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## **THE POWER OF LANGUAGE REGARD — DISCRIMINATION, CLASSIFICATION, COMPREHENSION, AND PRODUCTION**

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### **Abstract**

This paper looks at beliefs about and attitudes towards language (or “language regard”) as such factors interact with not only language production, the common investigative area of sociolinguistics but also with language attention, discrimination, noticing, attribution, group assignment, and even processing and comprehension. This paper first reviews the cognitive underpinnings of such processes and then goes on to examine a number of empirical studies that confirm the importance of language regard to several areas of perception, comprehension, and classification. It further suggests that these influences are central to a better understanding of general problems of variation and change.

### **Keywords**

language regard, attitude, perception, comprehension, variation

## **EL PODER DE LA CONSIDERACIÓN LINGÜÍSTICA — DISCRIMINACIÓN, CLASIFICACIÓN, COMPRENSIÓN Y PRODUCCIÓN**

### **Resumen**

Este artículo considera que las creencias y actitudes relacionadas con la lengua (o “language regard” [consideración lingüística]) son factores que interactúan no sólo en la producción, el área donde las investigaciones sociolingüísticas se centran habitualmente, sino en la atención, la discriminación, la percepción, la atribución, la asignación de grupo, e incluso el procesamiento y la comprensión. En primer lugar, el texto revisa los fundamentos cognitivos de estos procesos y luego examina una serie de estudios empíricos que confirman la importancia de la consideración lingüística en relación con diversas áreas de

la percepción, la comprensión y la clasificación. Además sugiere que estas influencias son fundamentales para una mejor comprensión de los problemas generales relativos a la variación y al cambio lingüísticos.

### **Palabras clave**

consideración lingüística, actitud, percepción, comprensión, variación

“Language regard” (Preston 2010) is used here as a cover term for all approaches to the study of nonspecialist belief about and reaction to language use, structure, diversification, history, and status, and none of the various approaches that have concerned themselves directly with such matters — the ethnography of speaking and language (and various aspects of anthropological linguistics in general), language ideology, the social psychology of language, the sociology of language, and folk linguistics (including perceptual dialectology) — is excluded. “Regard” is preferred here over “attitude” since some folk linguistic beliefs are not necessarily evaluative, and evaluation is taken to be a necessary component of attitude (e.g., Eagly and Chaiken 1993: 1).

The focus here is on how language regard interacts with or, better, influences language production and comprehension, particularly the latter. What aspects of language regard are so powerful that they cause language users to modify or even misapprehend elements of the so-called primary functions of language? A number of cases are examined in which regard for language overwhelms the ability to discriminate sounds, classify phonemes, process elements of morphosyntax, and even comprehend and recall messages more or less accurately.

Figure 1 places such matters within an overall framework.

1) There is a connection between *production* and *comprehension*, but no one believes nowadays that comprehension is just the production mechanism run backwards, and that relationship is Xed in Figure 1 for that reason.

2) “Perception” is an unanalyzed term that depends first on *sensing* and is then organized by *discrimination* and *classification*, the perceptual strategies that lead to comprehension.

3) Language regard can influence all of this: comprehension, discrimination and classification (therefore perception), and, ultimately, production.

4) Regard itself, however, may be realized by primarily *subconscious* processes (often equated with *attitudes*) or *conscious* ones (often equated with *folk linguistics*). These two may themselves be interconnected.

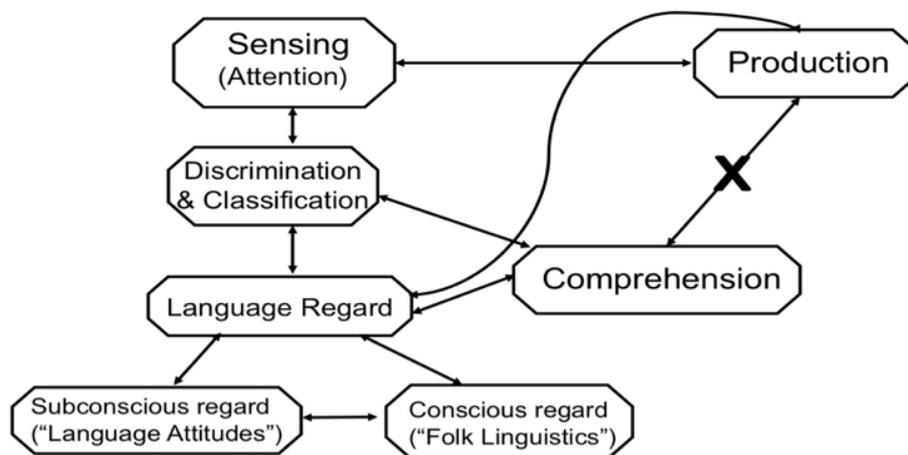


Figure 1. The interrelationships of production, perception, and regard.

Figure 2 shows a beginning approach to the process of regard.

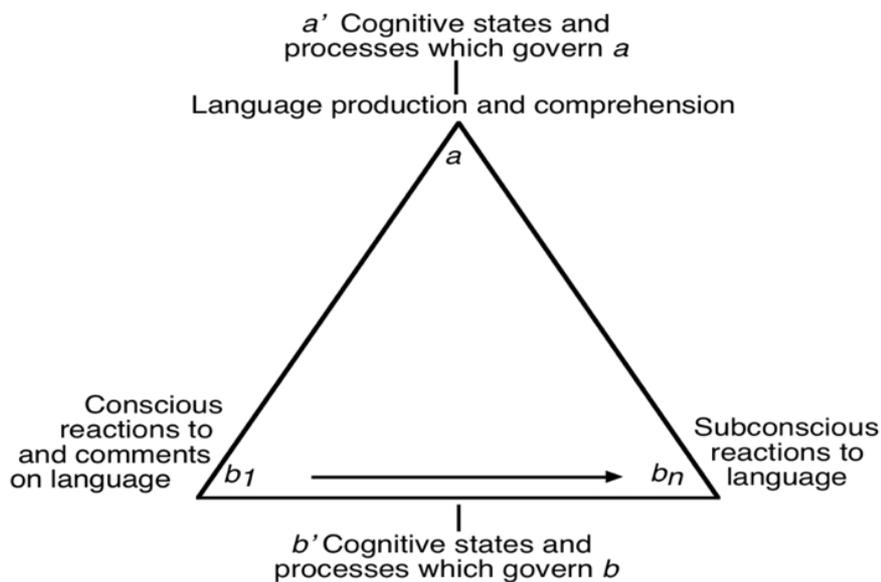


Figure 2. Production, perception, and regard and their cognitive underpinnings.

(Niedzielski and Preston, 2003: xi.)

Beginning at the top of this triangle, one might ask how to get from production to an expression of regard. I.e., why notice anything in language that would bring regard

mechanisms into play? The Japanese sociolinguist Takesi Sibata is surely on the right track when he says that “...the average language user is so involved with communicating that he [sic, et passim] is usually not conscious of the words he uses” (Sibata [1971] 1999: 375), nor, I would add, “of the words others use either.” Sibata excludes subconscious notice of language, but in what follows both modes are possible. Sibata’s observation (and my addition) can be called the *Communicative Mandate*.

