

Part A

Cross-Dialectal Comprehension

2

Natural Misunderstandings

The study of language in everyday life cannot proceed very far without encountering many inefficiencies, miscommunications and misunderstandings, which lead us to the general conviction that language does not work as well as we would like it to. This chapter pursues the question as to whether linguistic changes in progress are major contributors to misunderstanding. Each of the speech communities studied in the 1960s and 1970s – New York, Philadelphia, Norwich, Panama City, Detroit, Chicago – showed vigorous sound changes in apparent time, as documented in LYS and in Volumes 1 and 2 of this work. But it does not follow automatically that generational change in the community, reflected in a gradient series of values in apparent time, will confuse members of that community. Such change might be considered equivalent to adding one more dimension – age – to the major variables of the speech community: social class, gender and contextual style. Speakers are normally not confused by this variation. If they know a value on one dimension of the matrix – say, style – they should be able to identify the probable social class of the speaker by the values of the variants. If change is in progress, they may be able to adjust their judgments by taking the speaker’s age into consideration. The same logic might apply to the identification of the phonemic category of a sound change in progress.

Recent research indicates that members of the speech community store remembered tokens with associated information on the age, gender, social class and personal identity of the speakers who uttered them. Thus Hay, Warren and Drager (2006) showed that listeners were influenced by such information in responding categorically to the ongoing merger of *fear* /ihr/ vs *fair* /ehr/ in New Zealand English. Judgments of whether a token with a mid front ingliding vowel was a member of the /ihr/ or /ehr/ category were influenced by the age and social class of the person who was supposed to have uttered it. These findings were interpreted as support for an exemplar theory: that episodic memories are preserved as the basis of speech perception and production (Pierrehumbert 2002). Indeed, exemplar theory might explain why “inefficiencies in communication” had not been observed as a result of changes in progress (Weinreich et al. 1968).

A very extensive range of linguistic events that might produce misunderstanding has been found in recent sociolinguistic studies. We often find radical shifts in the phonetic realization of a given phoneme, in which the newer forms overlap the positions of one, two or even three neighboring phonemes of the same speakers' phonological systems. Thus for younger New York City speakers /æh/ in *bad* overlaps the distribution of /eh/ in *bared* and of /ih/ in *beard* (Labov 1966). The chain shifts displayed in section 1.5 exhibit many such radical shifts. In Chicago and other cities of the Inland North, the fronting of /o/ has reached a position close to that of low front /æ/ among the oldest speakers, and is almost identical to the normal pronunciation of /æ/ in the neighboring Midland areas. In Birmingham and other cities of the Inland South, advanced values of /ey/ have descended to a position equivalent to that of diphthongal /ay/, as the latter is pronounced within and outside of the area. Even more pressing challenges to the efficiency of communication appear in the rapid expansion of mergers across the North American continent: the low back merger of /o/ and /oh/; the collapse of /w/ and /wh/; and the growing tendency to merge vowels before /l/.

Two questions arise in regard to these developments:

- 1 Do conservative and advanced speakers understand each other's productions within the community?
- 2 Do members of other speech communities understand these local forms when they come into contact with them?

2.1 The Collection of Natural Misunderstandings

One common response to these questions is to assert that context will resolve any ambiguity produced by such overlapping distributions (Eliasson 1997). Another is to measure the functional load of an opposition and the consequences of its loss by a count of minimal pairs (Martinet 1955) – a procedure which King (1969) finds, in a first approximation, to be inadequate. Rather than argue from the effect of completed changes, it may be more fruitful to examine how people deal with changes in progress – which is the main strategy of these volumes. As a first step to an empirical assessment of the cognitive consequences of sound change in progress, the Project on Cross Dialectal Comprehension¹ (henceforth CDC) undertook the collection of misunderstandings that take place in everyday life. Linguists and linguistic students were asked to note down any observation of misunderstandings on a pad of printed forms, as in Figure 2.1.

The analysis of these data are far from systematic, but certain generalizations will emerge from this sizeable data base and they will give us some insight into everyday behavior, which will be examined more systematically in the controlled experiments to follow in Chapters 3 and 4.

MISUNDERSTANDINGS	Date _____
Speaker _____	Hearer _____
Dialect area _____	_____
Speaker said [continue on back for full setting]:	
Hearer heard:	
Hearer corrected mishearing after ____sec ____min	
____ before utterance was over	
____ by speaker's response to look or query	
____ by inference from further utterances	
____ by accidental events that followed	

Figure 2.1 Standard form used by the CDC for recording natural misunderstandings

The following examples will illustrate the various modes of correction, using conventions that will hold throughout this chapter. A colon introduces a spoken utterance and the double arrow \Rightarrow introduces an interpretation in the mind of the observer (or, if the listener is not the observer, the listener's later account of what they were thinking). Unless otherwise noted, the observer is the second speaker. What follows after a colon is spoken. The geographic background of each participant is given, whether or not it is relevant to the misunderstanding. The initials WL refer to the author.

2.2 Modes of Correction

A Before the utterance was over Observers and listeners often report themselves as correcting their first misunderstanding before the sentence is finished, in less than a second.

- (1) Dana M. [NYC]: [...] in the Sunday Inquirer.
Ruth H. [CT] \Rightarrow and this Sunday in choir [She was wondering what choir Dana belongs to.]
- (2) John S. [Southern IL]: [...] accountable to the data [...]
Debbie S. [Philadelphia] \Rightarrow [...] a cannibal to the data [...]
- (3) WL [Northern NJ]: You oughta see Frank's crow when you rub his head.
Gillian S. [Montreal] \Rightarrow [problem of anaphora: whose head gets rubbed, Frank's or the crow's.]
- (4) Claudia M. [OR]: Is Dwight Bolinger a Canadian?
Ruth H. [CT] \Rightarrow Is Dwight Bolinger a comedian?

