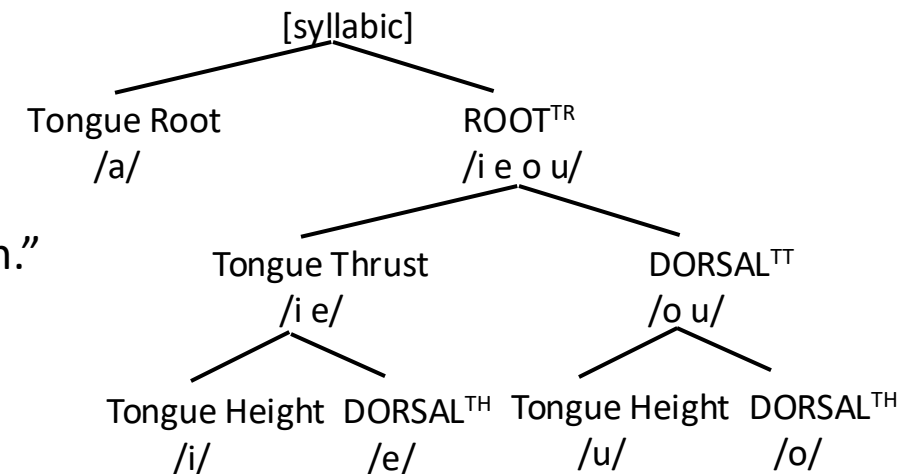
Example: Acquisition of five vowel system

- Assume all vowels are same category
- Notice /a/ different than others > assign TR while the other vowels are not TR
- Notice, of the remaining gestures, /i, e/ are different from /u, o/ > assign TT
- Notice, within pairs, /i/ different than /e/ and /u/ different than /o/ > assign TH



Featural Objects

- **DISTINCTNESS OF PHONEMES** (modified wording of Halle 1959:32, cited in Dresher 2008)
 - Segment-type {A} will be said to be different from segment-type {B}, if and only if at least one phonemic dimension for {A} has a parallel superordinate for {B}, or vice versa.
- Gestural Typology from the "Distinctness of Phonemes" principle
 1. Specified gestures (active dimension)
 - Mark a contrastive gesture (GW, LABIAL, TT, TR, etc.)
 2. Unspecified gestures (active stub)
 - Unmarked with respect to a contrastive gesture (LARYNX^{GW}, OP^{LAB})
 - Refers to the last node in a "stub"(an organizing node lacking some gestural information)
 3. Noncontrastive gestures
 - Unnecessary (invisible?) for a particular contrast (the real $\emptyset$), unreferred to
 - Latent: because universal set of features for all languages
- Dresher et al. 1994 and Neorealism: "Contrast influences representation."



Hypermmodularity and Neorealism

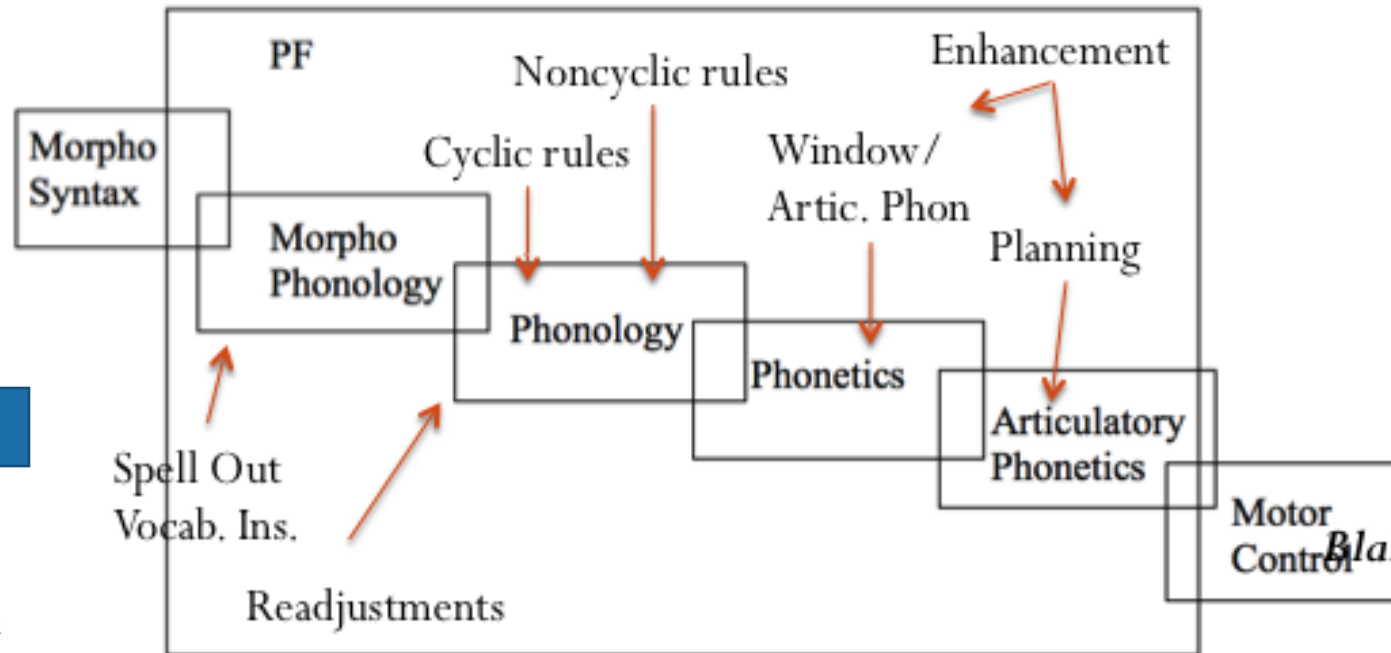
*"distinctive
Features"*



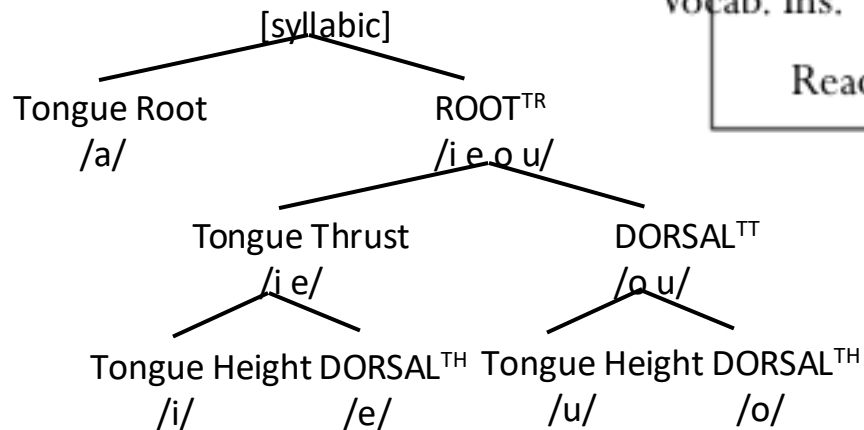
Gestural dimensions

Completion

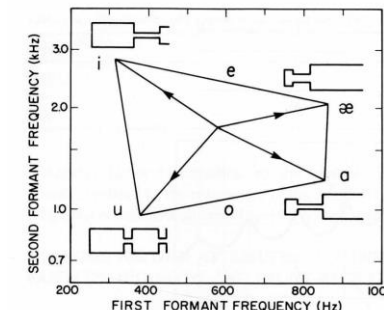
Conversion



Phonological Boundaries



Phonetic Boundaries



Predictions of Neorealism

- Most marked vowels are most stable (/i/: TT, TH;)
 - Most specified gestures (dimensions)
- Least marked vowels
 - Least specified gestures (dimensions)
- Variability
 - Respects contrastive phonology
 - Unmarked are more variable (Trubetskoy)
 - /u/ moves vertically because TH
 - Other vowels don't seem to cross boundaries
 - /i, I/ and /e, E/ in SCCS is mirage because of length; I.e. no change as long as length doesn't change
- System issues
 - Should not see the front vowels moving into the back, but we could see the back vowels moving front
 - Should not see the high vowels lowering into the non-high vowels, but we could see the non-high vowels moving into the high vowels.

Why is all this phonology important to sociophonetics?

- Speech is a brokered agreement (Lieberman 1996) so we need some agreement on what is in the signal; presumes a fixed set of privative aspects (A&I's feature set); actual phonetic characteristics make a family of cues which can offset each other (trading relations of Repp 1981, 1982; see Purnell, et al. 2005a, b)
- Contrasts (Dresher and rest of TSC) must signal distinctiveness and be preserved in act of speech
- Outside of that, do anything that doesn't violate contrasts
 - e.g., /u/ fronting in vowel space does not violate TH; /u/ lowering in vowel space below /o/ would violate TH (caveat that other phonetic features aren't going on)
 - /o/, being fairly underspecified (shown later) could go wherever it wants [but note that it often anchors the back limits of vowel space]

Shifts (and LBM) in Modern American English

Podesva 2011: 33

Nesbitt 2021: 336

FIGURE 4
Low-Back-Merger Shift Vowel Configuration

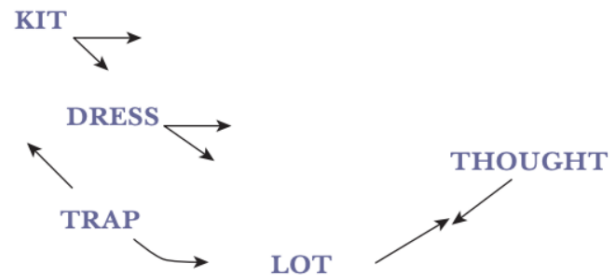


FIGURE 1
Front and Low Vowels of the Southern Vowel Shift

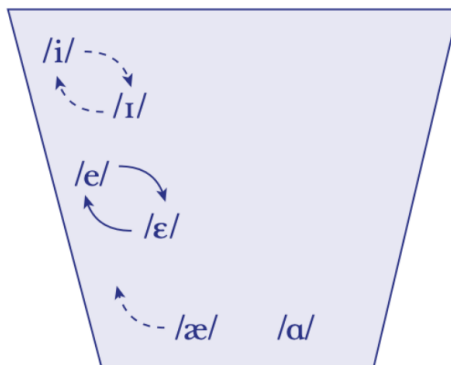


FIGURE 1
The California Vowel Shift
(based on Eckert 2008c, 34)

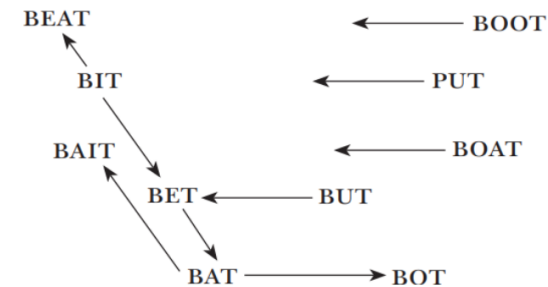
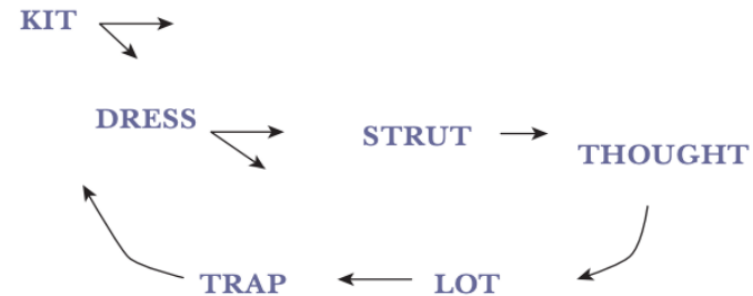


FIGURE 2
A Typical Northern Cities Shift Vowel Configuration



Nesbitt 2021: 334

ANAE vowel set for MAE

Table 2.3. Keywords for the phonemes of Table 2.2.

	SHORT		LONG					
			Upgliding				Ingliding	
			Front upgliding		Back upgliding			
	V		Vy		Vw		Vh	
nucleus	front	back	front	back	front	back	unrounded	rounded
high	<i>bit</i>	<i>put</i>	<i>beat</i>		<i>suit</i>	<i>boot</i>		
mid	<i>bet</i>	<i>but</i>	<i>bait</i>	<i>boy</i>		<i>boat</i>		<i>bought</i>
low	<i>bat</i>	<i>cot</i>		<i>bite</i>		<i>bout</i>	<i>balm</i>	

Neorealism and NAE Vowels

- Contrast at dimensions
 - TR
 - TH
 - TT
 - LABIAL
- Superordinate stubs
- Completion, enhancement and privative features
- Length
 - All long but 4
- Weight
 - Short diphthongs < classification

Shifts (and LBM) in Modern American English and Short Vowels

FIGURE 4
Low-Back-Merger Shift Vowel Configuration

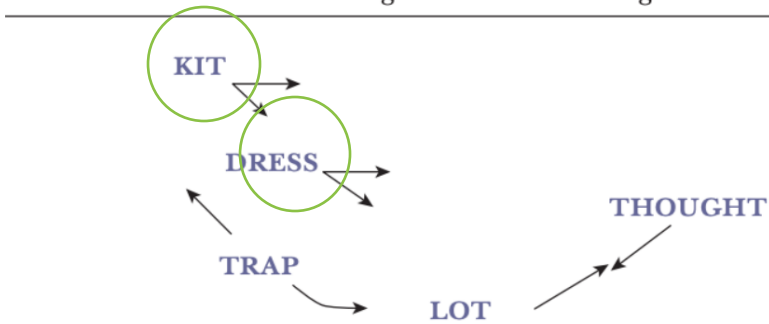


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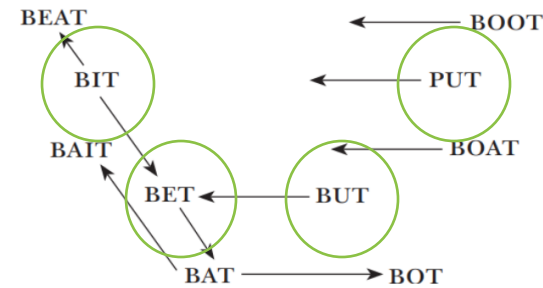


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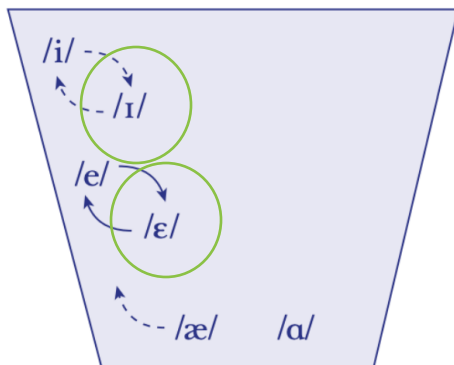
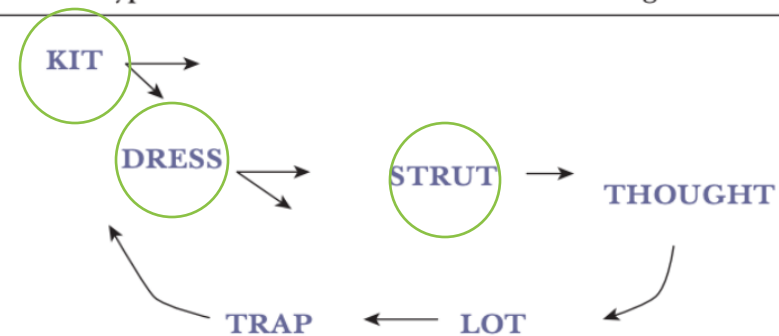