Since language itself is sometimes noticed, however, Sibata also observes that “It appears to be natural for forms which differ from those which one usually uses to attract one’s attention” (Sibata [1971] 1999: 374). I would offer another slight modification: “... usually uses *or which one expects to hear* to attract one’s attention,” again assuming that this noticing may be conscious or subconscious. This notice-empowering process can be called the *Contrastive Mandate*.

There is, however, nothing in language itself (the *a* material of Figure 2) that intrinsically triggers regard and, after noticing, regard details are formed by an association between the noticed features (from any linguistic level) and nonlinguistic caricatures of speakers. Figure 3 shows that path.

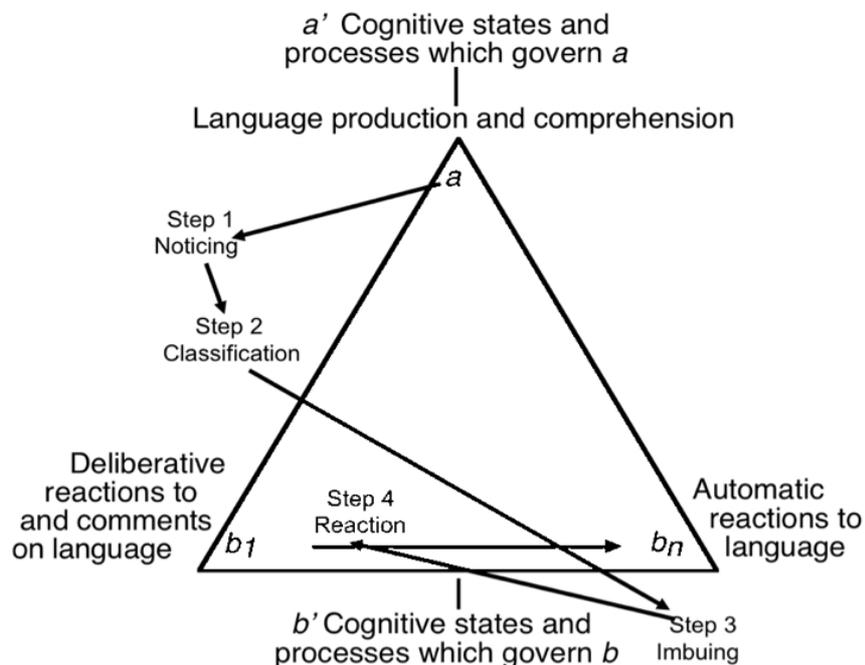


Figure 3. A procedural account of language regard noticing, classifying, imbuing, and responding (modified from Niedzielski and Preston, 2003: xi).

Here is a detailed example:

Speaker produces an [I] in “pen” (at *a*).

Step 1: Hearer notices *a*, since their own pronunciation is [ε].

Step 2: Hearer classifies *a* as “Southern.”

Step 3: *Hearer* retrieves caricatures of “Southerners” from *b'* and imbues fact *a* with them.

Step 4: Hearer responds (*b<sub>I</sub>*).

Step 2 is particularly crucial; if the hearer’s experience with the *a* material is insufficient, the connection with *b'* cannot be made accurately. There is no doubt, however, that such classification is often below the conscious level (e.g., Milroy and McClenaghan 1977). This process must also be slightly modified, for similar responses might arise even though the classification step is of a very different character. That is, there is the possibility of an *a* having been imbued so often that one may get characteristics for it directly (without appeal to the speakers that provided the characteristic in the first place), a process Irvine calls “iconization” (2001: 33). Such a connection is made as follows:

Speaker produces an [I] in “pen.”

Step 1: Hearer notices it, since their own pronunciation is [ε].

Step 2: Hearer classifies this *a* as “ignorant,” (having imbued it with this identity so often that group caricatures from *b'* are no longer necessary, although this association still underlies *b'*).

Step 3: Hearer accesses associated beliefs about “ignorant language.”

Step 4: Hearer has folk response (*b<sub>I</sub>*).

The material in *b'* is what the language regard scholar is after, but details cannot be given here of the various ways scholars have approached this territory; the list of approaches given above will have to suffice, and the following examples will show more than a few.

Before I provide these examples, however, let me stress the richness and variability at *b'*. It is enormous, encompassing beliefs and attitudes that may be triggered quite differently by different stimuli and even ones that would appear to be

contradictory. Just as variety is important in the study of language production, it is also an important fact in the study of regard and its relationship to other linguistic processes. Many sociolinguists, however, seem to believe that perceptual norms are more stable than those of production and have used this putative stability to help define such concepts as the speech community. Labov, for example suggests that the

[evaluation of /r/] is typical of many other empirical findings which confirm the view of New York City as a single speech community, *united by a uniform evaluation of linguistic features*, yet diversified by ... stratification in ... performance. (Labov, 1972: 117, italics mine.)

As Figure 4 shows, in response to stylistic variation, all classes in NYC agree on the stylistic directionality of *-in* vs. *-ing*; no speaker group uses more *-in* as their speech becomes more monitored or formal.

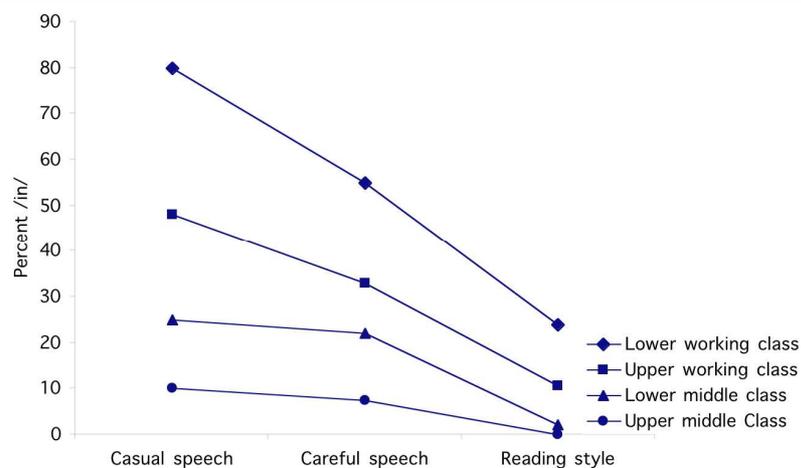


Figure 4. Social and stylistic stratification of (*-ing*) in the random sample of the Lower East Side of New York City adults [N=81] (Labov 2003, derived from Labov 1966).

In the face of such production variability, one might ask how good people are at assigning values (i.e., instancing language regard) to linguistic items in a probabilistic way. Sensitivity has been shown to be very great, and the regard for such variables may be influenced by such low-level characteristics as environmental conditioning. Labov (2003) asked respondents to listen to two versions of a short speech sample and to follow the instructions shown here:

An actor is reading for the part of a construction worker in a Philadelphia play. Here are two trials in his audition for the part. Would you please rate each one on the following scale by putting a check in one box.

Thank you.

Here are the two samples the respondents heard:

Version 1: Look honey, I know I was supposed to be *paintin'* the ceiling tonight. But they had me *workin'* since six in the morning on the god damned federal building. We were *fixin'* the wiring on the west wall, and I was hanging onto the pipe railing all day. My back is *killin'* me.

Version 2: Look honey, I know I was supposed to be painting the *ceilin'* tonight. But they had me *workin'* since six in the *mornin'* on the god damned federal *buildin'*. We were fixing the *wirin'* on the west wall, and I was hanging onto the pipe *railin'* all day. My back is killing me.