B *By speaker's response to look or query* The most common situation is that the utterance is perceived as pragmatically odd or incomprehensible, and some form of query leads to a correction within seconds.

(5) Pat D.: I hated dissecting (frogs and worms) in science so the second time my class dissected I dissected an apple instead, and the time after that I dissected a carrot.

Lois K. ⇒ I dissected a parrot: You dissected a what?

(6) Black guy: I feel like ten nails.

White guy: You feel like tin nails.

Black guy: [slowly] No, ten nails.

[observed by Robin S. in Georgia]

(7) Susan M. [CA]: Can I pour us both juice?

Ruth H. [CT]: What's a spoke juice?

(8) Alice G. [Philadelphia] [to WL]: That's a great shirt!

Gillian S. [Montreal]: What do you mean, "grapefruit"?

C *By inference from further utterances* Almost as common is the situation where no pragmatic anomaly is sensed at first, but the error is uncovered in the course of the ensuing conversation. This may take from ten seconds to several minutes.

(9) Dana M. [NYC]: What are you giving up for Lent?

Caroline H. [UK] ⇒ What are you giving out for Lent?

Caroline [annoyed]: Pancakes.

Dana: You're giving up PANCAKES?

(10) Charlotte M. [VA]: Every time Robin takes a picture of me she gets a "telephone pole" in the picture.

Maureen S. [PI] ⇒ telephone call

Charlotte: Yes, she gets a telephone pole in the pictures, even in the living room.

Maureen: Well, maybe she has call forwarding, you know.

Charlotte: Call forwarding?

Maureen: Yes, you know that service.

Charlotte: No, no, telephone pole.

Maureen: Pole? What pole?

D *By accidental events that followed* The data base shows a smaller number of items where the misunderstanding was not uncovered during the conversation at all, but only by accident, in an event that occurred some time later, sometimes after many days.

- (11) Otto S.A. [NM]: Hit carriage return.
 Elise M. [Western MA] ⇒ caricature: Otto hit the key that I call “ENTER” or just “RETURN,” and I thought, “How odd, he calls it caricature.”
 A couple of hours later, he said it again and I understood it.
- (12) Dr B. [East Coast]: What are all complexities in life due to? Sets.
 Amy K. [Madison, WI] ⇒ sex [This made no sense, so I asked a person nearby.]
- (13) Loudspeaker at O’Hare airport: Milwaukee passenger report to the Eastern Airlines counter.
 Franz S. [Chicago] ⇒ lucky [He wonders what was lucky about this passenger. Some time later, the announcement was repeated, and he understood it.]
- (14) The following incident is reconstructed from an article in the *Philadelphia Inquirer* on January 18, 1989:
 Gas station manager: It looks like a bomb on my bathroom floor.
 Robin Corder, dispatcher: I’m going to get somebody [that somebody included the fire department]
 Manager: The fire department?
 RC: Well yes, that’s standard procedure on a bomb call.
 Manager: Oh no, ma’am, I wouldn’t be anywhere near a bomb. I said I have a bum on the bathroom floor.
 [8 firefighters, 3 sheriff’s deputies and the York Co. emergency preparedness director showed up at the gas station to escort the homeless transient out.]

E *Not at all* In a much smaller number of cases the misunderstanding was not detected by the participants, but observed by a third person, who did not communicate it to them.

- (15) John Baugh reported to Louise Feagin that a non-Texan told a Texan the name of her son was “Ian.” The Texan couldn’t understand why anybody would name a child something so strange as the preposition IN.

The following incident was observed by WL at the house of the D. family in South Philadelphia.

- (16) Rosemarie D.: All right, come to dinner! [carrying out the food on a tray]
 WL: You run a tight ship.
 Tom D. [Rosemarie’s husband]: She makes us slave.
 Rosemarie: Why would I want you to leave?
 Tom D.: One day, we’ll explain it all to Rosemarie.

The misunderstanding displayed in (16) is the result of an ongoing change in progress in Philadelphia: the raising of checked /ey/ to high position, overlapping with /iy/ (Vol. 2, Chs 4, 5). The vowel of *slave* approximates the vowel of *leave*, and the initial /s/ that differentiates the two words is neutralized by the phonetic context.

Tom: [fime'iksəsle'ɪvz]
 Rosemarie ⇒ [fime'iksəsli,ɪv]

A humorous remark was interpreted as a bad-tempered insult. The irritation produced by this misunderstanding simmered below the surface for some time. Neither party realized that there had been a misunderstanding.

2.3 How Common Are Misunderstandings?

Since one of the main goals of this study is to determine how much misunderstanding is actually caused by change in progress, the distribution of these five types is relevant to our undertaking (Table 2.1).

It seems clear that the least serious disruptions to communication and understanding are the first two types, and with increasing delay the consequences become more serious. A moment's reflection shows how difficult it is to estimate the extent of miscommunication in everyday life, since the more evidence there is, the more likely is it that it will be observed and corrected. How can we estimate the frequencies of types C, D and E? The situation is most severe with type E. There is no way to calculate how often two people miscommunicate and go their ways with different views of what was intended, said and understood. Tom did not realize that Rosemarie had misunderstood him, and wearily decided not to explain his joke, which was hardly worth his trouble.