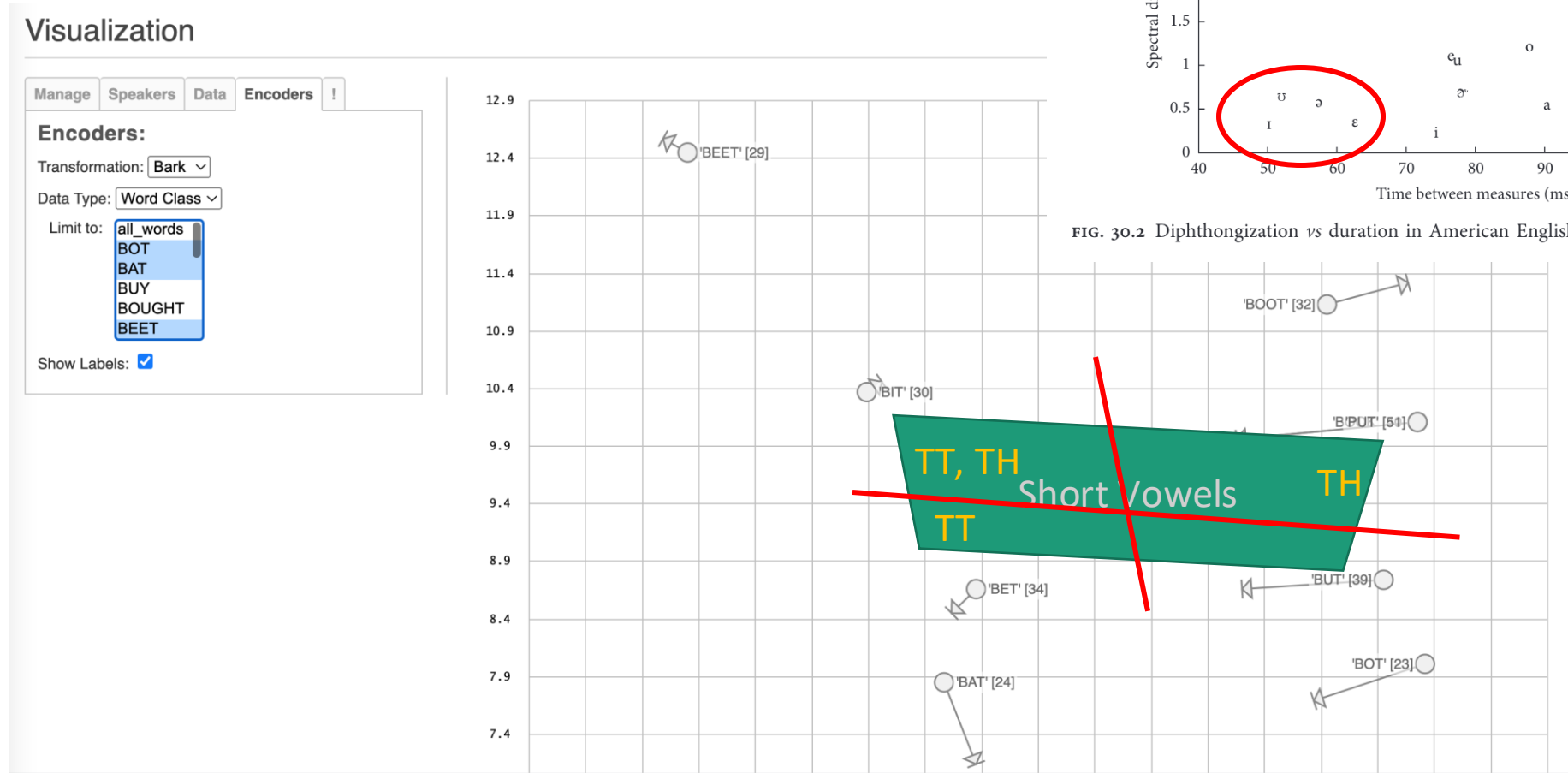
FIGURE 2
A Typical Northern Cities Shift Vowel Configuration



PR 2016 underlying NAE vowels

	Single			Double-Potential			Double-Actual	
	Front	Back		Front	Central	Back	Front	Back
High	ɪ	ʊ		iX		uX		ju
Mid	ɛ	ʌ		eX		oX		oj
Low				æX	aX	ɔX	aj	aw

WiSCO: Short Northern White Vowels



Lansing, Michigan Vowels

FIGURE 3

Combined Normalized Vowel Means for Six Lansing Anglo Women (b. 1985–90, interviewed in 2007) Based on Word-List Data Taken

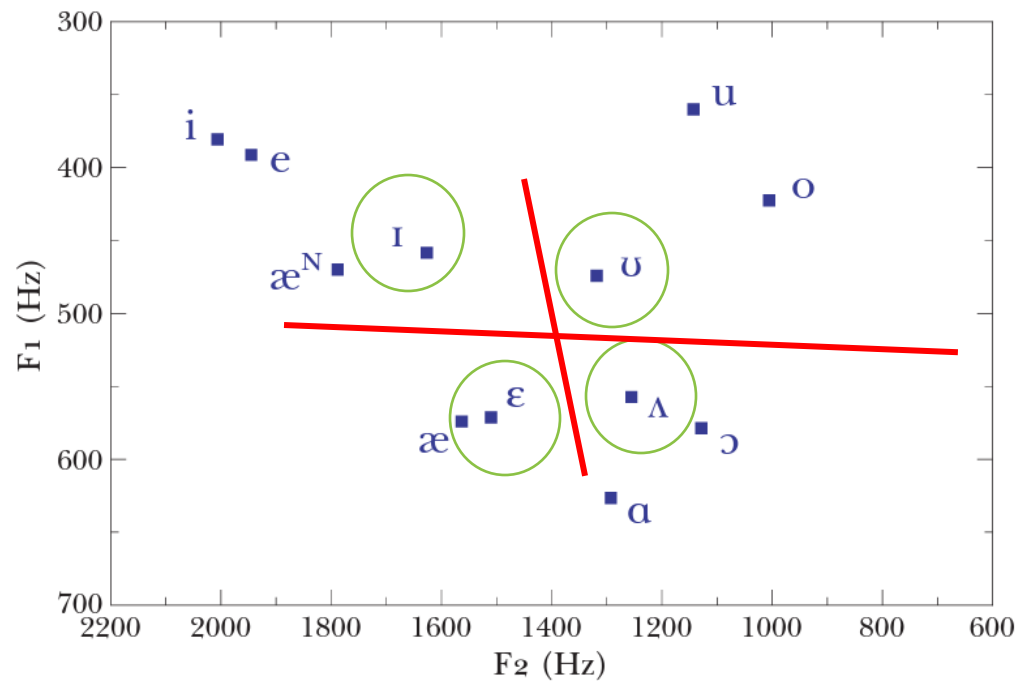
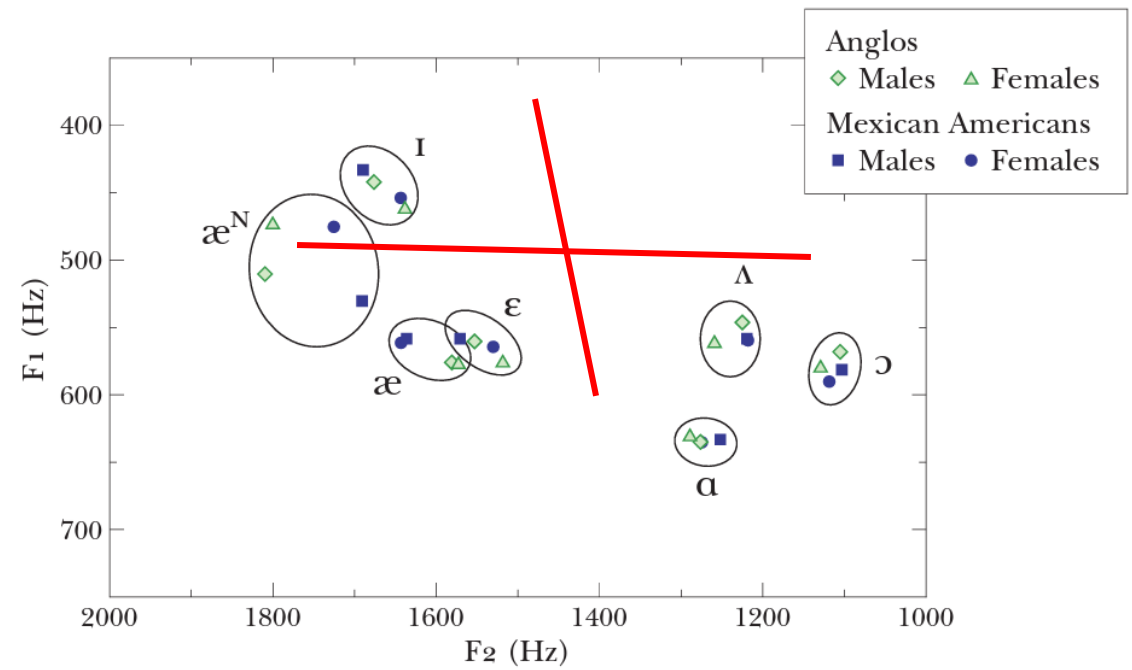


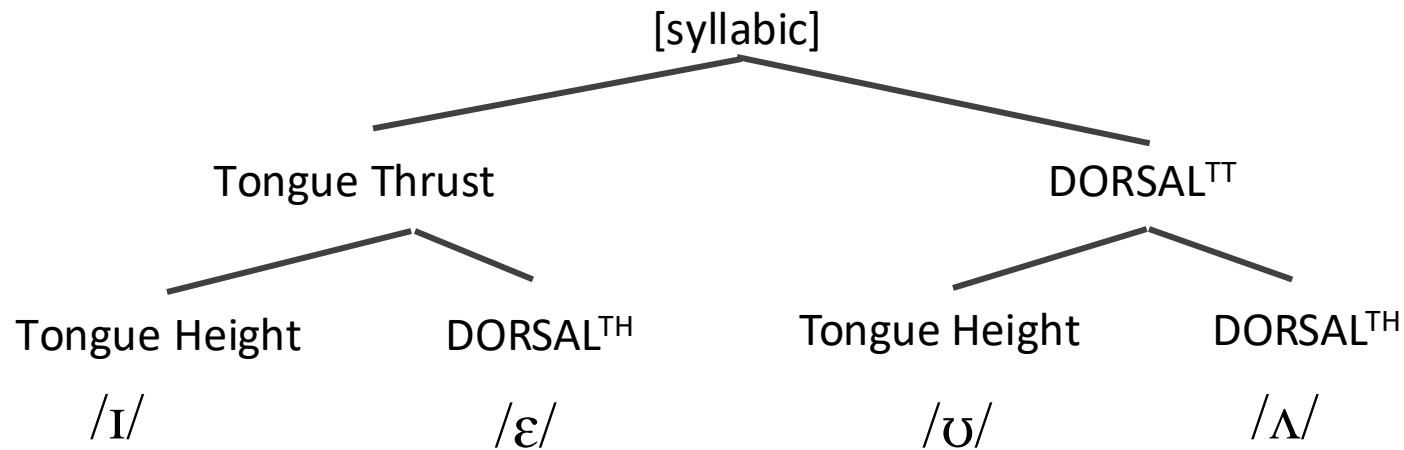
FIGURE 4

Vowel Chart Showing Mexican American and Anglo Pronunciation of NCS Vowels Based on Word List Data (Lobanov Normalization)



PRS underlying **short** vowels

	Single			Double-Potential			Double-Actual	
	Front	Back		Front	Central	Back	Front	Back
High	ɪ	ʊ		iX		uX		ju
Mid	ɛ	ʌ		eX		oX		oj
Low				æX	aX	ɔX	aj	aw



Most 'marked' short vowel

Least 'marked' short vowel

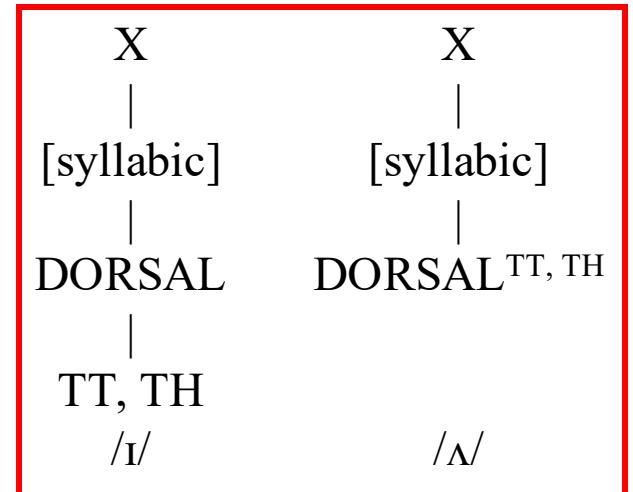


FIGURE 7

Selected Mean Vowel Measurements for 53-Year-Old Woman
from Rutland, Vermont (TS 434)