In the above, all -ing forms are underlined, and all *-in* forms are italicized. In Version 1 all the participles (except for “hanging”) are *-in* and all the nouns are -ing (6 -ing and 4 *-in*), but in Version 2 all the participles are -ing (except “working”) and all nouns are *-in* (6 *-in* and 4 -ing). Since the character portrayed is working-class and Version 2 has more *-in* overall, it should be preferred. But it was not, as Table 1 shows.

	Age	Sex	Aud 1	Aud 2
JF	32	f	5	3
EH	59	f	7	6
DJ	23	f	5	4
MG	51	m	4	4
CM	25	m	6	5
KD	25	f	7	5
RH	22	f	6	5
MT	43	f	6	5
PM	27	f	6	5
PK	48	f	6	5
		Mean	5.8	4.7

Table 1. Comparison of ratings for the two *-in/-ing* variable sample. t test,  $p < .00001$  (Labov 2003).

In every case except for MG, Version 2 has a lower (i.e., “less natural”) score. The details of variability in production, i.e., the greater probability for *-ing* to be *-in* in verbal rather than nominal forms, appear to be available to listeners, although clearly at a subconscious level.

This sensitivity is equally important to large-scale linguistic change and to global as well as detailed linguistic features. Tore Kristiansen, in association with the LANCHART (“Language Change in Real Time) project in Denmark, has found that covert, implicit, unconscious attitudes are the ones that agree with the directionality of linguistic change in the country. Figure 5 shows where this research was conducted.

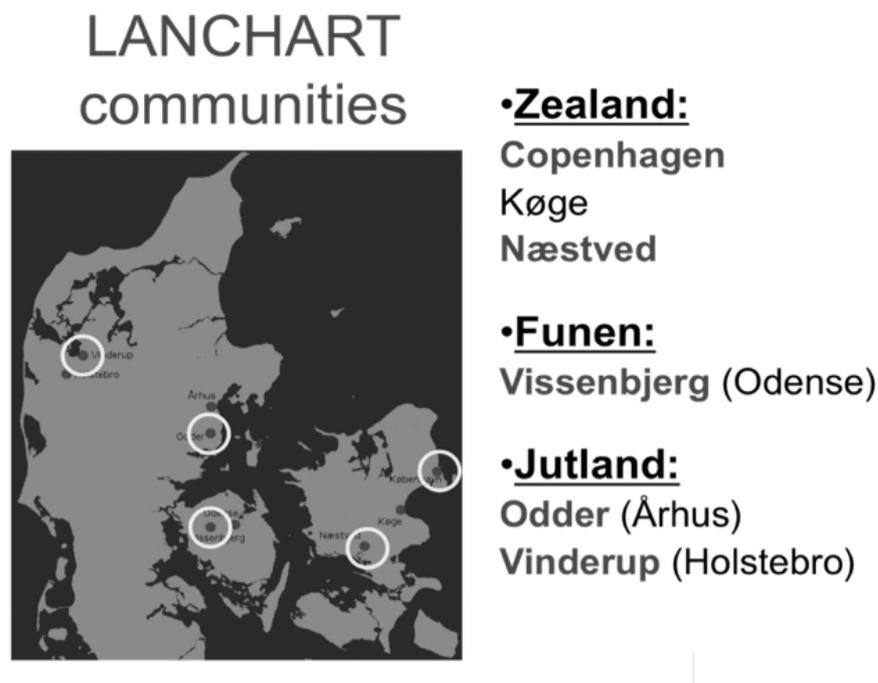


Figure 5. LANCHART language attitude research sites (Gregersen 2009: 7).

The results, when respondents are asked which varieties they prefer (with no voice samples), are as follows: in Jutland and Funen (i.e., in Odder, Vinderup, and Vissenberg) the preference is Local > Rigsdansk > Københavnsk; in Naestved it is Naestved > Københavnsk > Rigsdansk, and in Copenhagen itself it is Københavnsk > Rigsdansk. In spite of the fact that Københavnsk has been shown to be the variety that has considerable and growing influence on the speech of the entire country (e.g., Kristensen 2003), respondents always prefer their local variety.

But Figure 6 shows the results of a matched guise test in which language regard is not the target of the investigation (in which Rigsdansk is called “Conservative Copenhagen” = “C”; Københavnsk is ”Modern Copenhagen” = “M,” and “L” stands for the local variety of the respondents). Modern Copenhagen, the most rapidly advancing variety in the entire country, is preferred to the local variety in seven out of eight cases (and is equal in the last). It is also preferred to Conservative Copenhagen in four out of eight cases, equal in three, and dispreferred in only one — “intelligence.” Note too that Modern Copenhagen is preferred over the Conservative and Local varieties in all four of the characteristics that are associated with more interpersonal or affective dimensions.

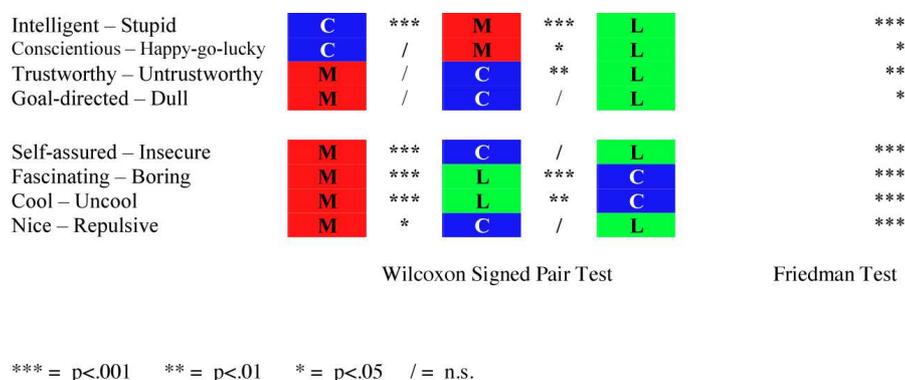


Figure 6. Matched-guise test of attitudes towards varieties of Modern Danish (Kristiansen 2007).

This work also suggests that if there is extensive variation in regard as a result of manipulation of the experimental conditions, the stability suggested in such studies as Labov’s work on /r/ and *-in/-ing* variation in New York City may be in need of fine-tuning.

But how might we explain the variability of regard in relation to the onset and progress of variation itself? How will language regard factors interact with what might be viewed as even purely linguistic motivations for sound change? Figure 7 shows a case in which the low front short-a vowel (/æ/) F1-F2 territory (the TRAP vowel of such words in US English as “bat” and “rag,” shown in shaded circles) contains a single case of a speaker’s intended short-o vowel (/ɑ/, the US LOT vowel of such words as “hot” and “sock,” shown in white squares). The normal territory for /ɑ/ is farther back in the

vowel space than this one example, and the F2 mean is shown in the center of that territory (the black square, at 1550 Hz).