These 872 observations were collected over fourteen years, which is a little more than one a week. This does not seem to reflect a very high rate of

Table 2.1 How misunderstandings were detected

During the utterance	108
By an immediate query	374
By inference after	204
From observation of later events	74
Never	17
Not reported	95
Total	872

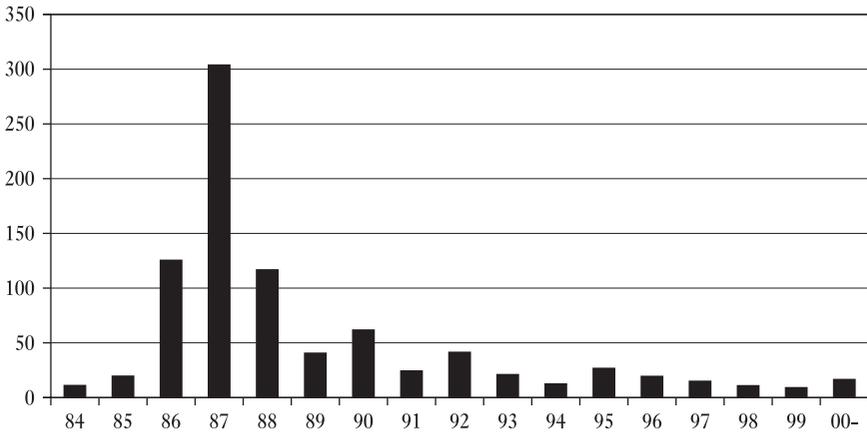


Figure 2.2 Numbers of observations of natural misunderstandings over time

misunderstanding, but it turns out that a considerable degree of concentration is required to record the mishearings of everyday life. If we ask someone to recall whether they had had such an experience in the past week, the answer is normally no. The main effort to concentrate these observations was exerted in 1986–8, as shown in Figure 2.2. Armed with a pad of forms for recording errors and with constant reminders, an observer returned regularly each week with two, three or four cases. One of our regular observers, Ruth Herold, recorded sixty misunderstandings in this period. The collection continued over time, at a lower rate. There is of course a danger that these later observations will concentrate on dialect-motivated misunderstandings, so that the rate during the main period of collection, 1986–8, is the best indicator: 27 percent of the 544 observations recorded then were dialect-motivated, and this projects an overall proportion of 235 out of 869. These figures, then, seem to give a reasonable estimate of the frequency of misunderstandings that are the result of linguistic change.

2.4 What Is the Role of Sound Change in Misunderstanding?

Our records regularly show that a little more than one quarter of the natural misunderstandings can be attributed to dialect differences. This proportion did not vary over the years in which the observations were made. Some of these dialect differences are due to stable variables, like the presence of flapping in American dialects versus its absence in British English; but the great majority are due to

Table 2.2 Major contributors to the collection of natural misunderstandings

	Home dialect	Total observations	Dialect-motivated	% Dialect-motivated
Robin Sabino	Long Island City	137	43	31
Gillian Sankoff	Montreal	137	26	19
William Labov	Northern NJ	123	27	22
Ruth Herold	Connecticut	88	30	34
Mark Karan	Northern NJ	67	14	21
Sherry Ash	Chicago	63	22	35
Tom Veatch	California	31	2	6
Charles Boberg	Edmonton	12	10	83
Corey Miller	NYC	6	3	50
Other		205	59	28
Total		869	236	

sound changes in progress. The proportion of dialect misunderstandings may certainly have been influenced by the observers' interest in sound change, though every effort was made to avoid this bias. The main observers were linguists with good phonetic training, as shown in Table 2.2.

Most of the observers came close to the general mean of 27 percent dialect-motivated errors, with the exception of Boberg and Miller, whose contributions are the smallest in number.² The area in which observations were made is of course relevant. The good majority occurred in Philadelphia, but observers also traveled widely outside of that area. A strategic contributor was Robin Sabino, who moved to the Auburn University in Alabama shortly after the project began, and the database benefits from many of her observations of cross-dialectal contact with speakers of the Southern Shift. Another major source of cross-dialectal contact was the encounter between the Canadian dialect of Sankoff and the Northern New Jersey dialect of Labov, with considerable geographic movement to the Montreal area. The least well represented among the major sound changes in North America is the Northern Cities Shift; but, as we will see, there is still considerable evidence of misunderstanding from that source.

We can conclude that the proportion of misunderstandings due to dialect differences is in the area of 25 percent.

2.5 The Linguistic Focus of the Misunderstandings

Each of the misunderstandings was classified according to the relative effects of lexicon, phonology, syntax and pragmatics, as well as by dialect differences (that

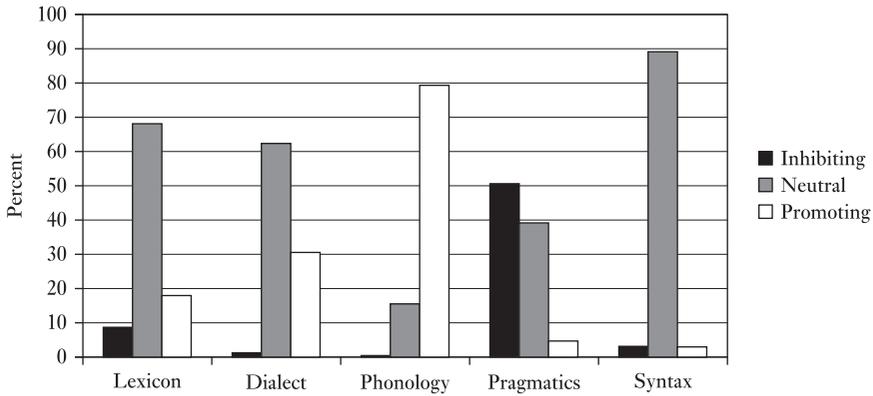


Figure 2.3 Effect of linguistic factors on misunderstanding: Percent inhibiting, neutral to or promoting misunderstanding for five factors

is, whether this aspect of the utterance contributed to the misunderstanding, inhibited it, or was neutral in this respect). Figure 2.3 shows the distribution of these factors. As noted above, about 25–30 percent of the cases were promoted by dialect differences. But overall phonology was overwhelmingly the major contributor to misunderstanding, and mismatch with the pragmatic situation was the most common factor that brought it to the listener’s attention and led to its being recorded.