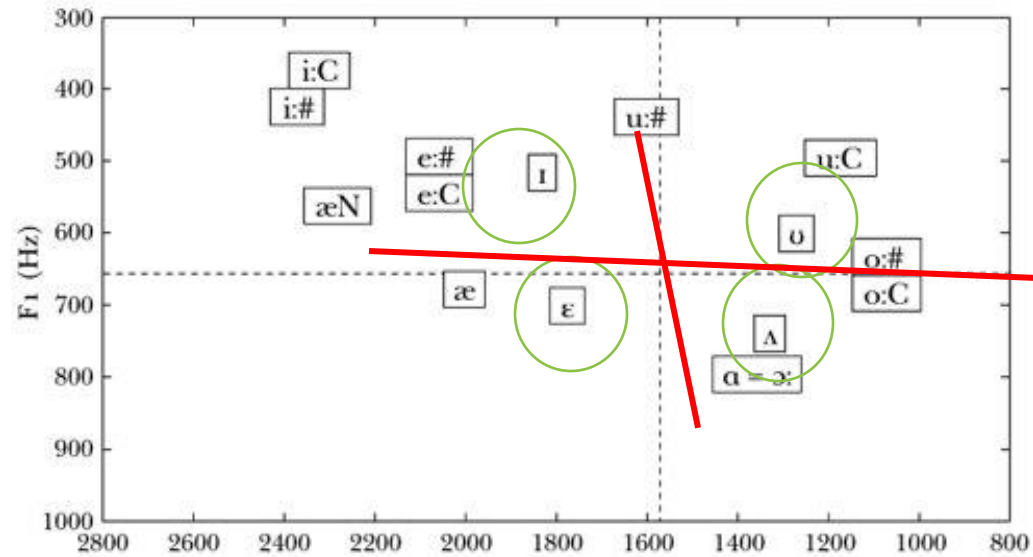
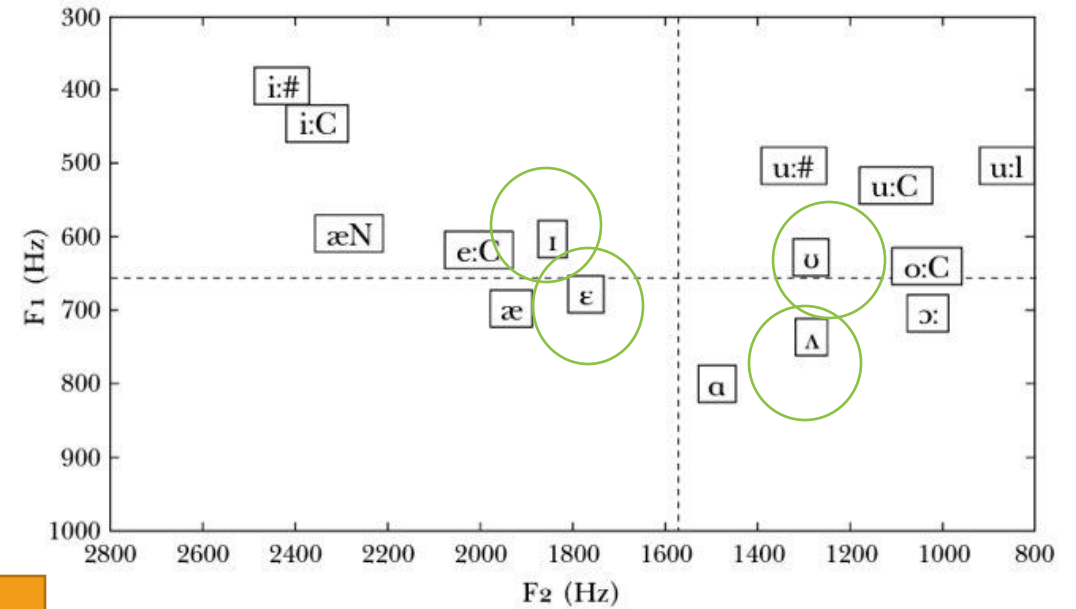


FIGURE 5

Selected Mean Vowel Measurements for 57-Year-Old Man
from New Britain (Hartford), Connecticut (TS 465)



Expectations:

- 1a. TT and DOR^{TT} to be further apart than between TH and DORTH (higher in the hierarchy)
- 1b. /I/ most stable (TT, TH) and /Λ/ least stable (only superordinates)
- 1c. /ε/ moves up (TT), not back; /ʊ/ moves front (TH), not down
- 2a. DOR^{TT} front; TT do not back (Labov Principle III; DOR^{TT} are unmarked and free to move)
- 2b. DORTH raise; TH do not lower (Contra Labov Principle II)

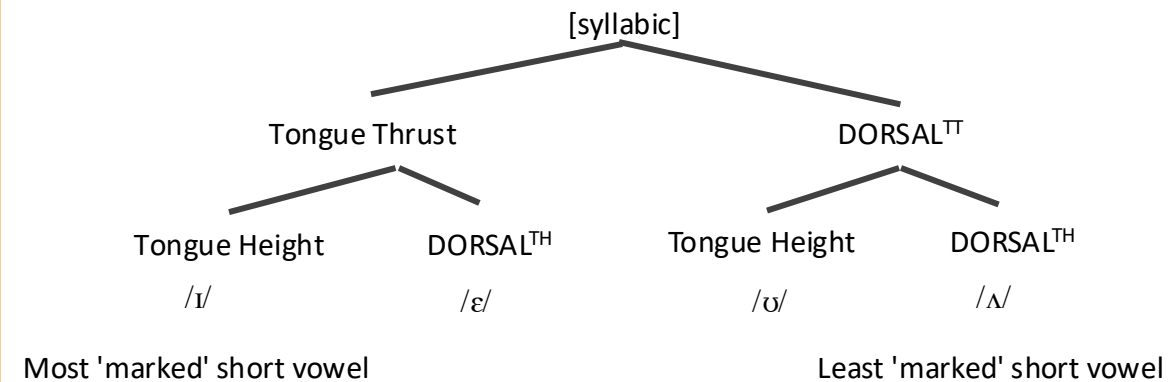


FIGURE 5
Selected Mean Vowel Measurements for 57-Year-Old Man
from New Britain (Hartford), Connecticut (TS 465)

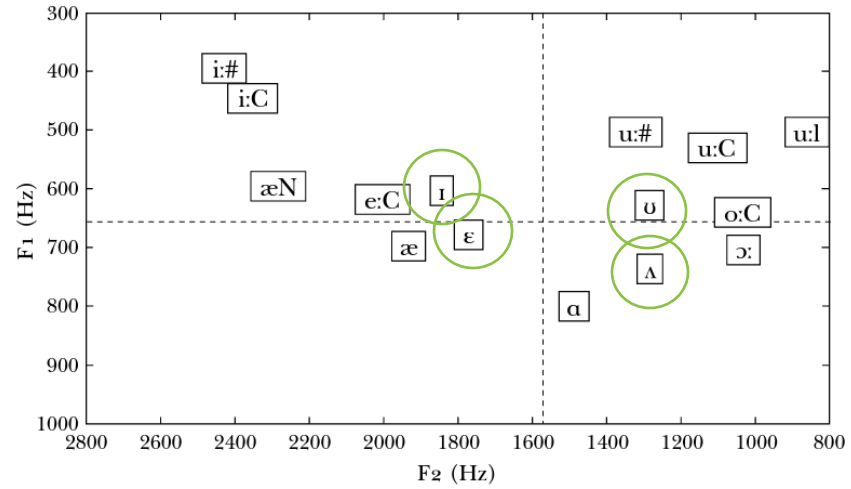
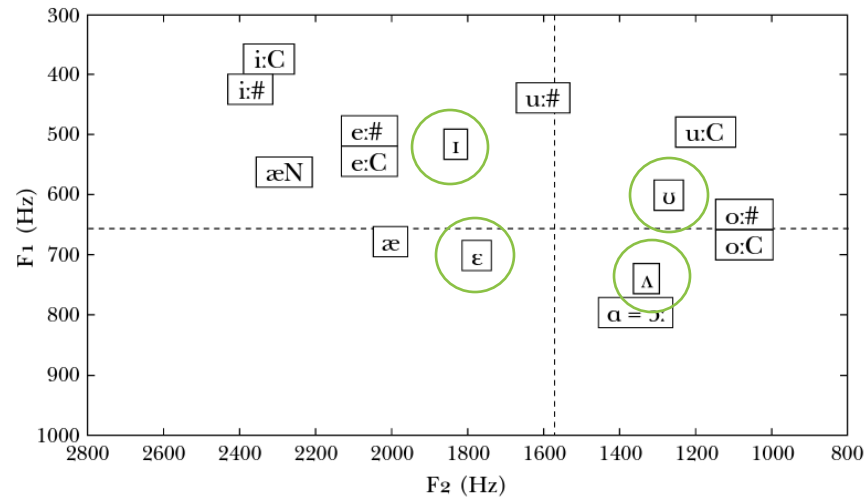
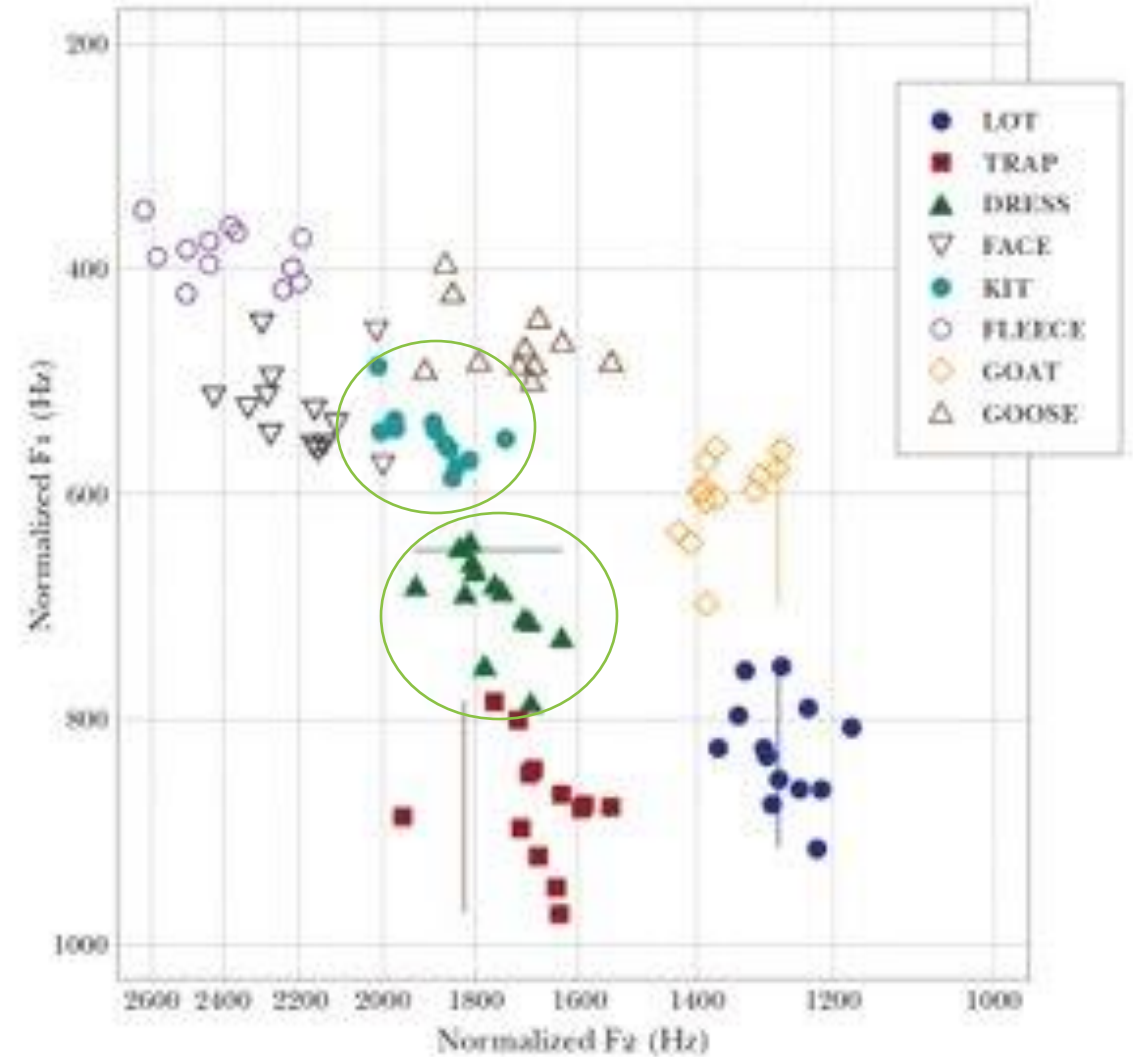


FIGURE 7
Selected Mean Vowel Measurements for 53-Year-Old Woman
from Rutland, Vermont (TS 434)