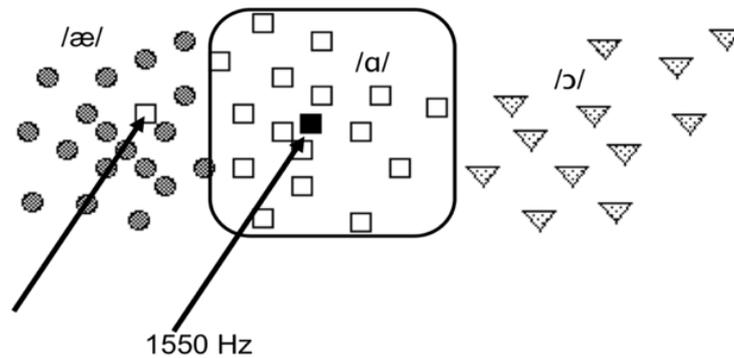


Figure 7. Distribution of tokens of the English low vowels (adapted from Labov 2002).

If hearers do not perceive the fronted outlier as an example of /ɑ/, then the speaker's intended "sock" is misunderstood as "sack," and the system is not influenced at all, and there is considerable evidence that a great deal more misunderstanding such as this goes on than was once thought, e.g., Peterson and Barney (1952) or Hillenbrand et al. (1995). In a study of cross-dialectal comprehension, Labov and associates (reported in Labov 2005) played a contextualized token of the word "socks" for speakers of different ages and from different areas, including native speakers from the same area as the sample (Chicago). In the first presentation, the word was given in isolation; in the second, a slightly longer phrase ("had to wear socks") was presented, and in the final, the entire sentence was heard ("You had to wear socks, no sandals"). Figure 8 shows the comprehension rates for the various groups and presentations.

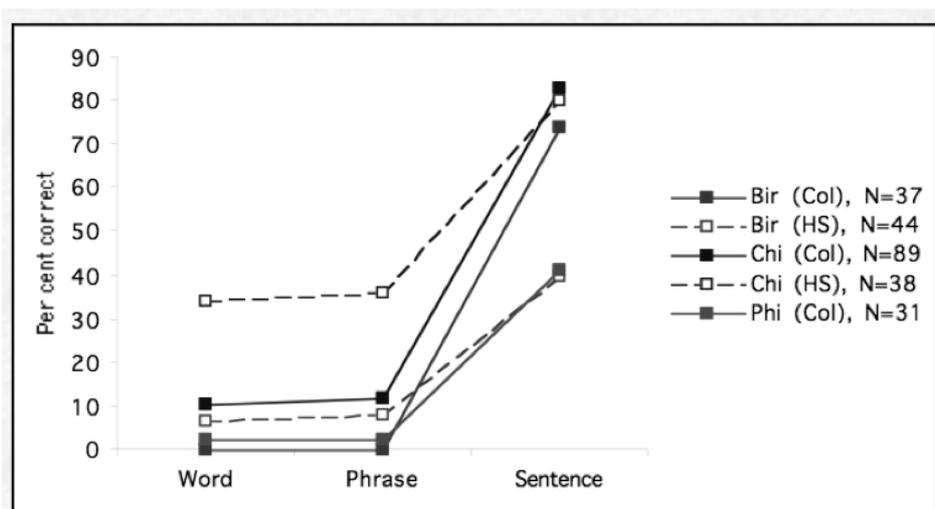


Figure 8. Comprehension rates for “socks” in word, phrase, and sentence settings for five respondent groups (Labov 2005).

Although the Chicago high school age respondents, whose responses are shown in the top line in Figure 13 and who are closest in their own speech to the norms of the sample, were best in comprehending the word and phrase presentations, even they understood “socks” to be “sacks” at a rate of over 60% until they heard the entire sentence.

It is surprising to find how bad young speakers from the US inland Northern Cities area (e.g., Rochester and Buffalo, New York; Cleveland and Toledo, Ohio; Detroit, Michigan; Chicago, Illinois; Milwaukee, Wisconsin) are at understanding their own vowels when they are those involved in the vowel rotation known as the Northern Cities Shift (NCS) e.g., Labov 1994: 177-200.

In another study from the same regional area (Detroit, Michigan and suburbs), in which only young, local respondents participated and only single-word tokens were presented, similar findings emerged, as shown in Figure 9.

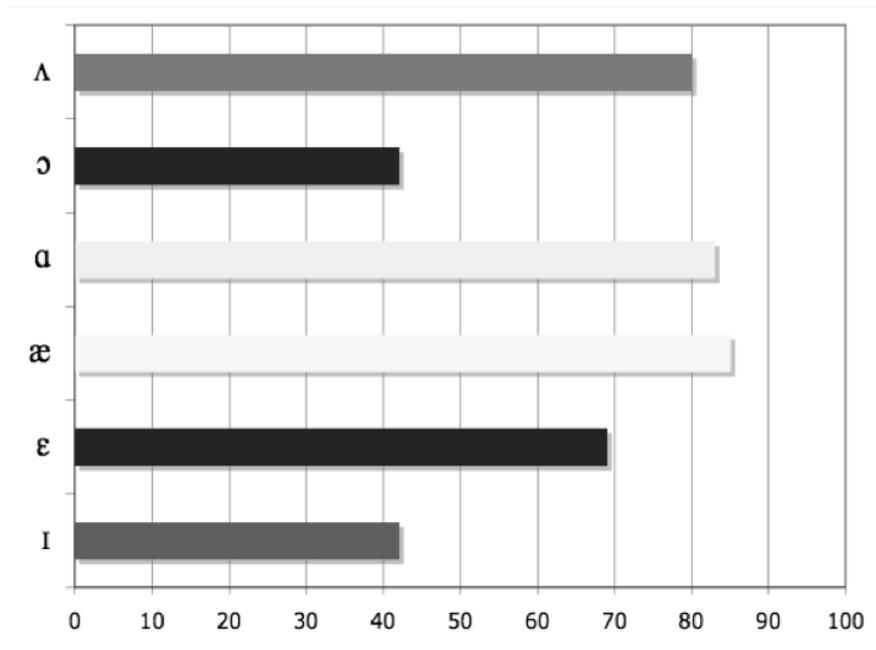


Figure 9. Comprehension rates of the five most shifted vowels in the NCS (percentages derived from Preston 2005: 138).

Vowels shifted earliest in this rotation (/æ/ and /ɑ/) show the best overall comprehension, but those shifted later (/ɪ/, /ɔ/, and /ɛ/) are much worse (the first two well under 50%), although /ʌ/, a late shifter, is somewhat out of order.

Figure 10 shows how the /æ/ tokens of Figure 7 have been fronted in the NCS, leaving the one fronted /ɑ/ token of Figure 7 behind. Now removed from new, shifted /æ/ territory, that token is much more likely to be correctly understood as /ɑ/, as the respondents in Figure 9 have done more than 80% of the time; this token is now a contributor to a new F2 mean score of 1571, a value for /ɑ/ more in line with the NCS.

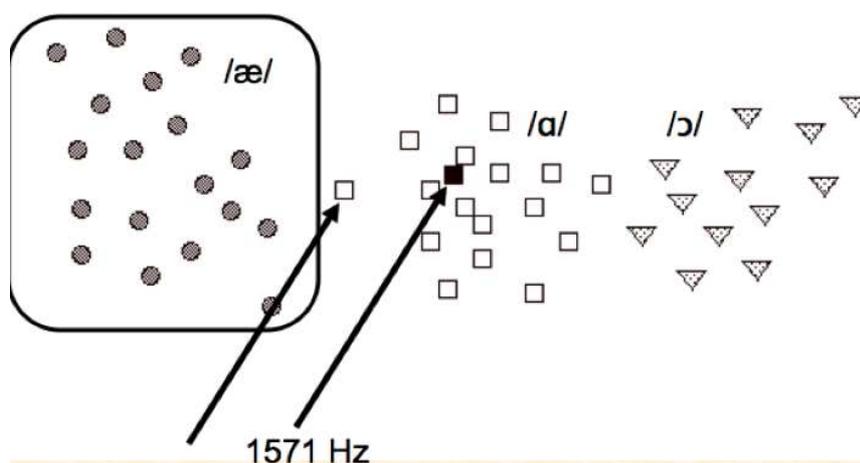


Figure 10. The first stage of the US NCS for low vowels, showing the fronting of /æ/ and the new central area for /ɑ/ (adapted from Labov 2002).