A *Variation in the syntactic analysis of homonymous sequences* See (3) and (16) above, as well as the following examples:

- (17) Philadelphia newscaster: leaving a third passenger too dazed to escape.
Ruth H. [CT]: [. . .] leaving a third passenger two days to escape.
- (18) Tom V. [CAL]: [writing down items to buy] Two “c”s in broccoli?
Ruth H. [CT]: What’s two-season broccoli?
- (19) Judy S. [Philadelphia]: We’ll go down to Knights St.
Mark K. [Northern NJ] ⇒ We’ll go down tonight’s street.

Some near-homonymous cases involve the failure of small prosodic differences to take effect:

- (20) Robin S. [Long Island City]: They have toucans there.
Lisa B [Long Island City] ⇒ They have two cans there.

B *Loss or insertion of a segment*

- (21) Charlotte T. [VA]: I was at Brooks & Company
Robin S. [Long Island City]: ⇒ at Books & Co. [She knows Charlotte sells books.]
- (22) WL [Northern NJ]: especially if you travel in twos.
Katie S. [WI] ⇒ especially if you travel in tubes.

C *Wrong identification of a single segment* See items (5), (6), (12), (14) above.D *Wrong identification of two segments in a word* See (10) above and the following example:

- (23) Bambi S. [NYC]: What tapes are in the car?
WL [Northern NJ] ⇒ What keeps her in the car?

E *Error at the word level* See (4), (9), (13) above.F *Re-analysis of word sequences with phonological adjustments* See (1), (2), (7), (8), (11), (15) above.

In writing, these misunderstandings produce the most comic effects. But close examination of the phonetics involved shows that they often are produced by minimal phonetic mismatches. Thus we have:

(1')	inquirer	[ɪŋkwairə]
	in choir	[ɪŋkwair]
(2')	accountable	[əkaʊnəbl]
	a cannibal	[əkanəbl]
(7')	us both juice	[əsboθdʒiʊs]
	a spoke juice	[əsbokdʒiʊs]
(11')	carriage return	[kærɪdʒrɪtʃɹn]
	caricature	[kærɪkətʃə]

The misunderstanding in (1) involved a simple loss of a /shwa/; in (2), the loss of the glide on /aw/ – a frequent occurrence in polysyllables; in (7), the mishearing of interdental [θ] as velar [k]; and in (11), a mishearing of a palatal affricate as a velar stop, with loss of the final nasal.

Some of these mechanisms involve the processes of morphophonemic condensation in rapid speech, which are common across the major dialects studied here. Others involve syntactic re-analysis, which is generally not subject to dialectal variation. We can therefore expect major differences in the distribution of these

Table 2.3 Percent distribution of focus of misunderstanding for dialect-motivated errors and others

	Homonyms	Segment lost	One segment	Two segments	Whole word	Re-analysis	Total
Dialect-motivated	2.1	2.1	62.3	15.9	13.4	4.2	100
Other	11.3	3.4	31.6	15.9	14.4	22.6	100

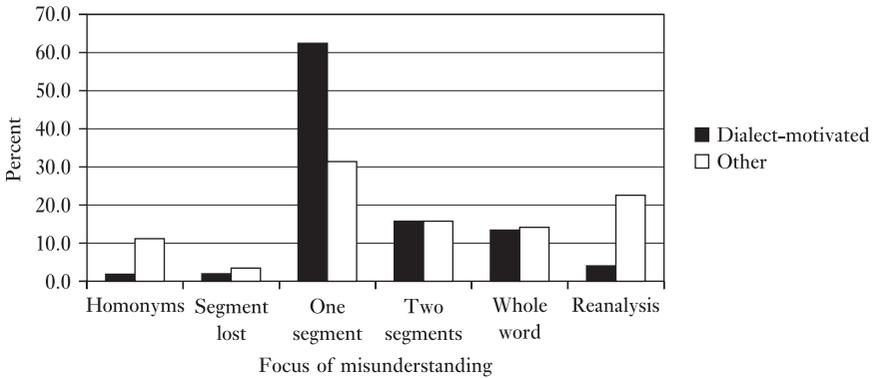


Figure 2.4 Percent distribution of focus of misunderstanding for dialect-motivated errors and others

mechanisms of misunderstanding when we tabulate the dialect-motivated cases against others, as in Table 2.3 and Figure 2.4.

There appear to be polar differences in the mechanisms involved in dialect-motivated versus other misunderstandings. The dialect-motivated examples are heavily concentrated in the single-segment category, while the cases involving re-analysis and restructuring across word boundaries are almost free of dialect influence.

It follows that most dialect-motivated misunderstandings will be influenced by phonological features, and that the smaller number of cases that are syntactically motivated will be concentrated among those with no specific dialectal origin (24 out of the 26 cases, chi square 6.00, $p = .01$). There is no significant difference in the lexical sources of misunderstanding between dialect motivation and motivation of other kinds. Pragmatic factors are the major route to the discovery of misunderstanding, for dialect-motivated cases and others, and it is rare to find pragmatic factors favoring misunderstanding. Here is one dramatic case, which involved a displacement of a final /d/. The pragmatics of the medical examination favored *tender* in place of the actual utterance, *tenure*.

- (24) Resident, examining Gillian: Are you tenured?
 Gillian S. [Montreal] ⇒ tender: Yes.
 Resident: For how long?
 Gillian: What?
 Resident: How long have you had it?
 Gillian: What do you mean?
 Resident: How long have you had tenure?
 Gillian [She laughs, and nurse too, who understood “tender”]

Another rare pragmatic motivation appears in (25):

- (25) Answering machine: You’ve reached Sam and Ann’s. Please leave a message after the tone and we’ll call you back.
 Atissa Banuazizi ⇒ Ann will call you back.