Kennedy & Grama 2012

FIGURE 1
Formant Plots: All Subjects



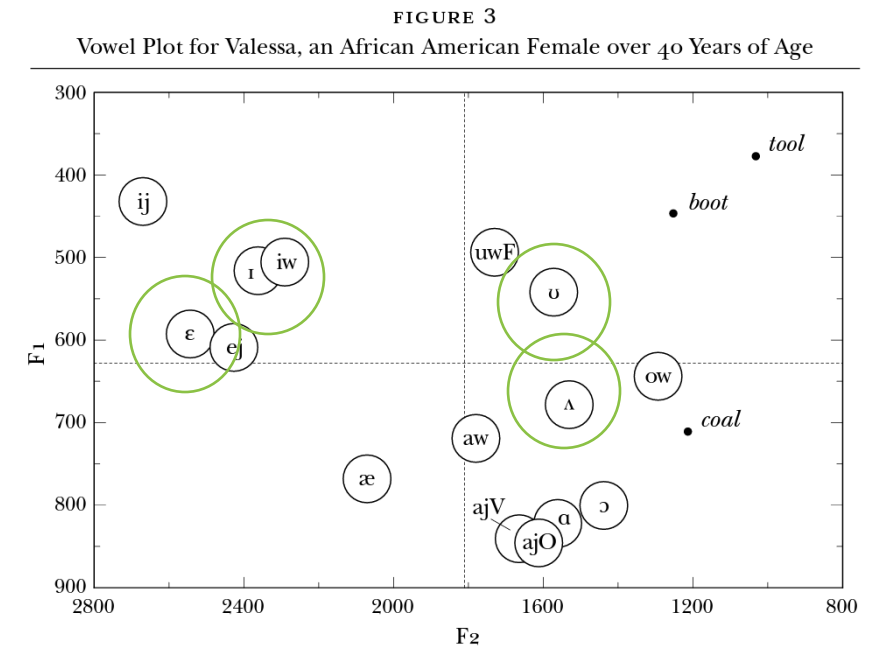
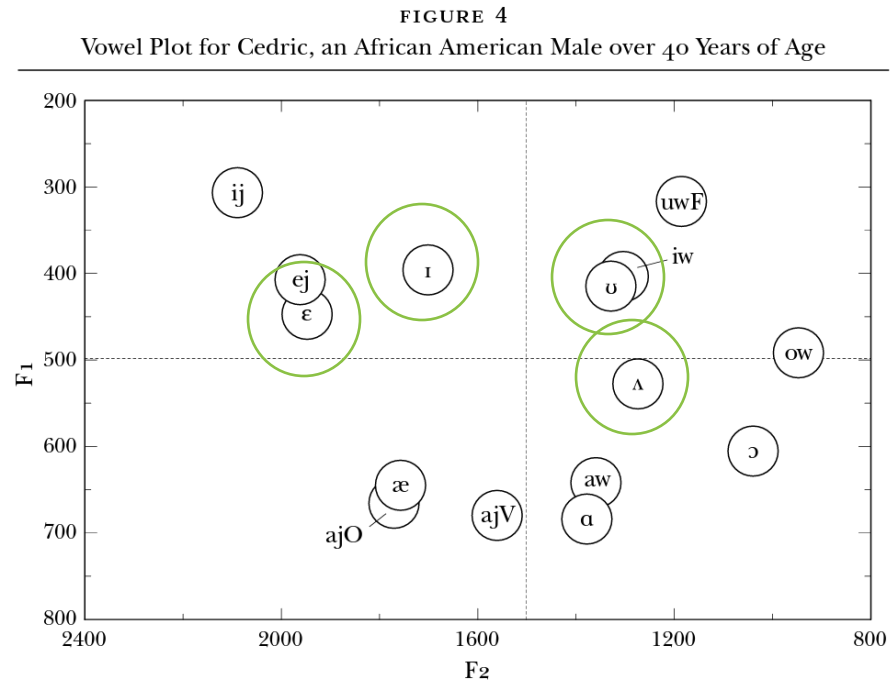
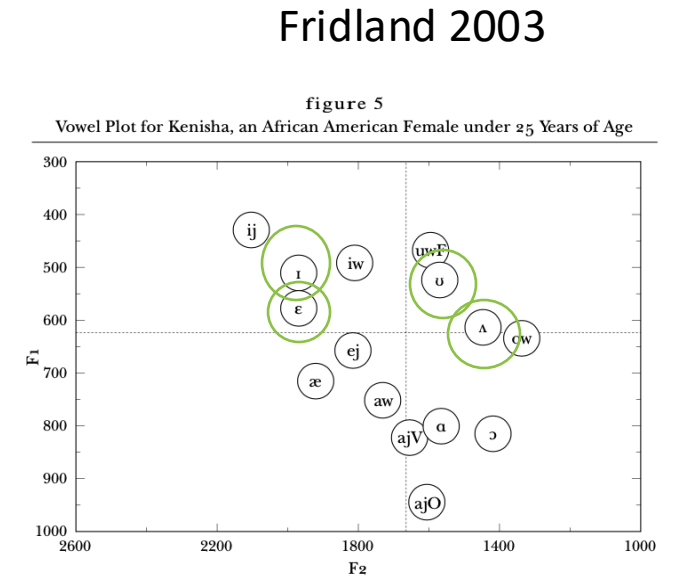
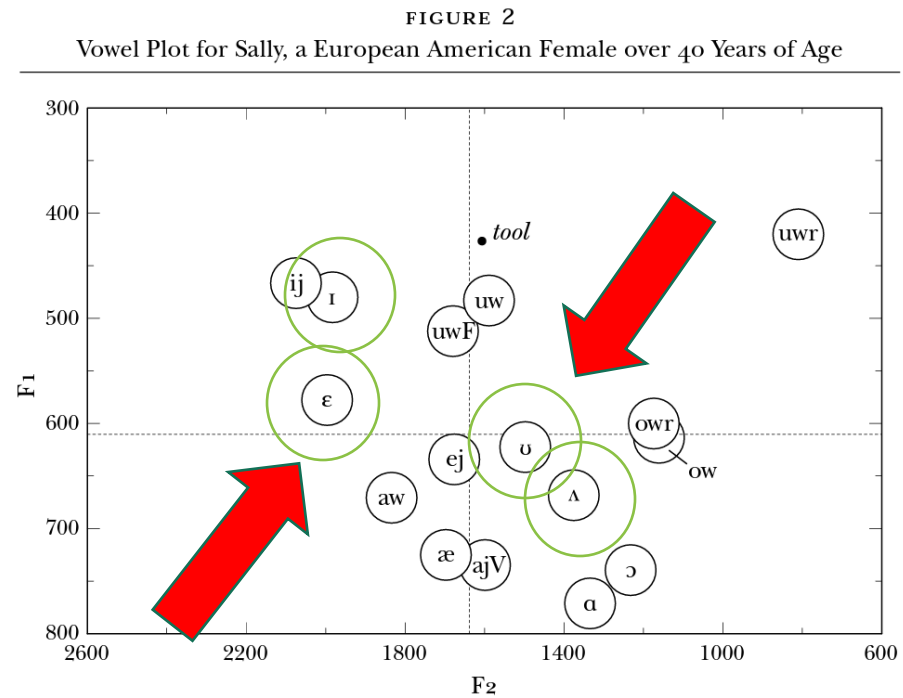
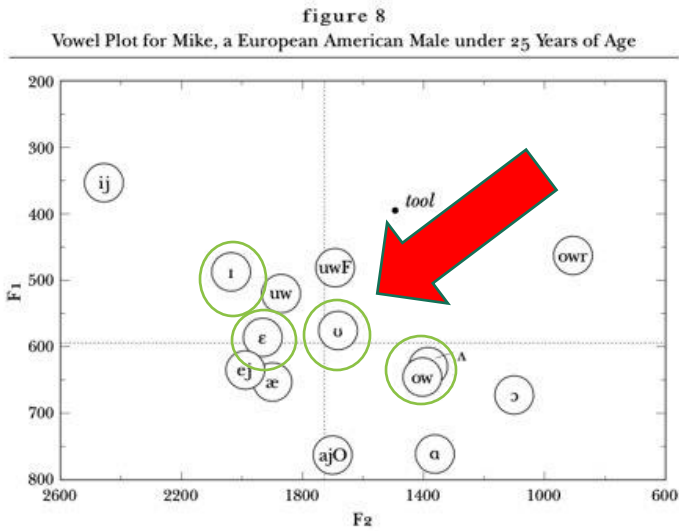
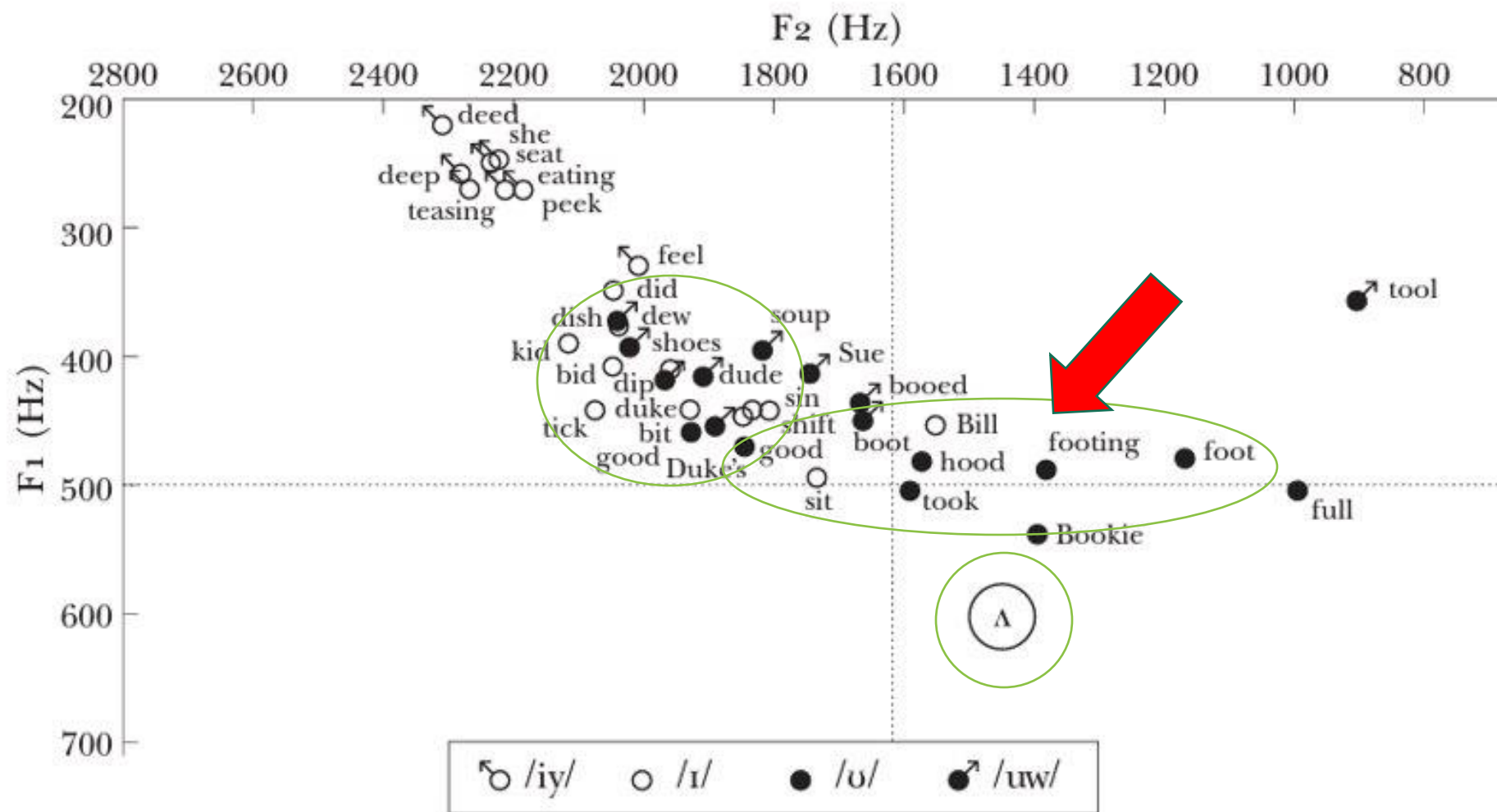


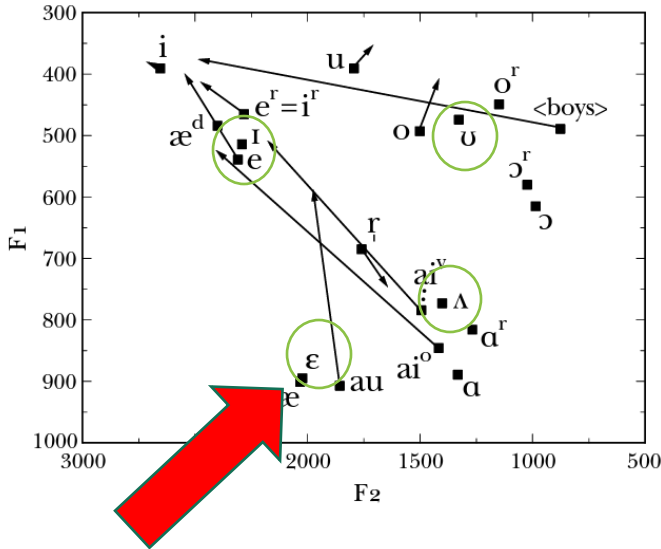
FIGURE 1

High Front and Back Token Distributions for M.H., a Male Reno Native



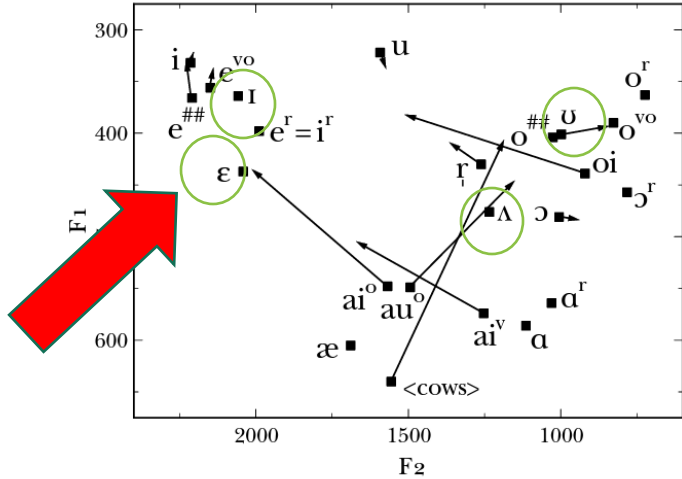
SPEAKER 5 1

Female, Born 1912, from Cherokee Sound, Abaco Island, Bahamas
(recorded in 1997)



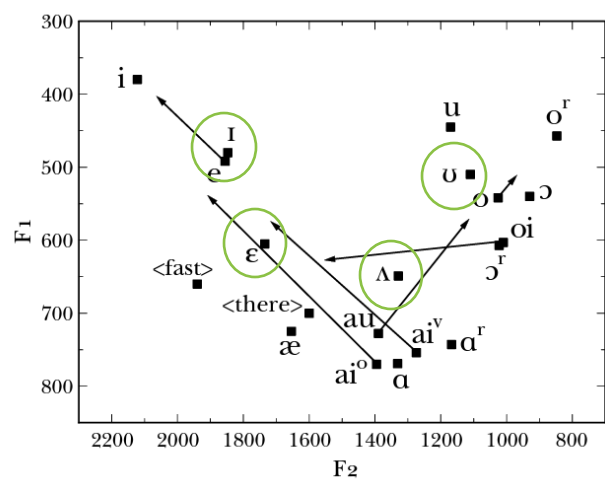
SPEAKER 57

Male, Born 1894, from Cross, South Carolina
(*DARE* SC 019; recorded in 1966)



SPEAKER 63

Male, Born 1859, from Gatlinburg, Tennessee
(used by Hall 1942; courtesy of Michael Montgomery;
recorded in 1937 or 1938)



SPEAKER 59

Female, Born 1914, from Montgomery, Alabama
(daughter of speaker 58 and sister of speaker 60; recorded in 1981)