What is the role of language regard for the elements of this shift? It is a classic case of *change from below* (i.e., language change outside conscious awareness), so any notice of it should be subconscious. Previous language attitude work in the Detroit area and southeastern Michigan in general (e.g., Preston 1996) has shown that locals feel that the dialect of (white, middle class) Michiganders is the epitome of standard American English. This absolute linguistic security in Michigan (and in much of the Upper Midwest of the United States) is well-known and documented in considerable qualitative and quantitative work. I provide only two examples here. Figure 11 shows the results of a hand-drawn map task in which a respondent was asked to outline and label the areas of the US where people speak differently (e.g., Preston 1996: 301).

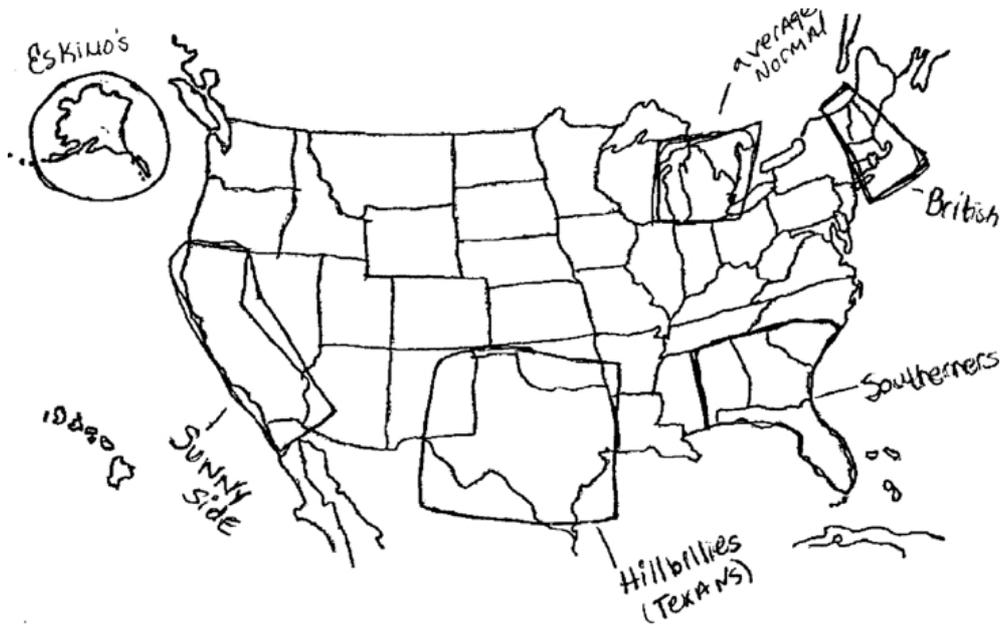


Figure 11. A Michigan respondent's hand-drawn map (Preston 2002: 52).

This respondent (and there are many like him) believes that Michigan should be singled out for “average” or “normal” English.

Figure 12 shows the results of a ranking task for English correctness for the fifty US states, New York City, and Washington DC.

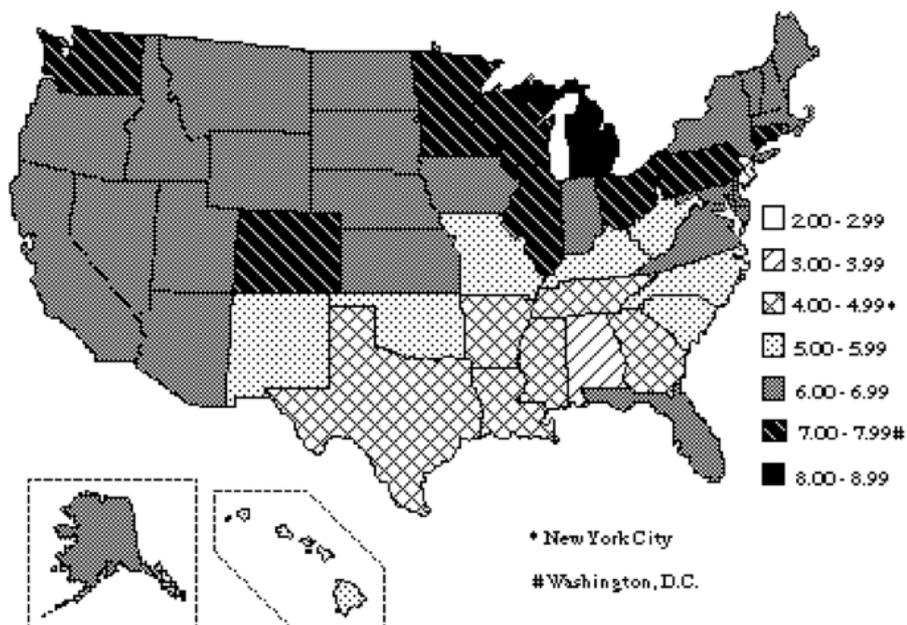


Figure 12. Southeastern Michigan respondent ratings (N=147) of correct English where 1=least and 10=most correct (Preston 1996: 312).

Not surprisingly, given the representation shown in Figure 11, Michiganders are in considerable agreement that their state is alone at the top when it comes to language correctness.

Several features of the NCS, however, would not be widely recognized as standard. How can it be, then, that Michigander respondents have not noticed the emerging vowel changes in their own speech and that of those around them? Will the answer to that question allow us to suggest that rapid change in the direction of the shift is in part due to the regard Michiganders have for their own speech?

Niedzielski (1999) reports on forty-two Detroit-area residents who took part in a test in which they were asked to listen to the tape-recorded speech of a local Michigan speaker (whose Michigan identity was indicated on the answer sheet); they were told to concentrate on the vowel they heard in particular words. Next, they were asked to compare that vowel to a set of three resynthesized vowels (from the same speaker's data) and to choose the one that best matched the one they heard in the original. The ordinary vowel space of that speaker is shown in Figure 13.