Only 9 out of the 42 cases of pragmatic motivation were also dialect-motivated. Here is one remarkable case reported by a New Yorker in Chicago, which involves the Northern Cities Shift backing of /e/ to /ʌ/:

- (26) Corey Miller [NYC]: Perceived on the Chicago commuter train this morning: “I’ve got a mutual fund coming in.” This didn’t sound so strange, given that many of the people on the train are financial folks. I heard the person clarify to her associate, who also misperceived the utterance, “a mutual FRIEND.”

If these analyses of the pragmatic situation are correct, this means that most reports of dialect-motivated misunderstandings are heard as contrary to the probable inferences that are made from the social and linguistic context. This of course is how most are detected and reported, as is shown in Table 2.2. The great majority were so out of key with the immediate situation that the listener responded with a query, as in (5)–(8) and (27).

- (27) Mark Karan [Northern NJ]: Have a good day at school.
 Jeremie [Northern NJ] ⇒ Have a good day, scum.
 What did you call me?

When the misunderstanding persists, the pursuit of understanding may lead to considerable social friction. This is evident in (28) and (29):

- (28) Alice Goffman, 7 years old [Philadelphia]: I want to talk to you about the kitty.
 Gillian Sankoff [Montreal] ⇒ about the cake: You want a piece of it?
 Alice: Are you out of your mind?
 Gillian: Don’t say that to your mother.
 Alice: Why would you want to cut the kitty?

- (29) Leighton W., boss: I'm going home for about an hour kitty-cats.
 Shelah, employee ⇒ take a nap [When someone called for LW, she told him he had gone to take a nap. LW's wife called afterwards and wanted to know, angrily, where her husband was going to take a nap.]

We have already seen that any estimate of the frequency of misunderstandings is lower than the actual figure, since our observations are bound to be skewed towards the most detectable events. It can also be said that deferred or undetected misunderstandings, now matter how infrequent, are those that put the greatest strain on the fabric of sociability.

We can now turn to the specific mergers, chain shifts and other sound changes that have been the major focus of our studies of linguistic changes in progress, and see how and to what extent they are sources of misunderstanding.

2.6 The Effect of Mergers

2.6.1 The low back merger

The largest single group of dialect-motivated misunderstandings has to do with the one major unconditioned merger in North American English: the low back merger of /o/ and /oh/ in *cot* and *caught*, *Don* and *dawn*. ANAE shows this merger as dominant in Eastern New England, Canada, Western Pennsylvania and the West, with transitional status in the Midland and sporadic merger in the South (Maps 9.1–4). The low back merger accounted for 32 out of 235 cases, or 14 percent. Ten of them involved the same pair of words: *coffee* and *copy*.³

- (30) Carl R. [Boston]: How did the coffee machine work out?
 Sherry A. [Chicago] [She began a story about her copy machine.]
- (31) Gillian S. [Montreal]: We won't save any time to come here for a copy shop.
 WL [Northern NJ]: Coffee shop?
- (32) Gillian S. [Montreal]: Oh! Copy shop! Here it is!
 WL [Northern NJ] [He looks around for a coffee shop.]
- (33) Gillian S. [Montreal]: I wonder if there's a copy place near the airport?
 WL [Northern NJ] [Why would she need coffee?]
- (34) David S. [Montreal]: It's time to make the copies.
 WL [Northern NJ]: But I've already had my coffee.

- (35) David S. [Montreal]: I'll get your copy right away.
 WL [Northern NJ] [Why is he getting us coffee?]
- (36) Ann T. [Vancouver]: Do you have the copy key?
 Don R. [KY]: Is there a key to the coffee?
- (37) David B. [OK]: There is a nice coffee stain on this one.
 Mark K. [Northern NJ] ⇒ There is a nice copy stain on this one.
- (38) Ruth H. [CT]: These are copied from Maurice Sendak.
 Woman [?]: I thought you said you were getting coffee for Maurice Sendak.
- (39) Edward L. [?]: Do you know any place where I can get some coffee?
 Robin S. [NYC] ⇒ [...] get some copies

This series has several points of interest for our current inquiry. *Copy* and *coffee* would not appear in any list of minimal pairs for /o/ and /oh/. However, the /p/~f/ contrast is not salient in intervocalic position. When the merged vowel is produced by a speaker from Canada or New England, as in (30)–(36), it is in back rounded position, with heightened allophonic rounding from the following labial: this leads to the automatic identification with /oh/ by speakers of the unmerged dialect. When the merged vowel is produced by a Western speaker, usually in an unrounded position, it is interpreted as unrounded /o/ by an unmerged speaker, as in (37). Mark K. afterwards noted the [a] quality of the misunderstood *coffee*.⁴

The comical nature of this series, which creates prolonged laughter in oral presentations, is an important part of the story.⁵ The characters involved are linguists, who know more than anyone else about the low back merger. Yet they have not learned from repeated experience and continue mechanically to misunderstand, time after time. In many cases the pragmatics of the situation strongly supported the correct interpretation, yet did not affect the outcome. In (31), (32) and (33), I knew very well that they were searching for a copy shop and I had already had coffee, yet heard the merged production of *copy* [kopi] as *coffee*.

Another series of repeated misunderstandings involved the minimal pair *Don* and *Dawn*. At the time of our collection of samples, the Penn Department of Linguistics included a graduate student Dawn Suvino and the faculty member Don Ringe.

- (40) Gillian S. [Montreal]: It would be even better if Don could take her to the airport.
 WL [Northern NJ] ⇒ Dawn [wondered for some time about how Dawn, who is blind, could take her.]