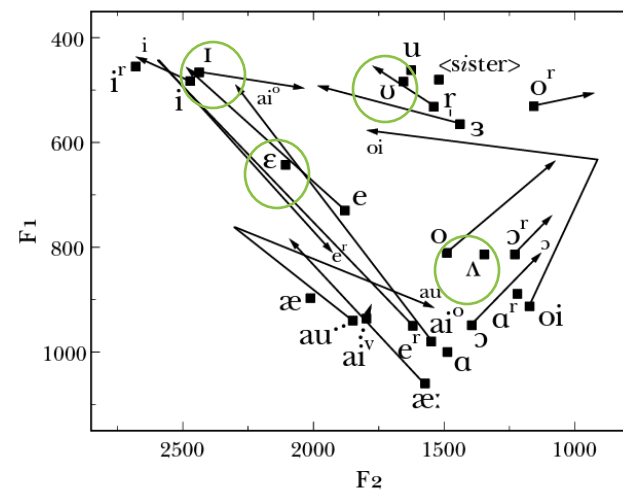
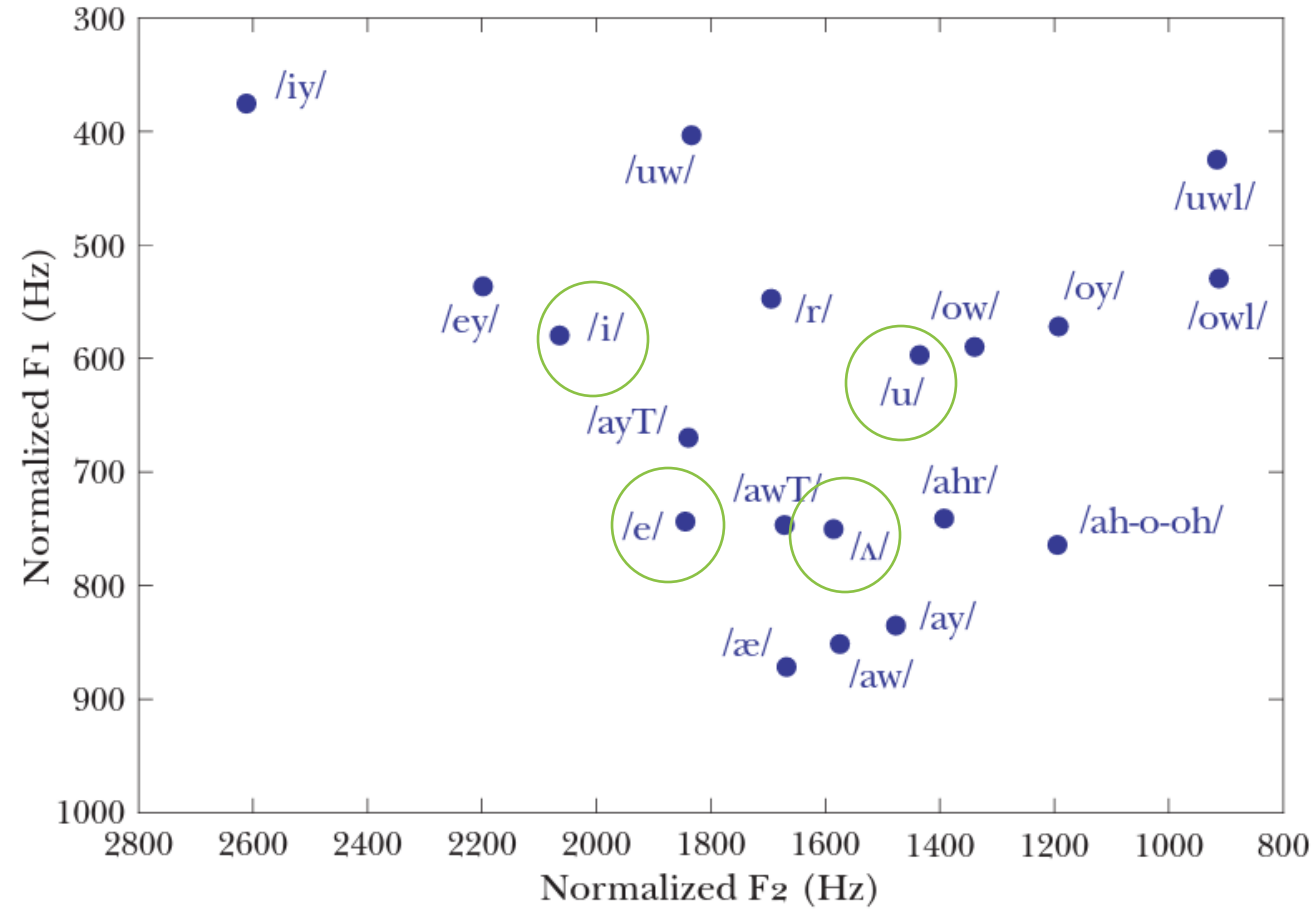
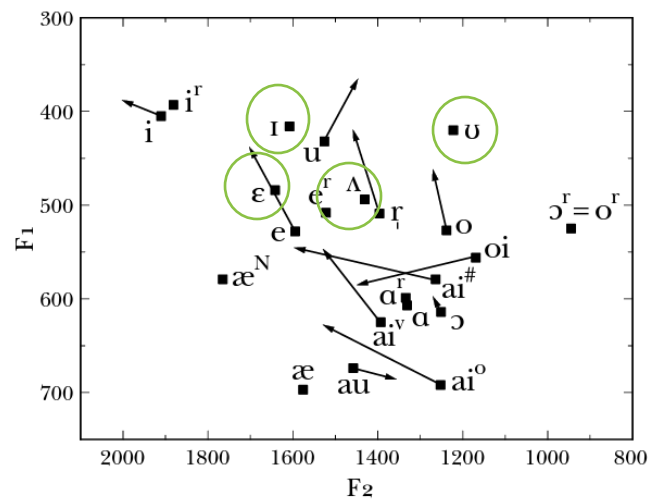


FIGURE 3.1
The Vowels of Canadian English (mean F₁/F₂ values), as Produced
by the Sample of 61 Canadian Participants Shown in Table 3.1



SPEAKER 191
 Cherokee Male, Born 1953, from Snowbird Community,
 Graham County, North Carolina
 (speaks Cherokee fluently; recorded in 1996)



SPEAKER 190
 Lumbee Female, Born 1980, from Lumberton,
 Robeson County, North Carolina
 (recorded in 1995)

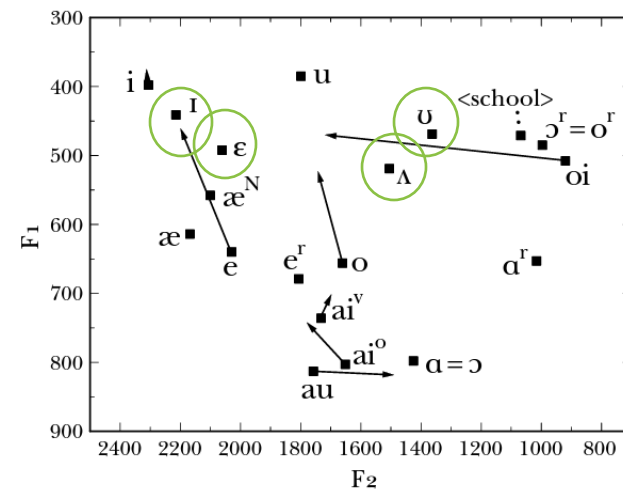
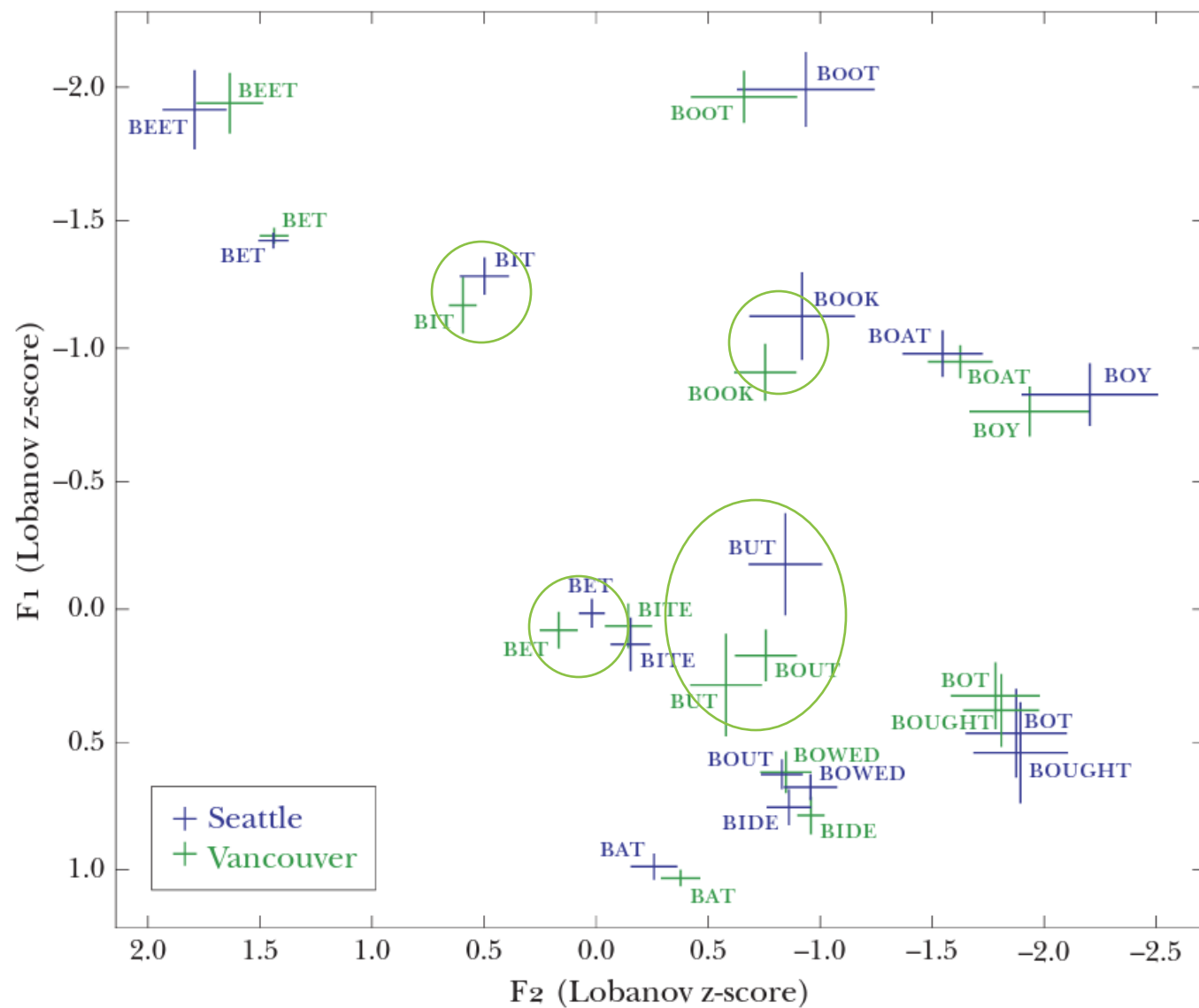
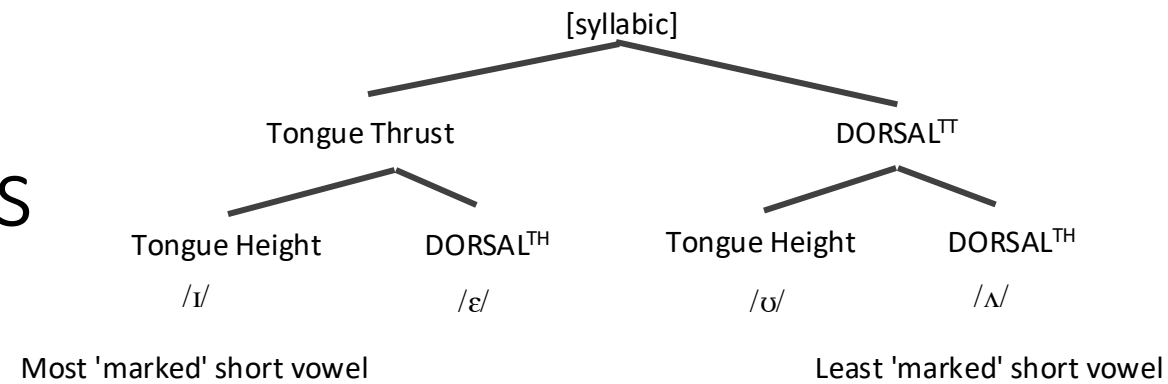


FIGURE 4.4
Vowels at 35% for Speakers in Seattle and Vancouver



Summary: Short NAE Vowels



Expectations:

- 1a. TT and DOR^{TT} to be further apart than between TH and DORTH (higher in the hierarchy)
- 1b. /ɪ/ most stable (TT, TH) and /ʌ/ least stable (only superordinates)
- 1c. /ɛ/ moves up or down (TT), not back; /ʊ/ moves front (TH), not down
- 2a. DOR^{TT} front; TT do not back (Labov Principle III; DOR^{TT} are unmarked and free to move)
- 2b. DORTH raise; TH do not lower (Contra Labov Principle II)

• Observations

- /ɪ/: TT, TH – typically "reference like" (stable?)
- /ɛ/: TT – raising and lowering, even peripherally, but generally in the front
- /ʊ/: TH – fronting, fronting + slight lowering
- /ʌ/: DORSAL^{TT}, DORSALTH – somewhat stable, albeit both fronts and lowers but stays lower than /ʊ/
- Gradient changes generally respecting TT more than TH so that the 'pairs' are based on TT

• Expectations

- 1a, 1b least stable = /ʌ/ can move both directions
- 1c yes, but /ʊ/ does lower some, but stays above /ʌ/
- 2a yes
- 2b 'not lower' = does reverse positions

Shifts (and LBM) in Modern American English

FIGURE 4

Low-Back-Merger Shift Vowel Configuration

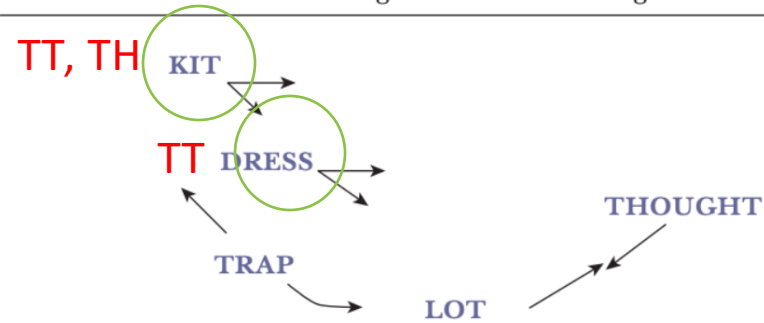


FIGURE 1

Front and Low Vowels of the Southern Vowel Shift

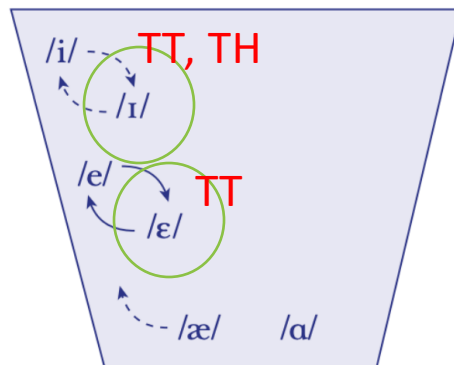


FIGURE 1

The California Vowel Shift
(based on Eckert 2008c, 34)

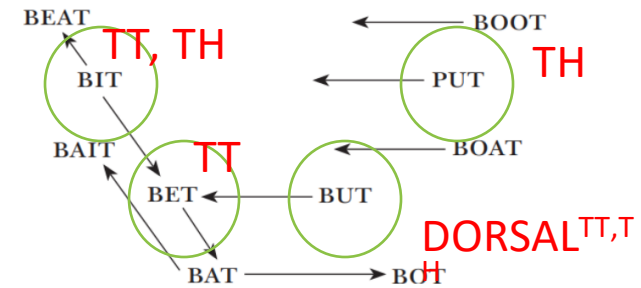
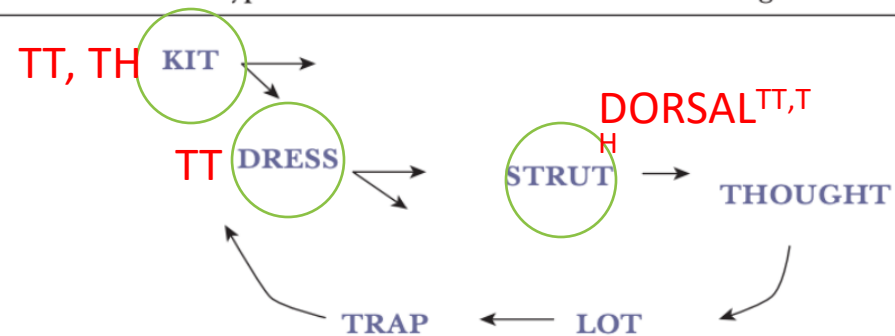