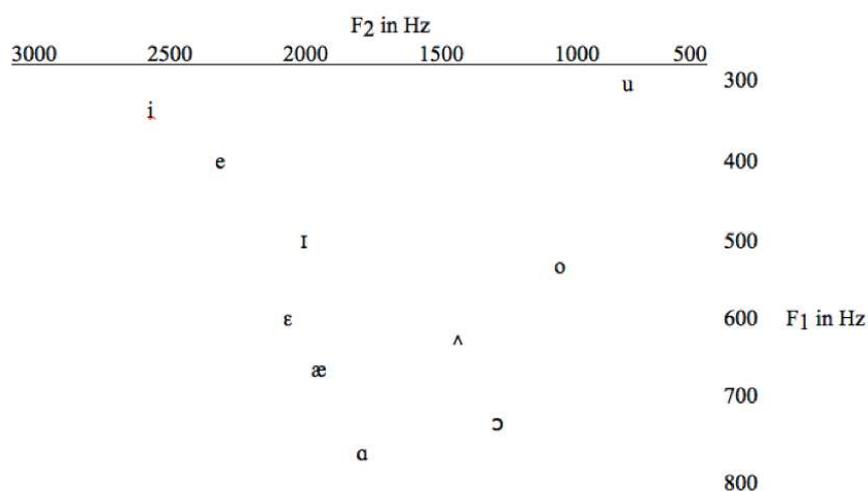


Figure 13. Vowel space of the Detroit female speaker on the test tape (modified from Niedzielski 1999: 65).

This speaker is influenced (although not dramatically) by the shift; the F1 for her /æ/) is at about 700 Hz while the norm for female speakers of American English (according to Peterson and Barney 1952:183) should be considerably lower, around 860 Hz. Her /ɑ/ is considerably fronted (F2 1775 Hz); the Peterson and Barney norm is 1220

Hz. The raising of /æ/ and fronting of /ɑ/ are usually considered the first two steps of the shift (Labov 1994: 184).

Niedzielski examined the respondents' classification of the /æ/-word "last." The formant frequencies for the three resynthesized tokens that the respondents were given to choose from in the matching task are shown in Table 2.

Token #	F1	F2	label
1	900	1530	hyper-standard
2	775	1700	canonical
3	700	1900	actual token (see Figure 18)

Table 2. Formant values of tokens offered to respondents to match with the vowel in the speaker's pronunciation of "last" (Niedzielski 1999: 74).

The results of this matching experiment are shown in Table 3.

token	1	2	3	
	hyper standard	canonical /æ/	actual token	Total
	10%	90%	0%	
n=	4	38	0	42

Table 3. Respondent matching results for the vowel in "last" (adapted from Niedzielski 1999: 72).

Not one of the respondents chose token #3, the variant the speaker actually produced. Instead, they overwhelmingly chose the lower, more central token, #2. A few respondents (4=10%) even chose the hyper-standard token, one actually approaching the norm for canonical /ɑ/.

The same general results held for /ɑ/. The formant frequency values for the three tokens of /ɑ/ that respondents were given to compare to the original speaker sample are displayed in Table 4.

Token #	F1	F2	label of token
1	770	1050	hyper-standard
2	900	1400	canonical
3	700	1600	actual token (see Figure 18)

Table 4. Formant values of tokens offered to respondents to match with the vowel in the speaker's pronunciation of "pop" (Niedzielski 1999: 72).

Table 5 displays the results for matching the speaker's vowel in "pop" with the three tokens shown in Table 4. Only two respondents chose the fronted variant that the speaker actually produced. Again, the respondents overwhelmingly chose token #2, the vowel with the canonical /a/ formant shape suggested for female speakers in Peterson and Barney. Exactly as before, 10% even chose token #1, in this case closer to canonical /ɔ/.

token	1	2	3	
	hyper-	canonical	actual	
	standard	/a/	token	Total
	10%	85%	5%	
n=	4	36	2	42

Table 5. Respondent matching results for the vowel in "pop" (adapted from Niedzielski 1999: 70)

In this work, there is a considerable mismatch between perception and acoustic reality. The respondents heard a fellow Michigan speaker use what Niedzielski calls the canonical (or "pre-shift") forms of vowels rather than the shifted ones actually used. Why are these respondents so inaccurate in this task?

These results suggest that when a respondent is presented with data from a speaker who they think is a fellow Michigander, the stereotype of Michigan English as the standard emerges, and the respondent selects a canonical vowel in a matching task. In itself, this might be considered a insignificant language regard fact, but, when coupled with the rapidity with which the shift has swept through southeastern Michigan and the well-attested fact that this is *change from below*, Niedzielski's experiment and associated language regard work take on explanatory significance.

How could such linguistically secure speakers as those from southeastern Michigan allow sweeping changes in their vowel system? How could they not notice it? It might appear only speculative to suggest that the linguistically secure are easily influenced since they cannot conceive that their own performance (or that of others like them) would stray from a standard (i.e., their norms), but Niedzielski's work solidly anchors that attitudinal speculation: Michiganders are so linguistically secure that they seem to recalibrate the vowels of those around them and even their own and avoid notice of change.

Preston (1997) shows, in a related experiment, that there is little ambiguity in self-reports on /æ/ in Michigan. About 1,400 native Michiganders performed a rhyming task. They were asked to match several words which contained vowels involved in the shift with words that they felt had similar-sounding vowels. The stimuli were presented in written form only. The words to be matched were ones from phonetic environments in which the shift's effects have taken place early and most dramatically, and the words with which they were to be matched were ones with very conservative environments, i.e., ones in which the shift's effects have been observed to take place very late and with less dramatic formant change. For example, the respondents were given the word "man" (in which the /æ/ vowel occurs before a nasal, an environment which causes dramatic raising) but were given the words "black" and "flap" to match it to — words in which the environment of the vowel (after an obstruent-plus-liquid cluster and before a voiceless stop) has been shown to resist the shift's effects. The respondents who took the test, young southeastern Michiganders, all had /æ/ vowels in such words as "man" with F1 values considerable raised and fronted, and, although they were given the opportunity to match "man" with "black" and "flap" or "bet" and "neck," the latter with vowels in the territory their own /æ/'s were raised to, they nearly all chose the "black/flap" option. Table 6 shows the numeric results.

æ	ɑ	ɛ	i	ɪ	ɔ	ʌ	u	ʊ	None
1,220	0	6	0	2	3	6	2	2	174

Table 6. Vowel matching task for "man" (Preston 1997).

Although the 174 respondents who found no match whatsoever for "man" suggest some instability, the phonemic picture is very clear. Whatever is taking place

phonetically is having no phonemic repercussions. The language regard effect is so great that a large phonetic shift has taken place with no phonological disruption. Raised and fronted tokens of /æ/ count as tokens of /æ/, at least in this task. Why did Niedzielski's respondents identify one allophone as another, one presumably less prominent (i.e., representative of the center of that vowel in their system)?

Figure 9 revealed considerable misunderstanding of NCS vowels, and, to help answer the question posed just above, the final step in this NCS excursion asks what these vowels were misunderstood as. Figure 14 shows this vowel rotation in greater detail. The ellipses are the conservative US norms (e.g., Peterson and Barney 1952); the arrows point to the new the positions of NCS vowels, represented in this study by the raw tokens presented to the respondents (from various young, European-American female speakers form southeastern Michigan).

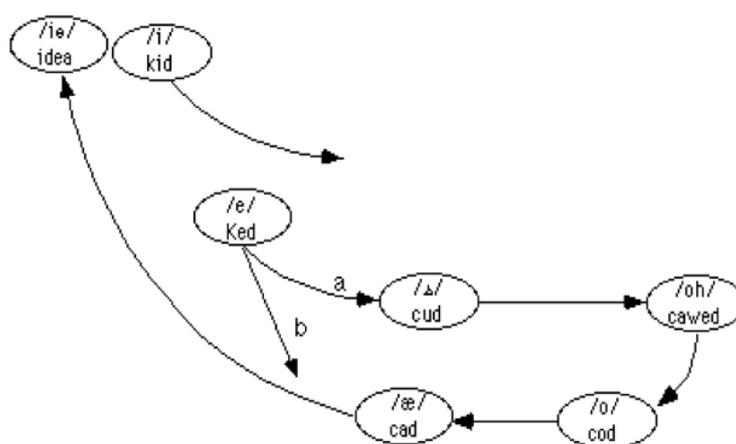


Figure 14. The conservative (base of arrow) and NCS shifted (point of arrow) positions of the vowels involved in the NCS (adapted from Figure 1, Labov 1996); NB: in this figure “i”=/ɪ/, “e”=/ɛ/, “o”=/ɑ/, and “oh”=/ɔ/.