Table 2.4 Distribution of /o/ ~ /oh/ errors by speaker and hearer

Speaker	Hearer	Cases
Merged	Unmerged	20
Unmerged	Merged	5
Merged	Merged	0
Unmerged	Unmerged	0

- (41) Mary A. [RI]: I started sneezing in Greek meter and after a while I figured Dawn's dog must've been in there.
Ann T. [CA]: Don doesn't have a dog.
Mary: No, DAWN!
- (42) Ann T. [CA]: [at the meeting of new students] Elise spent quite a long time talking to Dawn.
Ruth H. [CT]: What do you mean? [since Don is not a new student]
- (43) Sherry A. [Chicago]: I've been talking to Dawn here [...]
Carl R. [Boston] ⇒ Don Hindle: [...] Hindle?
- (44) Peter P. [GA]: I'm working for Dawn.
Carol C. [Philadelphia]: Don Ringe?

Here we have a small community, all fully aware of the presence of the two individuals and of the homonymy of their names, whose members repeatedly confuse them even when the pragmatics of the situation point to the correct identification. Again, the majority are trained phoneticians, yet they do not use their knowledge of the linguistic situation to avoid misunderstanding.

We can now apply these data to the general question of the mechanism of the low back merger. In Herold's well-known proposal (1990), the expansion of the merger in a contact situation is the result of repeated misunderstandings of productions of one-phoneme speakers by two-phoneme speakers who try to map the former's allophonic differences into separate phonemic categories. On the other hand, one-phoneme speakers do not make such mistakes, as they do not rely upon phonetic differences to distinguish the /o/ and /oh/ classes. The data from natural misunderstandings gives reasonable support to Herold's position. Out of 35 cases, we can be certain of the status of the merger of both speaker and hearer in 25.⁶ Table 2.4 shows the distribution of errors by speaker and hearer.

A full 80 percent of the misunderstandings recorded conform to Herold's model. This support is encouraging. However, the result does suggest that adults learn from their mistakes and abandon their reliance on the /o/ ~ /oh/ distinction in

interpreting the productions of others. There still remains the question of how such a shift in speech perception may lead to a collapse of the distinction between /o/ and /oh/ in their children's speech production.⁷

Even more striking in Table 2.4 is the fact that there are no clear cases of misunderstanding between merged speakers or between unmerged speakers. This situation leads us to believe that mergers – even the unconditioned merger of word classes like /o/ and /oh/ – are not a major source of misunderstanding within the community. The misunderstandings produced by the low back merger are a contact phenomenon, not the result of a loss of contrast within the dialect of the speech community.

2.6.2 *The pin/pen merger*

Among the conditioned mergers of North American English, one of the most vigorously expanding is the loss of the distinction between /i/ and /e/ before nasals – usually in favor of /i/, but sometimes with /e/. It is characteristic of the South generally and of the South Midland, as well as of African-American speakers everywhere, and it occurs sporadically in the West (ANAE, Map 9.5). There are 11 cases in the data set; some involve the classic *pin/pen* confusion, others are in less expected positions.

- (45) Bank teller [African-American]: You have your Penn ID?
 Sherry A. [Chicago]: PIN ID?
 Teller: Your Penn ID?
 Sherry: PIN ID?
- (46) Melissa H. [TN]: Every time I say “INsurance” [. . .]
 Ruth H. [CT] ⇒ Every time I say “entrance”

Here the distributions of speakers and hearers resembled that found for the low back merger. Out of the 11 cases, 8 involved merged speakers and unmerged hearers, and only 1 the reverse. But 2 such confusions occurred between speakers of the unmerged dialect.

2.6.3 *Mergers before /l/*

ANAE shows a variety of mergers taking place before /l/ (pp. 69 ff.). A good 10 percent of the 762 speakers show a complete merger, both of /il ~ iyI/ and of /ul/ ~ /uwl/, but in very different geographic regions. Misunderstandings between *feelings* and *fillings*, or *pull* and *pool*, occur in the data set of natural misunderstandings, reflecting ongoing mergers; but the most common cases involve misplacement of the mid low back and mid back vowels, which occurs as a result of different

phonetic realizations across dialects: Canadian *bowl* heard as *ball* by Mid-Atlantic hearers, Mid-Atlantic *called* heard as *cold* by Canadian hearers.

2.7 Chain Shifts

The major sources of divergence in North American English are the chain shifts, which rotate vowel systems in opposing directions: the Northern Cities Shift, the Southern Shift, the Canadian Shift, the Pittsburgh Shift, the Southern Back Uplide Shift, and the Back Chain Shift before /r/ – as described in LYS, in PLC, Vol. 1 and in ANAE, and as displayed in the current view of phonological space at the end of Chapter 1 of this volume. Chain shifts are well represented among the dialect-motivated misunderstandings.

2.7.1 The Northern Cities Shift

Since none of our major observers was located in Northern Cities Shift (NCS) territory, we did not expect to observe as many misunderstandings motivated by this chain shift as by the low back merger. However, almost as many appeared: 22, representing all five stages of the NCS (Figure 1.4). The first stage, the general raising of /æ/, is most likely to be misunderstood when it occurs before voiceless stops. In this position it can be misheard by speakers of other dialects as prenasal, since for them that is the predominant raising environment. Thus when Patty Plum from Syracuse introduced herself, Robin Sabino understood her first name to be “Candy.” When I asked Linda Novak of Rochester where her father worked, she answered [kodiæk], which I understood as “Coding” until on repetition it appeared to be the more expected “Kodak.”

The second stage, the fronting of /o/, is represented in a number of remarkable misunderstandings: Beatrice Santorini heard a news announcer saying, “The Eden Expressway is jammed salad.” It was a good ten seconds into the broadcast before she realized what had actually been said. She also heard a hotel functionary say, “In the morning, we serve complimentary coffee and tea next to the padded plant.” Another linguist, raised in Cincinnati, was listening to a radio broadcast from Oshkosh, and heard a factory worker say, “The plant doesn’t get enough orders to maintain aberrations.” It was not until some time later in the broadcast that she stopped wondering why the plant would want to maintain aberrations, and understood that he had said *operations*. A Canadian phonetician heard a student from St Louis say, “I did the casting for a play,” but only after he asked her how she got that job did he come to understand that she had done the *costumes* for that play.