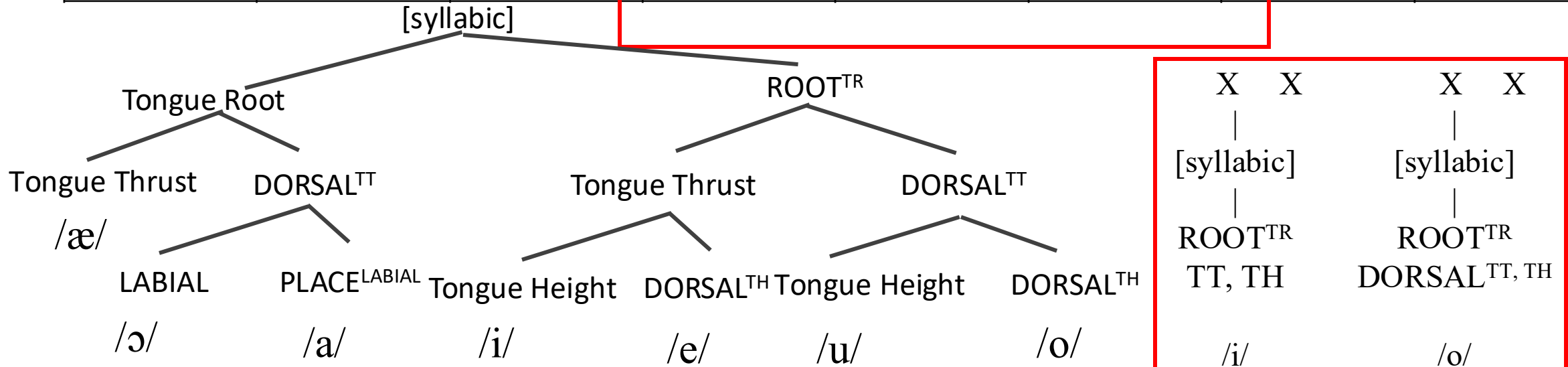
FIGURE 2

A Typical Northern Cities Shift Vowel Configuration



PRS underlying **long** vowels

	Single		Double-Potential			Double-Actual	
	Front	Back	Front	Central	Back	Front	Back
High	ɪ	ʊ	iX		uX		ju
Mid	ɛ	ʌ	eX		oX		oj
Low			æX	aX	ɔX	aj	aw



Shifts (and LBM) in Modern American English

FIGURE 4
Low-Back-Merger Shift Vowel Configuration

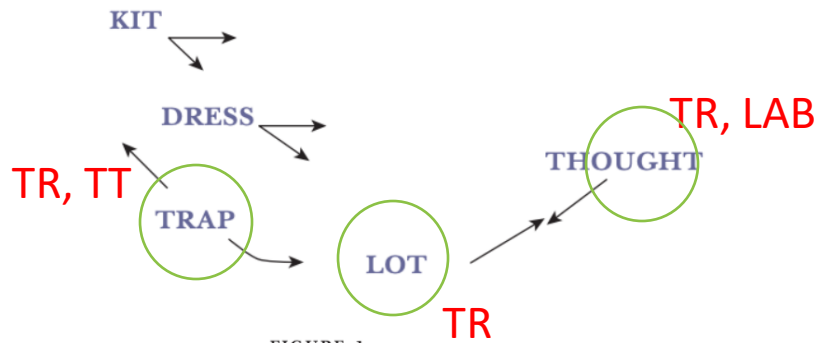


FIGURE 1
Front and Low Vowels of the Southern Vowel Shift

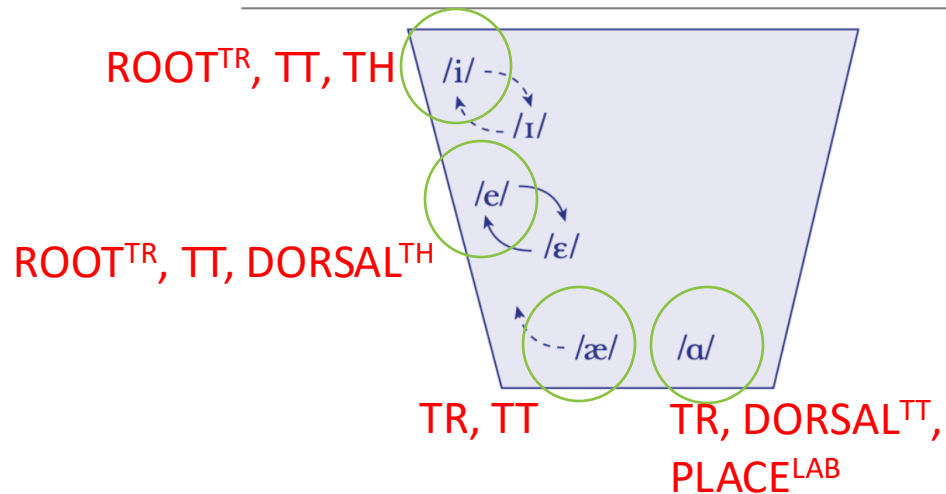


FIGURE 1
The California Vowel Shift
(based on Eckert 2008c, 34)

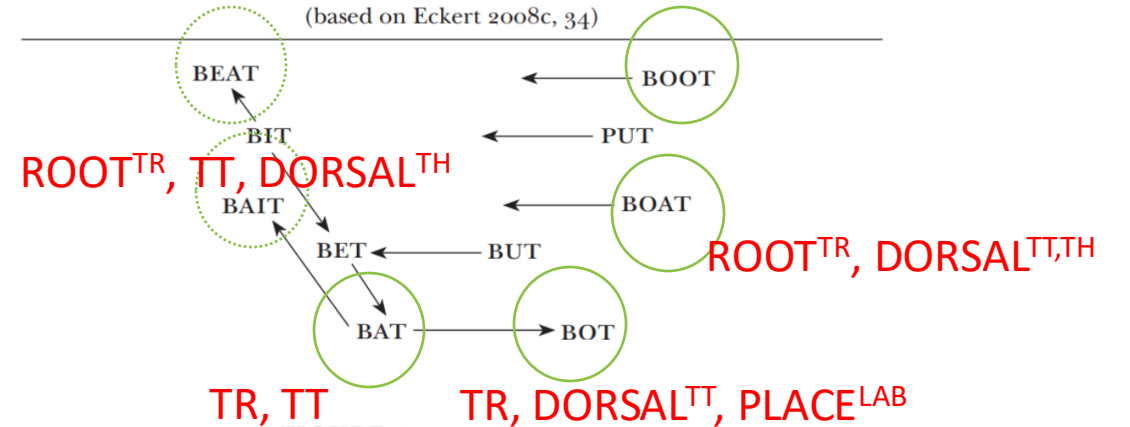
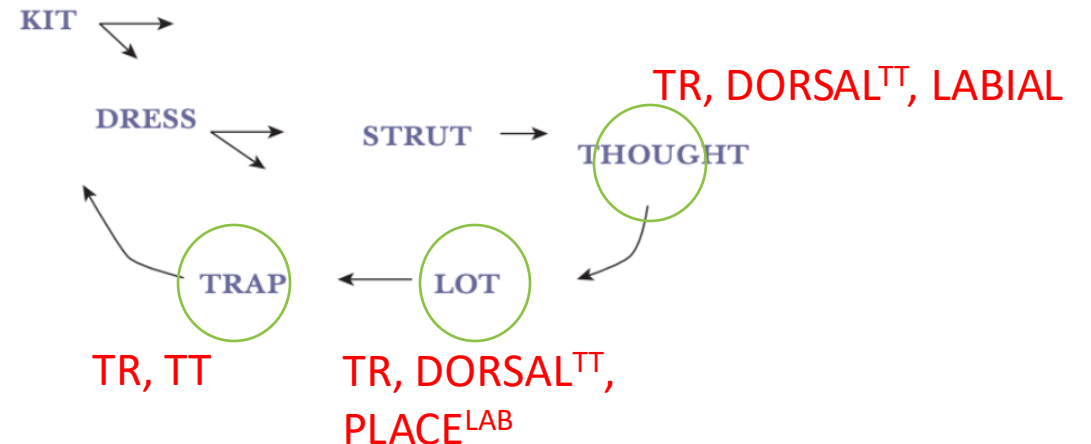


FIGURE 2
A Typical Northern Cities Shift Vowel Configuration



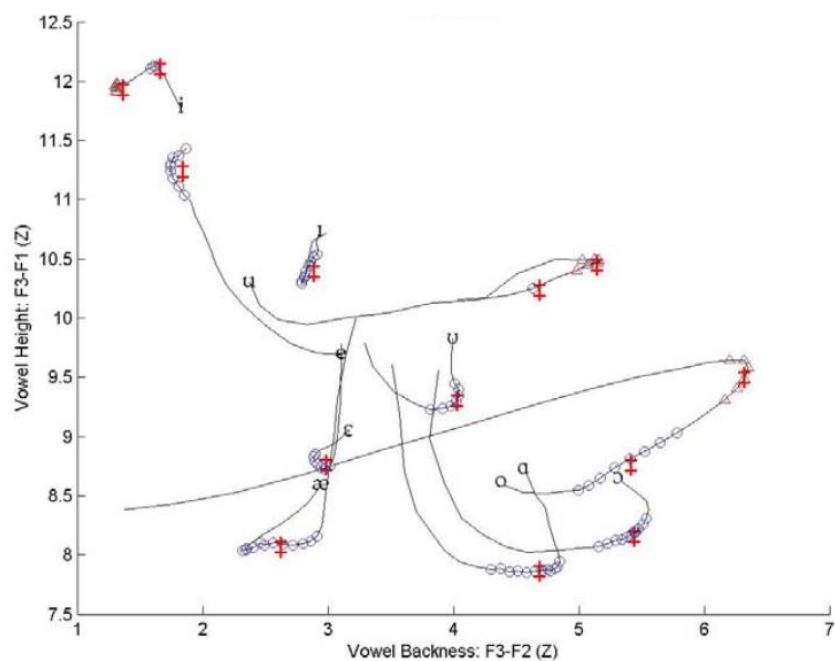


Figure 1. Graphic representation of the time course through the Bark vowel space of select vowels produced in [s_d] frame by speaker JW12 (Marinette, WI). Lines are the path of the formants from transition to transition. Circles represent periods of slow moving formants. Double daggers represent the center value of the circles (i.e., the vowel “quality”). NB: the low front vowel is low in the vowel space.

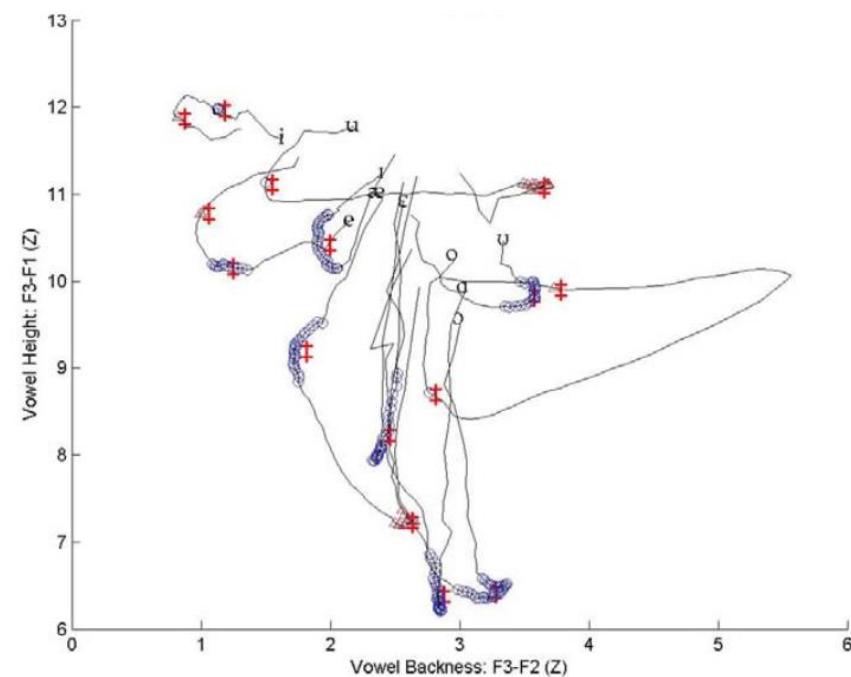
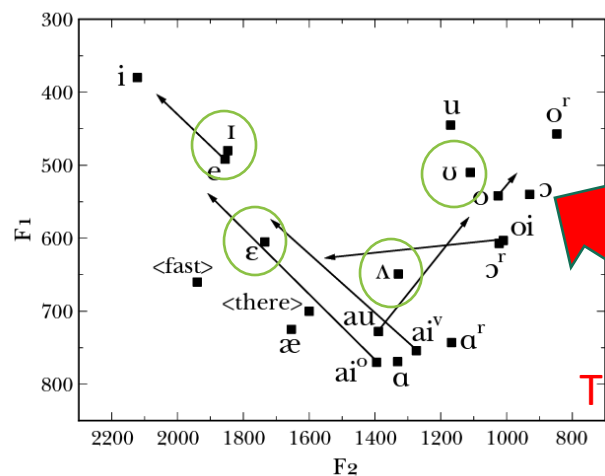


Figure 2. Graphic representation of a speaker with raised low front vowel (speaker JW31, New Holstein, WI).

SPEAKER 63

Male, Born 1859, from Gatlinburg, Tennessee
(used by Hall 1942; courtesy of Michael Montgomery;
recorded in 1937 or 1938)



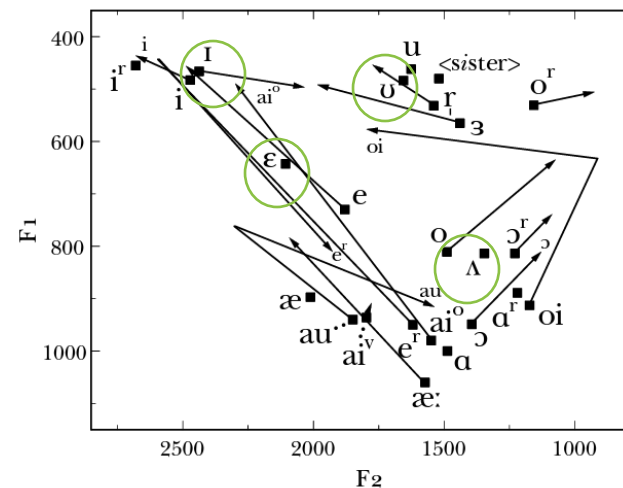
TR, DORSAL^T, LABIAL

Enhanced by deleting TR?
Contrastive from /o/ by
LABIAL and no offgliding

Thomas 2001 PADS

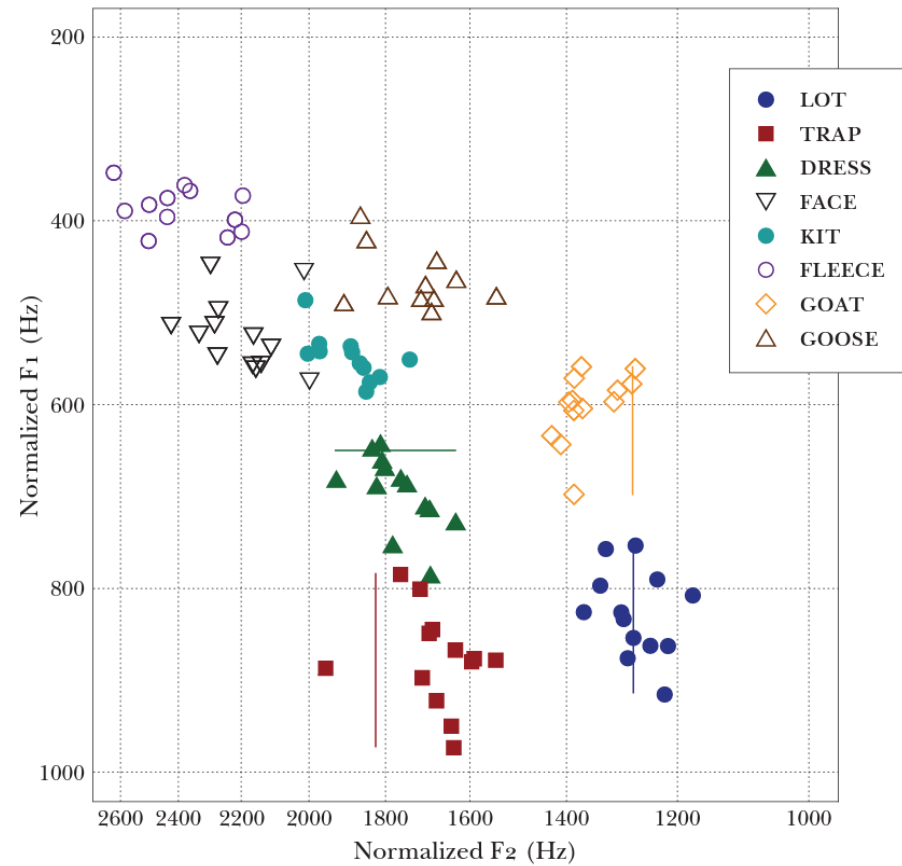
SPEAKER 59

Female, Born 1914, from Montgomery, Alabama
(daughter of speaker 58 and sister of speaker 60; recorded in 1981)