If these respondents have difficulties in understanding, one might assume that phonetic proximity of two new vowel spaces might be the source. For example, if one traces path b of /ɛ/ and the path of /ɑ/, the new spaces of those vowels are very close and ought to have caused that misunderstanding; i.e., the name “Ned” might be understood

as “nod,” and “nod” might, by this same reasoning, be misunderstood as “Ned.” Similar reasoning suggests the following:

- 1) When /ɛ/ follows path a, it is again closest to the new vowel space of /a/;  
“Ned” should again be misunderstood as “nod” and “nod” as “Ned.”
- 2) During its path to becoming a high-front inglide, /æ/ crosses the territory of the lowering /ɪ/ vowel and vice-versa; “bad” should be understood as “bid” and “bid” as “bad.”
- 3) Both /ʌ/ and /ɔ/ move into areas that have been vacated by the movement of the NCS; predictions of misunderstandings on that basis are either difficult to make, or there should be no difficulties.

As Table 7 shows, none of these predictions is accurate.

Item	Total	short o	wedge √	short a	short e	open o	short i	other
short o /a/	431	357	0	72	<i>1</i>	0	0	0
wedge /ʌ/	331	6	287	4	6	21	0	3
short a /æ/	432	0	0	366	66	0	0	2
short e /ɛ/	429	0	111	10	298	0	1	7
open o /ɔ/	432	216	16	8	0	183	1	8
short i /ɪ/	288	1	0	3	162	0	122	0

Table 7. Errors and error types in the single-word comprehension test given to NCS speakers when the vowels presented are NCS shifted; the shaded area indicates that the correct choice was made; bold numbers indicate that the conservative (i.e., “pre-shift” choice was made, and italics indicate that a shifted item was chosen (Preston 2005: 142).

The search for italicized numbers (the predictions made above) is disappointing — a total of seven, and that allows open-o (/ɔ/) to be misunderstood as short-o (/a/), a prediction not really sanctioned by the conditions laid out above.

The bold numbers, on the other hand, are robust, in two cases, even larger than the correct answers, and, in every case, the misunderstanding is between the NCS-shifted vowel and the vowel space of the pre-shift system. To take only one example, short-o (/ɑ/) has moved into the territory of the new, shifted site for short-e (/ɛ/), but, as Figure 15 shows, that mistake was made only once. On the other hand, short-o was misunderstood as short-a (/æ/) seventy-two times. What system could be appealed to here?

These perceptual and attitudinal studies supplement what is known about the emerging NCS vowel system in this part of the United States. In general, I regard and comprehension studies combined offer a convincing explanatory base for the rapid progress associated with change from below. Let's return to our exemplar-based low vowel territory for this shift and see what else can be suggested about the detail of this process.

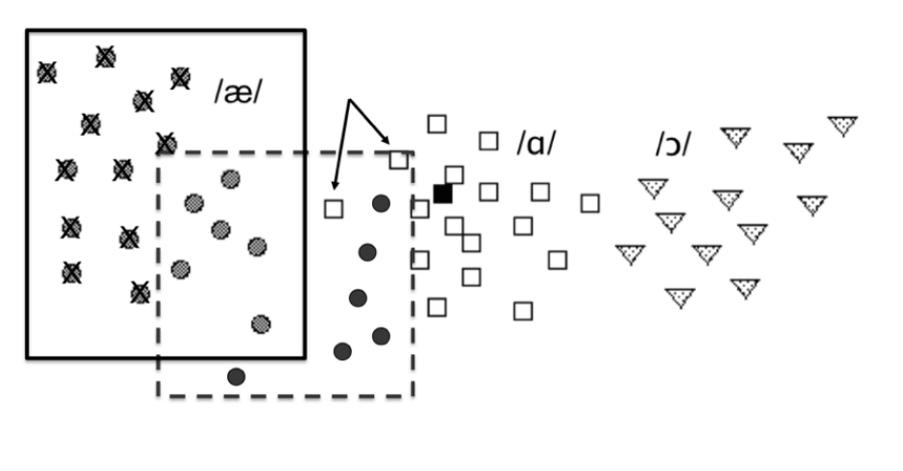


Figure 16. A hypothetical conservative /æ/ vowel territory for NCS speakers (adapted from Labov 2002).

In Figure 16, the rectangle to the left shows the shifted territory for /æ/ in production (see Figure 14) and in comprehension (see Figure 15). But what of perception? First, why do young Michiganders hear no difference between their radically shifted /æ/ (in such items as “man”) and their more conservative tokens after obstruent+liquid onsets (e.g., “black”), as shown in Table 6? One might say that the raised tokens of /æ/ are simply new allophones and that they are ranked with the more conservative samples of /æ/, just as aspirated initial, unaspirated /st/-cluster initial, flapped medial, and unreleased final /t/ are all examples of /t/. If the Figure 15 and

Table 6 results were our only evidence, we might be satisfied with this phonemic explanation, but perhaps those experiments did not bring strong regard mechanisms into play. In Niedzielski's experiment, Michiganders were directly challenged to match the pronunciation of a Michigan speaker, and they did so by choosing a norm that was not at the center of their shifted tokens but at the center of their pre-shift tokens, i.e., at the center of the broken line square in Figure 16, one backer and lower in the vowel space and typical of a conservative system (e.g., Peterson and Barney 1952).

If syntacticians had not stolen the term years ago, might call such secondary phonemic spaces *chômeur* areas since they are demoted to secondary status after a new area has been established. They remain effective as classificatory matrices, however, since 1) evidence of them is still around in older speakers, in the speech of speakers from other areas, in media language, and even in some conservative environments of a shifted speaker's own system, and 2) they represent symbolically a norm system that speakers are still attuned to. When, looking just at /æ/, as in Niedzielski (1999) and Preston (2005), when they were either told (Niedzielski's study) or surely thought (Preston's) the tokens they were presented with were from local speakers, the norm values involved (i.e., "Michiganders speak standardly") were triggered, and the errors reported in those two studies emerged as the respondents referred to the conservative (older) center of /æ/ (i.e., the dashed-line square of Figure 16). This allowed them to be able to prune actual tokens of shifted /æ/, (Xed out in Figure 16), substituting acoustic memory tokens in the dash-line square (the darker shaded circles) and also allowed for the misunderstanding of /ɑ/ as /æ/, the major result shown in first line of Figure 15 (and indicated by the unfilled squares pointed to in Figure 16). In Preston (1997), since no jarring acoustic data were actually presented, the respondents were able to operate on their own internal representations of the vowel, and the matching was very successful.