A woman from Kansas recorded a misunderstanding between her Kansas-raised sister and a Michigan-raised cousin, in a discussion of what kinds of things can go into a dishwasher. She could not understand why the Michigander was ready to

put *chapsticks* into the machine, until she finally realized that it was *chopsticks* that he had in mind. This confusion of short *o* with short *a* can become encapsulated in print. A Michigan newspaper reported a local politician as saying he was sure whose “axe would be gored.” Others may come to think that *axe* is found in this fixed expression, but somewhere along the line there has been at least one misunderstanding of *ox* as *axe*.

These misunderstandings involve the mishearing of the rotated vowels by speakers of other dialects. We also get the reverse, where people from the Inland North wrongly categorize the speech of others. Suzanne Wagner (UK speaker) asked an employee of the Target store in East Lansing, Michigan: “Where can I find baby sleep sacks?” and then he quickly pointed to a display of baby socks. The same misunderstanding recurred two days later at the J. C. Penny department store. Jane Goodheart reports:

- (47) “Neither my boyfriend Dave nor I are natives to Michigan, and we are not NCS speakers. Dave had the following misunderstanding happen three times in the Lansing area, at two different grocery stores, with two different workers: he asked for ‘catfish’ and the man behind the counter gave him cod, thinking he said ‘codfish.’”

The shifts of NCS /e/ provide two different sources for misunderstanding. The early lowering of /e/ towards low front position created considerable overlap with the /o/ tokens, which are fronting to the same position (Labov and Baranowski 2006). This leads to the confusion of /e/ and /o/ reflected in (48):

- (48) Telephone surveyor [Chicago]: Do you have any pets in the house?
 Brian T. [Eastern US] ⇒ pots [He thought that “pot” was not likely, since everyone has pots and pot = marijuana was too personal; he asked for repetition several times, until understood.]

Five other misunderstandings of Inland North /e/ reflect backing to overlap with the /ʌ/ of older speakers and other dialects: *Betty* ⇒ *Buddy*, *best* ⇒ *bus*, *Tech Net* ⇒ *Tech Nut*, and the example of (49). Here one can see how the phonetic facts lead to a misinterpretation, though all elements of the context support an /e/ reading:

- (49) Laura W. [Madison]: They make Treks in Wisconsin [while pushing bike along and talking about where she got it]
 Charles B. [Edmonton] ⇒ trucks

The lowering of /oh/ can lead to confusion with the /o/ of other dialects, but more likely with /ʌ/. The lowering and backing of /i/, the least prominent of the NCS stages, appears in the misunderstanding of *Hicks* as *Hex*.

Of the twenty-two cases of misunderstanding due to the NCS, nineteen were from outsiders' perception of NCS productions; one was the reverse case of (46); and one happened within the NCS community (13). It appears that the origin and location of our observers is responsible for the absence of misunderstandings within the NCS; the experiments to be reported in the next chapter testify to their prevalence.

2.7.2 *The Southern Shift*

The other major rotation of North American vowels is the Southern Shift, as displayed in Figure 1.5. The first stage is the monophthongization of /ay/, which is accompanied by a slight fronting movement. A number of misunderstandings are involved this process: *right* ⇒ *rot*, *right* ⇒ *rat*, *nice* ⇒ *nots*, *diet* ⇒ *dat*, and *alibis* ⇒ *alabaster*. It is notable that the most common pattern is misunderstanding of monophthongization before voiceless consonants, which (except in the Inland South) is a socially marked and stigmatized feature. Thus the most common expression, “Well right now . . .,” spoken by a Missourian, was briefly misunderstood by Robin S. as “rot now.” One case of an inverse error was observed: “blond joke” was heard as “blind joke,” both being equally likely.

The second stage of the Southern Shift, the lowering of /ey/ along the non-peripheral track, is represented by the mishearing of *space suit* as *spice suit*, a less likely combination. In the El Paso airport, Joanna Labov heard it announced that “the plane was going to be light” (instead of “late”).

The raising of the short front vowels to peripheral position, stages 3 and 5 of the Southern Shift, appear in the mishearing of *Glenn* as *grand*, *sped up* as *spit up*, *Ding* as *Dean*, *wings* as *weenies*. Listening to Michael Montgomery discuss Varbrul, Robin Sabino heard “when you make a sale file,” but quickly corrected this to “cell file.”

Most of these mishearings of the Southern Shift were made by the New York observer Robin Sabino in Alabama. However, she did report a misunderstanding within a Southeast Alabama family. Nancy H. was describing a new comb to her daughter Jane, and asked “Do you want to see it?” Jane answered that she did not want to sit. This reflects the development of the inglide with peripheral /i/, which is characteristic of the Southern Shift and will play a major role in the next chapter. Sabino also observed the following case (50):

- (50) Kevin H. [Crossville, AL]: We have no right [. . .]
Christina J. [Atlanta] ⇒ We have no rat [. . .]

Chapter 3 will present more systematic evidence on how well Southerners understand the output of the Southern Shift. Sledd (1955) argued that the fronting that accompanies the monophthongization of /ay/ establishes a distinct phoneme for Southerners which allows them to distinguish /æh/ in *baa'd* from the vowel of *lied*

and *ah'd* (as in “The woman *ah'd* and *oh'd*”). This would force the notation /lahd/ in *lied* vs /ahd/ in *ah'd*. Thus, within the community, *blind* would not be confused with *bland*, or *blond* or *right* with *rat* or *rot*. However, (50) suggests that the distinction between *rat*, *right* and *rot* may not always be maintained in the South.