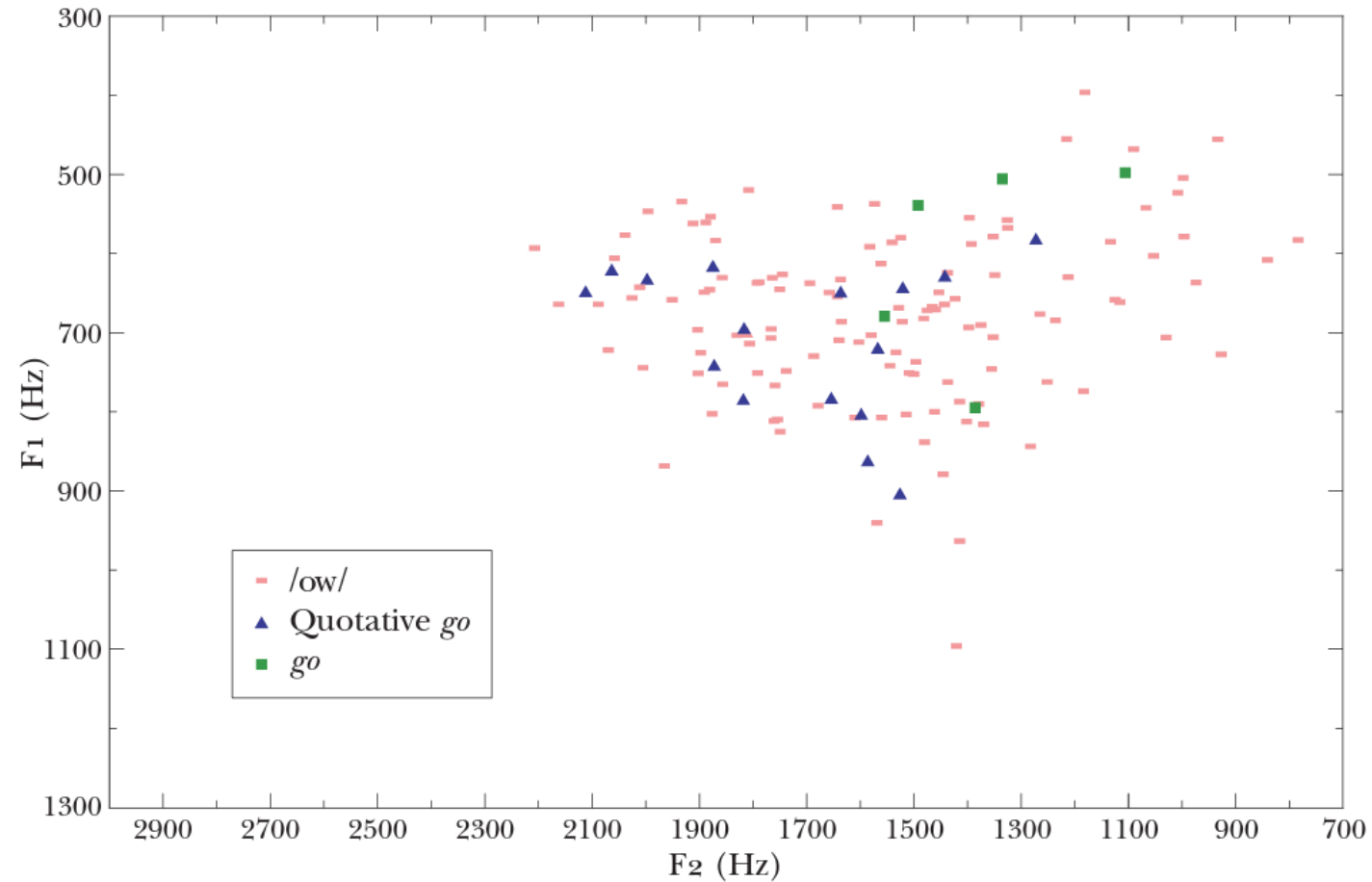
California: Kennedy & Gramma 2012

FIGURE 1
Formant Plots: All Subjects



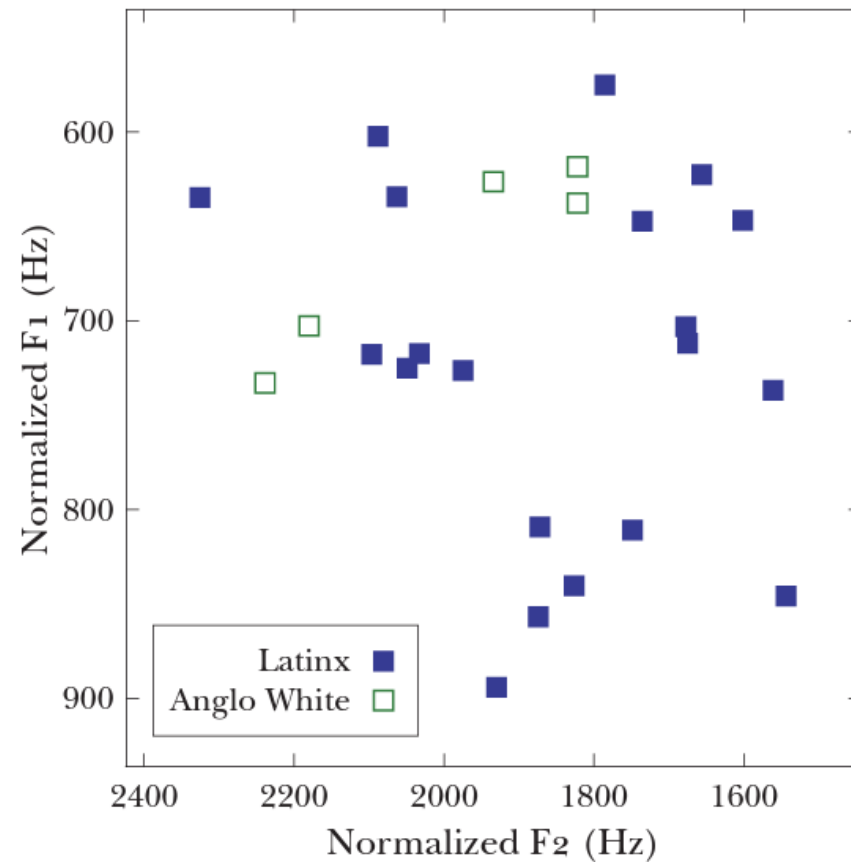
/ow/ fronting Eckert 2011:94

FIGURE 1
Rachel's Fronting of the Nucleus of /ow/



Carter, Valdez & Sims 2020: 133

FIGURE 2
Each Speaker's Mean Formant Values for Prenasal /æ/ (/æN/)



Kansas: Villareal & Kohn 2021

FIGURE 1

The California Vowel Shift (CVS), Based on Gordon (2005)

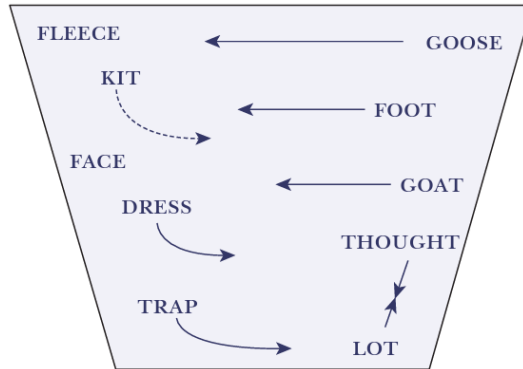
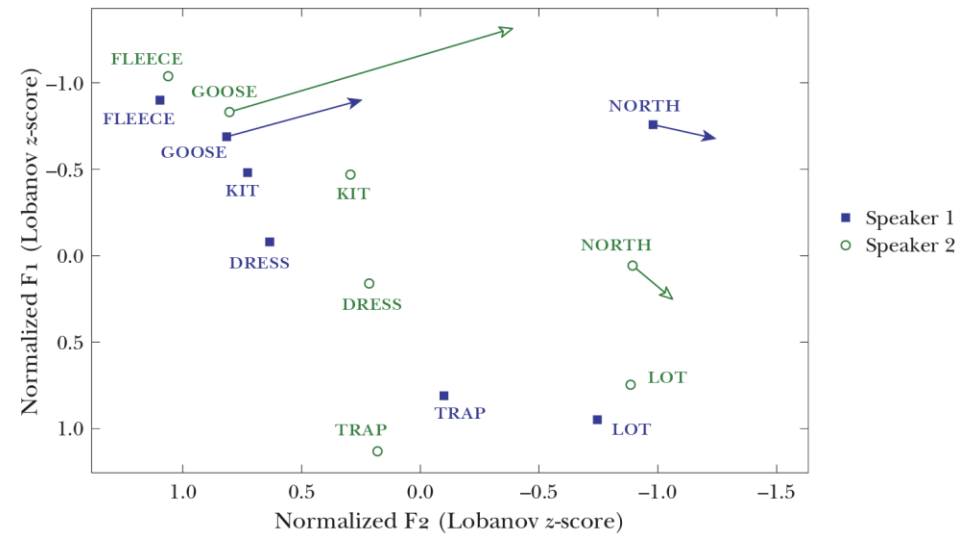


FIGURE 6

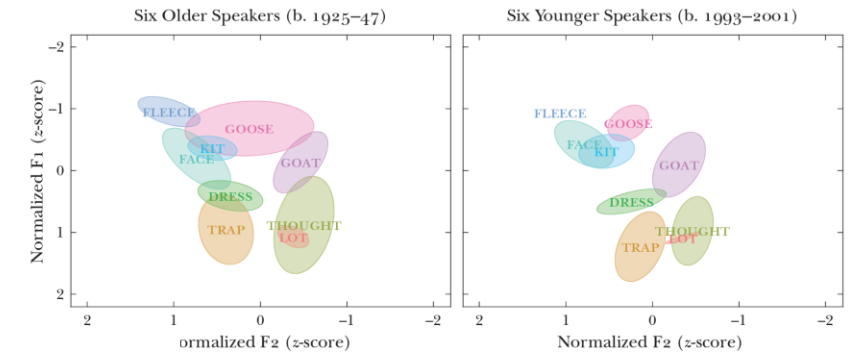
Critical Speakers' Stressed Vowel Spaces in Conservative Guise



NOTE: Since only TRAP was manipulated, vowel spaces are identical in both guises, except for TRAP, which is farther back in the shifted guise.

FIGURE 4

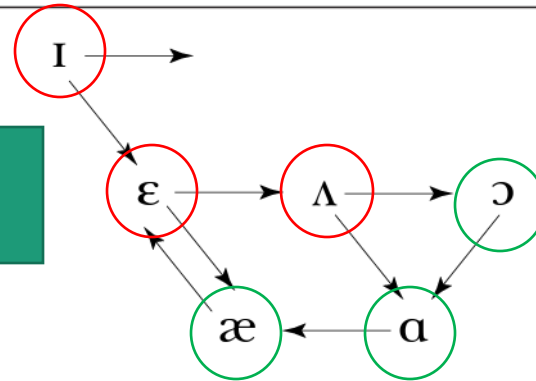
Normalized Vowel Spaces for 12 Kansans by Age Group, Recorded in 2014–17
(adapted from Kohn and Stithem 2015)



Gordon American Speech
(2000) 75 (2): 115–136.

FIGURE 1
The Northern Cities Shift
(based on Gordon 1997)

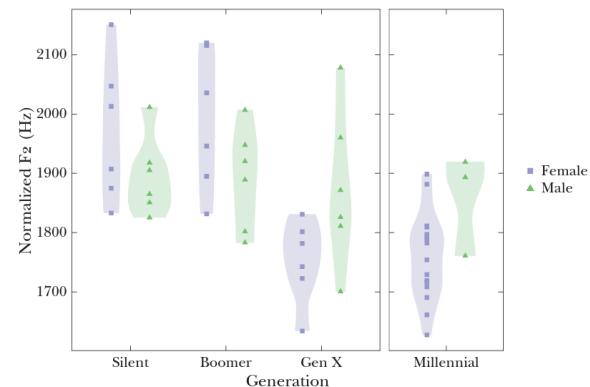
Red = short vowels
Green = long vowels



Lax vowels tend to fall or back. Tense vowels tend to rise and not center.

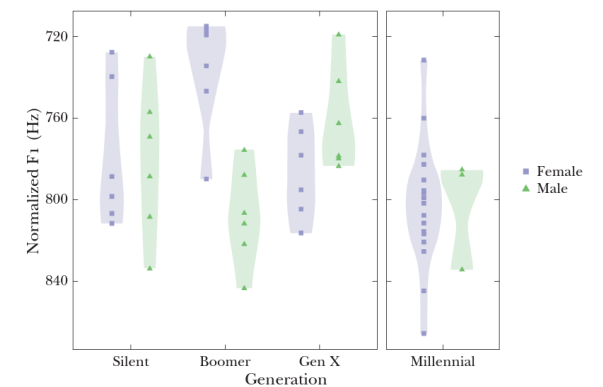
Vowels are not "equal"
E.g., /ε/ doesn't affect /æ/
in any way but they may
"hang out" together in F1 x
F2 vowel space.