It is not the case, however, that the presence of regard influences aspects of perception and production only within cases of rapid and dramatic linguistic change. Plichta and Preston (2005), for example, show that respondents from all over the US judge women's voices whose degree of monophthongization of /ay/ (a Southern US speech feature and caricature) is (synthetically) equal to men's as being more northern when asked to place voice-samples on a map. The respondents associated /ay-monophthongization with US Southern speech, US Southern speech with nonstandard (e.g., Preston 1996), but women's speech as generally more standard than men's. Norm

values then interfered with the correct perception and classification of two acoustic signals, which did not differ in the feature altered.

In Strand (1999) a nine-step resynthesized continuum of [ʃ] to [s] was played for respondents who were asked if the word they heard was “shod” or “sod.” At the midpoint of the continuum (step 5), about 75% of the male voices were said to be saying “sod” while only about 20% of the female speakers were (92). The apico-dental fricative (/s/) has a considerably higher frequency than the palatal (/ʃ/), and men’s overall vocalic tract frequencies are lower than women’s. Since the respondents expected overall lower frequencies from a male voice, they tolerated a lower frequency when they identified this mid-range token as “sod” (i.e., /s/). Since a higher frequency was expected of women, even when the resynthesized test item had the same frequency as the male (as it did at each step), the expectation of a higher one for women overall prevented the interpretation of the word as “sod,” which has not reached the 60% level even at the next step (#6).

Many more examples of such mismatches could be given, including recent ones in which response-timing or eye-tracking evidence makes it even more certain that the respondent’s implicit or subconscious reactions are being teased out (e.g., Koops et al. 2008), but this excursion into misapprehension due to the influences of language regard should at least make you consider the lines of influence drawn in Figure 1. Perhaps they will even convince you that studies of language regard are absolutely essential to our understanding of language variation and change, and I certainly believe that such study is enhanced by the investigation of the influence of regard on perception, the results of which are as variable as the influence of regard on production; such study awaits more work.

## References

- EAGLY, Alice H. & Shelly CHAIKEN (1993) *The Psychology of Attitudes*, Orlando, FL: Harcourt Brace Jovanovich.
- GREGERSEN, Frans (2009) “The data and design of the LANCHART study”, *Acta Linguistica Hafniensia*, 41, 3-29.

- HILLENBRAND, James, Laura A. GETTY, Michael J. CLARK & Kimberlee WHEELER (1995) "Acoustic characteristics of American English Vowels", *The Journal of the Acoustical Society of America*, 97, 3099-3111.
- IRVINE, Judith (2001) "Style" as distinctiveness: The culture and ideology of linguistic differentiation", in Penelope ECKERT/John R. RICKFORD (eds.), *Style and Sociolinguistic Variation*, Cambridge: Cambridge University Press, 21-43.
- KOOPS, Christian, Elizabeth GENTRY & Andrew PANTOS (2008) "The effect of perceived speaker age on the perception of PIN and PEN vowels in Houston, Texas", *University of Pennsylvania Working Papers in Linguistics* 14: 2 (Selected papers from NWAV 36) [<http://repository.upenn/pwpl/vol14/iss2/>] (accessed October 10, 2010).
- KRISTENSEN, Kjeld (2003) "Standard Danish, Copenhagen sociolects, and regional varieties in the 1900s", *International Journal of the Sociology of Language*, 159, 29-43.
- KRISTIANSEN, Tore (2007) "Goodbye to regional variation: The case of Denmark". A paper presented to New Ways of Analyzing Variation (NWAV 36), Philadelphia: University of Pennsylvania, October 12.
- KRISTIANSEN, Tore (2009) "The macro-level social meanings of late-modern Danish accents", *Acta Linguistica Hafniensia*, 41, 167-192.
- LABOV, William (1972) *Sociolinguistic Patterns*, Philadelphia: University of Pennsylvania Press.
- LABOV, William (1994) *Principles of Linguistic Change: Internal Factors*, Oxford UK & Cambridge USA: Blackwell.
- LABOV, William (1996) "The organization of dialect diversity in North America". A paper presented to the 4<sup>th</sup> International Conference on Spoken Language Processing, Philadelphia, October 6. (retrieved from <http://www.ling.upenn.edu/phonoatlas/>)
- LABOV, William (2002) "Driving forces in linguistic change". A paper presented to the International Conference on Korean Linguistics, Seoul National University, August 2.
- LABOV, William (2003) "Re-defining "the same" as a mechanism of linguistic change". Forum Lecture, Linguistic Society of America Institute. East Lansing: Michigan State University, August 7.
- LABOV, William (2005) "Chain shifts in progress". A course taught at the 2005 Linguistic Society of America Institute. Cambridge, MA.
- MILROY, Lesley & Paul MCCLENAGHAN (1977) "Stereotyped reactions to four educated accents in Ulster", *Belfast Working Papers in Language and Linguistics*, Vol. 2, September, 1-11 (NB: Items in this publication are numbered separately).
- NIEDZIELSKI, Nancy (1999) "The effect of social information on the perception of sociolinguistic variables", *Journal of Language and Social Psychology*, 18, 62-85.

- NIEDZIELSKI, Nancy & Dennis R. PRESTON (2003) *Folk Linguistics* (rev. pb. ed.), Berlin & New York: Mouton de Gruyter.
- PETERSON, Gordon F. & Harold L. BARNEY (1952) "Control methods used in a study of the vowels", *The Journal of the Acoustic Society of America*, 24, 175-84.
- PLICHTA, Bartłomiej & Dennis R. PRESTON (2005) "The /ay/s have it", *Acta Linguistica Hafniensia*, 37, 107-30.
- PRESTON, Dennis R. (1996) "Where the worst English is spoken", in E. SCHNEIDER (ed.), *Focus on the USA*, Amsterdam: Benjamins, 297-360.
- PRESTON, Dennis R. (1997) "The Northern Cities Chain Shift in your mind", in A. THOMAS (ed.), *Issues and Methods in Dialectology*, Department of Linguistics, University of Wales, Bangor, 37-45.
- PRESTON, Dennis R. (2002) "Language with an attitude", in Jack K. CHAMBERS/Peter TRUDGILL/Natalie SCHILLING-ESTES (eds.), *The Handbook of Language Variation and Change*, Oxford UK and Malden MA, 40-66.
- PRESTON, Dennis R. (2005) "Belle's body just caught the fit gnat", in Suzanne EVANS WAGNER (ed.), *University of Pennsylvania Working Papers in Linguistics*, 11, 133-46.
- PRESTON, Dennis R. (2010) "Variation in language regard", in P. GILLES/J. SCHARLOTH/E. ZIEGLER (eds.), *Variatio Delectat: Empirische Evidenzen und Theoretische Passungen Sprachlicher Variation* [VarioLingua: Nonstandard – Standard – Substandard 37], Frankfurt am Main: Peter Lang, 7-27.
- SIBATA, Takesi [1971] (1999) "Consciousness of language norms", in T. KUNIHIRO/F. INOUE/D. LONG (eds.), *Takesi Sibata: Sociolinguistics in Japanese Contexts* (Prescriptive Consciousness of Language. *Gengo Seikatsu* 236: Special Issue: Words that Bother Us.), Berlin/New York: Mouton de Gruyter, 371-77.
- STRAND, Elizabeth A. (1999) "Uncovering the role of gender stereotypes in speech perception", *Journal of Language and Social Psychology*, 18, 86-100.