FIGURE 9
Average F2 Values of TRAP by Generational Cohort and Gender in Twentieth-Century Lansing: Lansing Speech Sample plus Millennial Speakers



Nesbitt 2021: 352

FIGURE 7
Average F1 Values of TRAP by Generational Cohort and Gender in Twentieth-Century Lansing: Lansing Speech Sample plus Millennial Speakers



Nesbitt 2021: 348

FIGURE 9
Average F₂ Values of TRAP by Generational Cohort and Gender in Twentieth-Century Lansing: Lansing Speech Sample plus Millennial Speakers

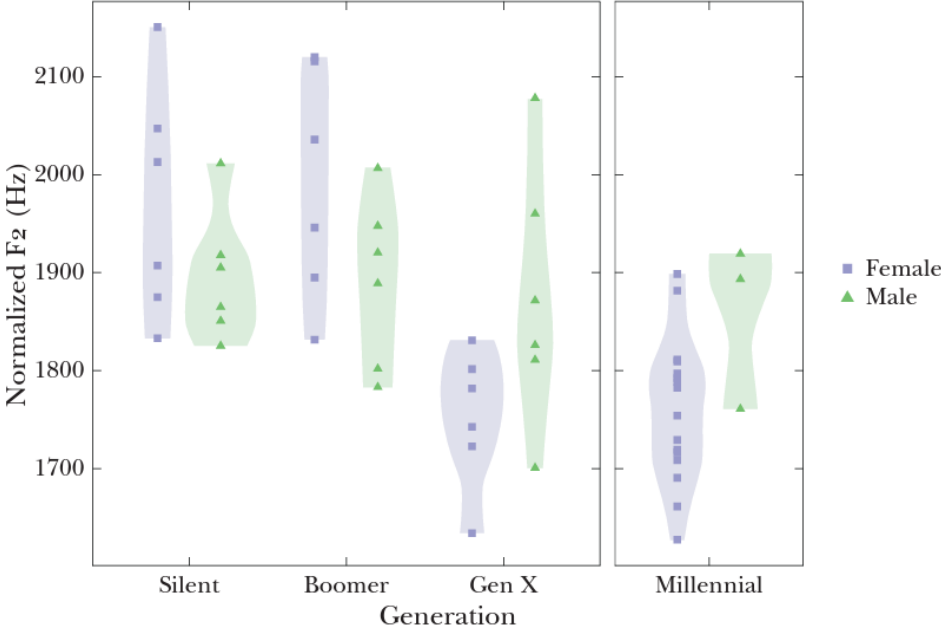
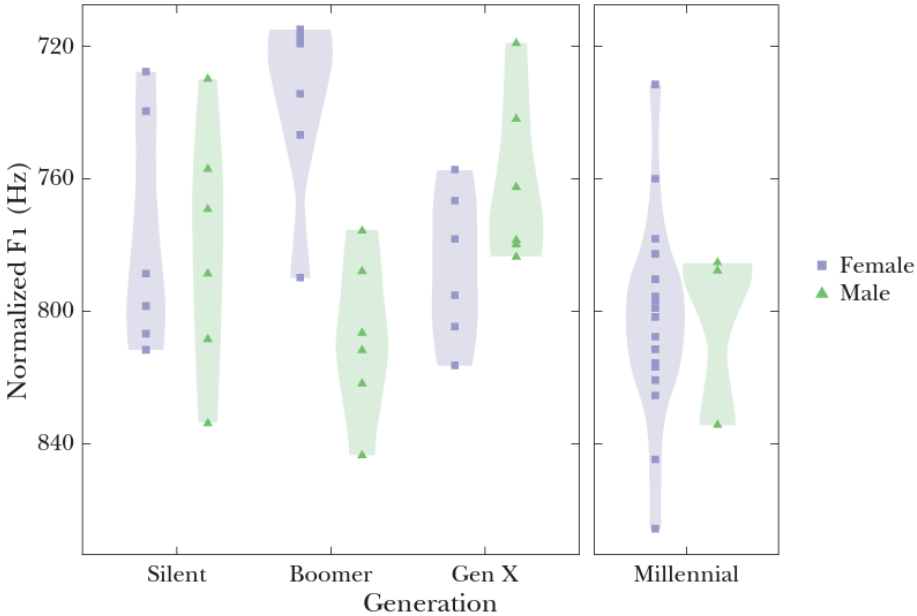


FIGURE 7
Average F₁ Values of TRAP by Generational Cohort and Gender in Twentieth-Century Lansing: Lansing Speech Sample plus Millennial Speakers



Decline of pre-velar raising in the West

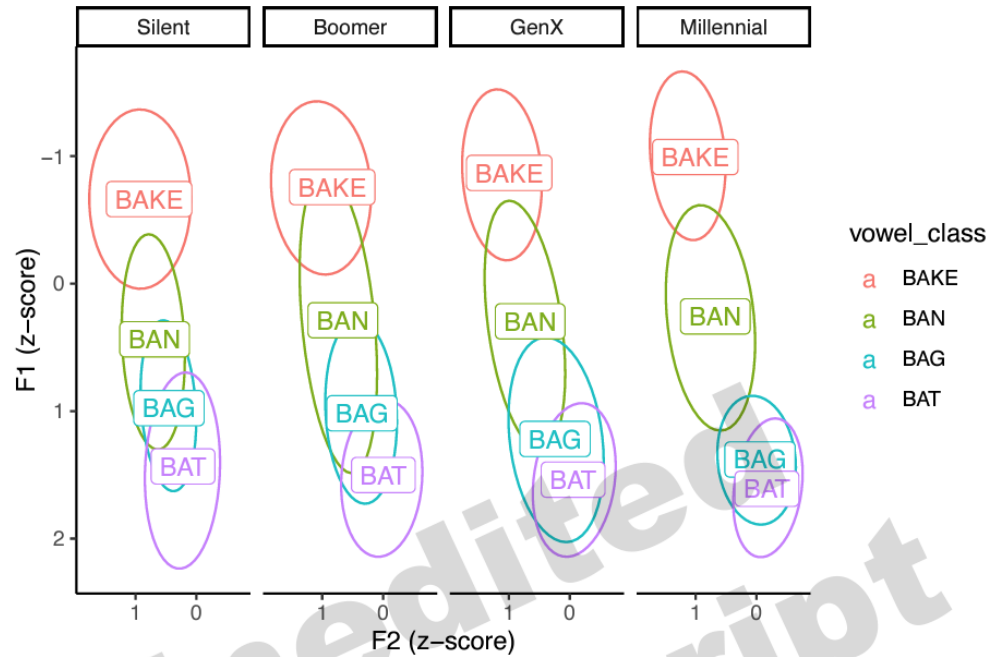


FIGURE 7. BAG, BAT, BAN, and BAKE by generation. 95% confidence intervals.

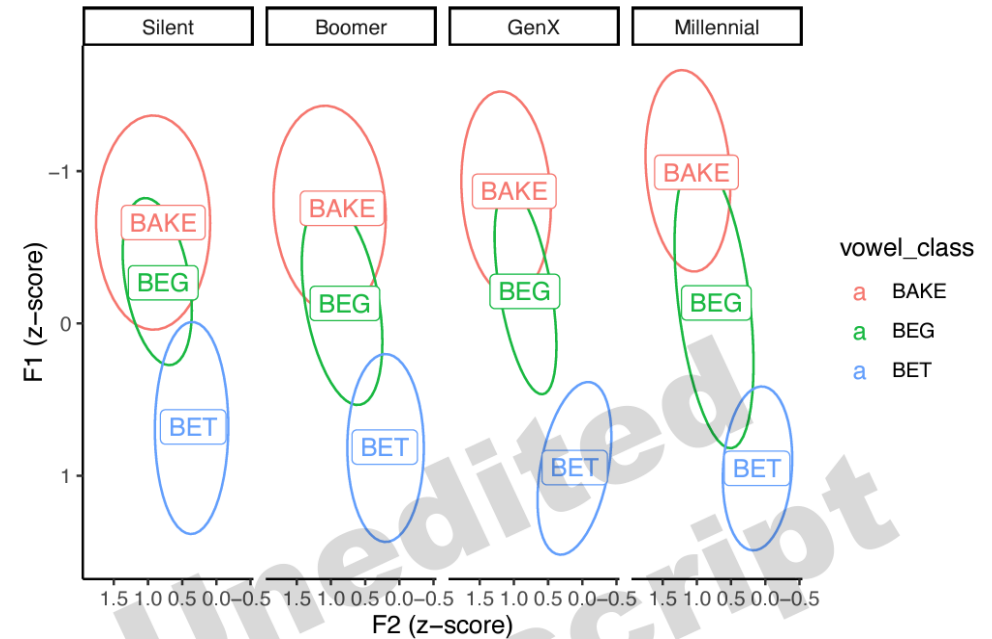


FIGURE 8. BEG, BET and BAKE vowel space by generation. Ellipses at 95% confidence intervals.

Why all these reversals? Isn't shifting cool?

- Dialects have always been influenced by
 - Settlement
 - Migration
 - Education and economic ecology
 - Contact
 - Trendiness
- Intersectionality: individual (autonomous) wrt group (heteronomous) identities
- As NAE becomes more multilingual, multiethnic, and so on, we expect that there will be plenty to say about how the sociophonetic differences in vowels signal affiliation

Summary

- Shifts support contrasts
 - Peripherality (Principle I and II) is not a thing if short and long vowels are removed and we look at contrasts at the Dimension level, allowing vowels to "shift" phonetically, not phonologically
- Marking = contrastive Dimensions, phonetics respects relative position
- Should not be surprised at reversals
 - Change would upset lexical access
- Why "reversals" and just movement without ruining contrasts
 - Social and cultural factors
- What should we say about the shifts?
 - Group and individual behavior
 - Identity

Extensions

Part 2, What is Variation good for?

English as a Lingua Franca/ELF vowels

- Smoothing tensions
 - High variability due to contact
 - Low variability due to pidginization
- Effect on phones **IFF SDA is same for NNS**
 - Loss of tense-lax distinction
 - Phonologically, lose second timing slot
 - Issue with 'parallel' contrast branches of SDA
 - Long vowels under ROOT^{TR} will be in conflict with short series resulting, all other things being equal, a reduction of four vowels, but not the low vowels
 - Languages without rounding will result in loss of /ɔ/ only; /æ/ can be a novel vowel

In all this, the major difficulty is to avoid the impression that in the varieties around the world “anything goes” and to make it clear that even what appears to be purely deviant is largely rule-governed by local conventions. Since students (and most teachers!) believe in prescriptive norms of correctness, an opening towards variation brings with it the danger of relativism. However, in a world characterized by close contacts between writers (and sometimes speakers) of many types of English, variation should not only be frankly admitted, but explicit attention should be drawn to it. For the publishers of schoolbooks and accompanying recorded material a great deal of sophisticated work in applied linguistics remains to be done.

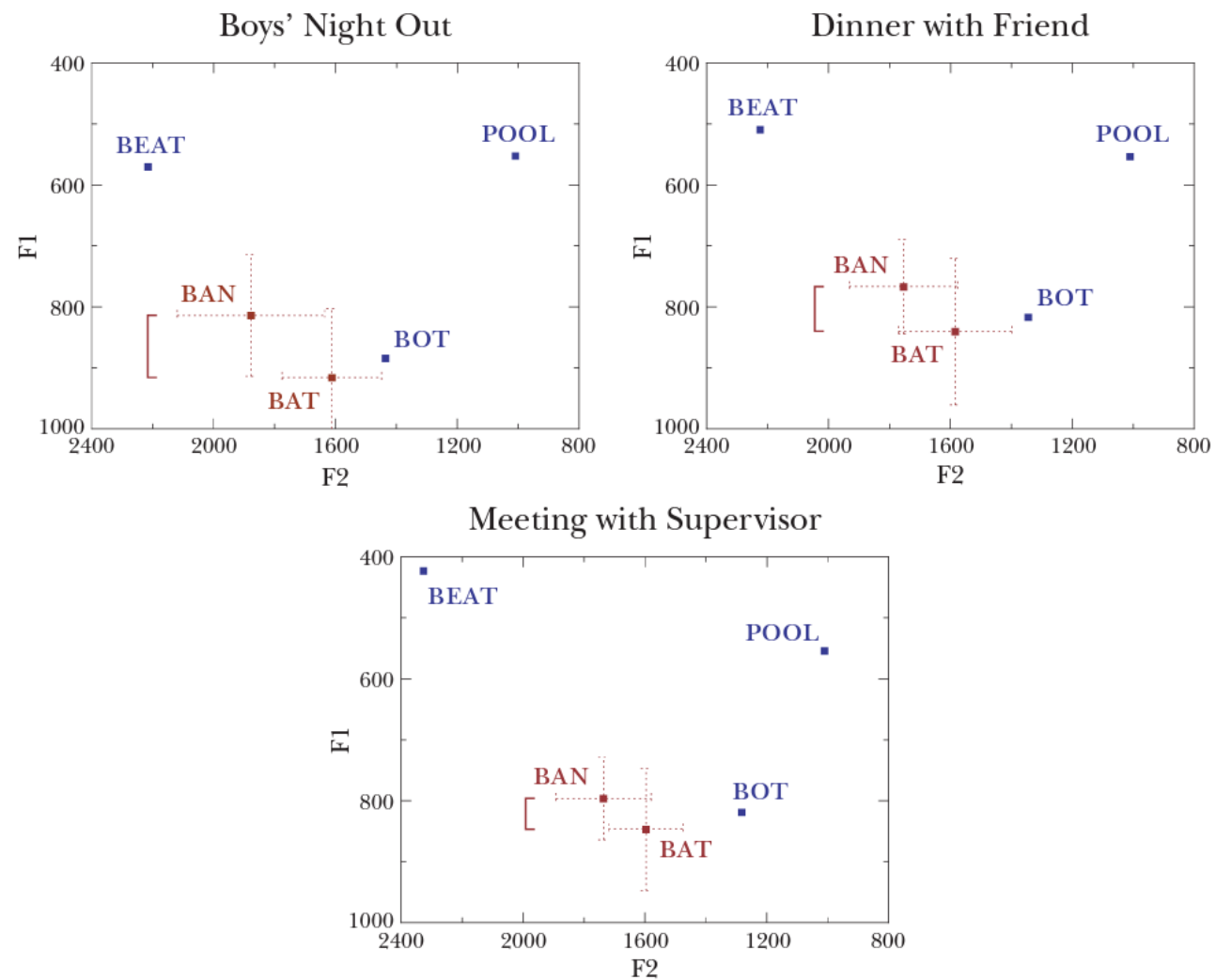
Implications for study of Global Englishes

- Different contrasts within NAE?
 - Doubtful
 - Variation is on the surface and can cause problems for language learners trying to get at underlying forms (Kwan 2022 uses SDA comparing English and Korean vowel systems)
- Comprehensible input
 - Goal is management of variation, not inner circle perfection (Görlach 2002:168)
 - Often benefit from idealized speaker at beginning (at this level, is Quirk 1990 right?)
 - Best teachers come from any 'circle' or 'history', perhaps those with local connections (Krachu's 1991)
 - Call centers? Taught to use neutral English

Implications for *American Speech* submissions

- Send in your vowel space papers!
- Variation in F1 x F2 space is an indication of what is going on, but we can't make grand claims about change
- Don't use the word 'completion' in the same sentence as 'shift'
 - No goal other than identity flavoring of lexical access (phonology)
 - If want to speak so as to violate lexical access, then speakers are going to agree on a code (Alvin Liberman's 'Brokered Agreement')
- Look for statistically significant, yet visual, ways to tell a narrative

FIGURE 3
Raising of BAN: Mean F1 and F2 Values for BAN and BAT, by Situation



Thank you!

Questions?

tpurnell@wisc.edu