It may be useful to examine the whole set of mishearings involving the word *right*. In addition to the misunderstandings of Southern *right* as *rot* and *rat*, a Missourian misunderstood a New Yorker’s *all right job* as *wrote job*. Examples (51) and (52) show errors outside of the South that have nothing to do with monophthongization of the vowel. They both depart from the homonymy of *write* and *right*, which is the product of the much earlier and now universal merger of /wr/ and /r/.

- (51) Alice G [Philadelphia]: I have to do that writing sample.
 Gillian S. [Montreal] ⇒ I have to do that right example: ?
 Alice G.: I have to do like a big-ass writing sample.
- (52) Gillian S. [Montreal]: Would you help me right the table again? [referring to an outside table that had been tilted over to drain the water off]
 WL [Northern NJ] ⇒ Would you help me write my paper again? [Puzzled, he looks for repetition.]
 Gillian S. [Montreal] [repeats.]
 WL [First misunderstands, and finally gets it.]

2.7.3 The Canadian Shift

The downward and backward shift of /e/ and /æ/ is triggered in Canada by the merger of /o/ and /oh/ in lower mid back position (Figure 1.6). It is represented in the data on misunderstanding by the mishearing of *black* as *block* and by the example of (53), which shows how the phonetics of Canadian /æ/ can force a wrong interpretation against all contextual likelihood.

- (53) Ruth H. [CT]: [looking at a bed frame] What supports the mattress?
 Saleswoman [Canada]: There’s a rack underneath.
 Ruth: A rock?
 Saleswoman: No, a rack.

2.8 Philadelphia Sound Changes

Chapters 4 and 5 of Volume 2 presented a detailed view of three new and vigorous sound changes in the city of Philadelphia. Since many of our observations were

made in that city, one would expect a good representation of naturally occurring misunderstandings motivated by these changes in progress.

2.8.1 The Back Vowel Shift before /r/

In Philadelphia as in many parts of the US, the low central vowel before /ahr/ shifts to mid back position, with an accompanying shift of /ohr/ to high back position usually merging with /uhr/ (Figure 1.7). This shift is complete in Philadelphia, with no significant variation by social class, gender or age (PLC, Vol. 2: 134). Accordingly, we have outsiders hearing Philadelphia *farms* as *forms*, *far* as *four*, and *card* as *court*.

- (54) Steve N. [Philadelphia]: We better get hold of him soon, because his [dɛ:ns kɔrd] is going to be filled up.
 Gillian S. [Montreal] ⇒ dance court [She couldn't figure out what he meant; but after she hung up, realized that he had meant *dance card*.]

2.8.2 The fronting and raising of /aw/

In the 1970s, conservative older speakers in Philadelphia realized /aw/ with a low front nucleus [æʊ]. Younger speakers have shifted to [ɛʊ], and in more advanced forms to [eɔ] with a low back glide target. Conn's re-study of Philadelphia (2005) shows that this process of fronting and raising reached a maximum among those born in the 1950s and is receding steadily among younger speakers. Wagner (2008) confirms this recession of (aw).

Our data set shows six misunderstandings of Philadelphian /aw/ that reflect the upper mid position of the nucleus. Typically, the upper mid front nucleus is identified with a vowel in that area, and the back rounded glide is lost. Thus /aw/ is misheard as the vowel of /æh/, which is usually higher and fronter but has an inglide that descends only to [ɔ]. Thus *frown* is heard as *fan*, *ground* as *grand*. When *sound* is heard as *sales*, we note a confusion of the rounded [ɔ] glide with back unrounded [ʌ] (see below on the vocalization of /l/). When *mouse* is heard as *mess*, the glide is not observed at all. A fully articulated glide can lead to a re-analysis – a misunderstanding that takes some further events to reverse.

- (55) Mother of toddler [Philadelphia]: Get up [off the floor] and sit down!
 Charles Boberg [Edmonton] ⇒ sit day-old [as in day-old bread]

One result of the /aw/ shift is the homonymy of *crow*n and *cray*on, which is pervasive throughout the city even among conservative speakers, being facilitated by the use of /oh/ in the second syllable. The reverse misunderstanding, displayed in (56), suggests that Philadelphian /aw/ may be re-analyzed as /eyoh/:

- (56) Brian K. [Phila suburbs]: You know what else is there [in Easton, PA]?
 The Crayola Crayon factory.
 Sherry Ash [Chicago] ⇒ The Crayola crown factory.

In (57) we see a Philadelphian repeating *crown* in such a way that a non-Philadelphian interprets it as *crayon*.

- (57) Laurel M. [Philadelphia] [having looked up the name *Stephen*]: Oh, it's from the Greek for *crown*.
 Jean F. [Philadelphia]: Right, cr[æw]n.
 Kyle G. [Cincinnati]: What? Crayon?
 Jean F.: No, cr[æw]n, like a king wears!
 Kyle G.: Ohhh, cr[aw]n!!

A similar development of /aw/ as [eɔ] in the Inland South produced the misunderstanding in (58):

- (58) Christine K. [TN]: Laurel leaves were used to make crowns.
 Robin S. [NYC] ⇒ to make crayons

2.8.3 *The raising of checked /ey/*

Among the new and vigorous sound changes in Philadelphia is the raising of /ey/ in checked syllables, to the point that it largely overlaps the distribution of /iy/. Conn (2005) shows that this change has continued to progress in the twenty-first century. This was the basis of the misunderstanding of *slaves* for *leave* in (16). Further misunderstandings of Philadelphia (eyC) have appeared: *eight* as *eat*, *snake* as *sneak*, *fashion mate* as *fashion me*, and *train* as *tree* “n.”

A misunderstanding over many years is reported by Ron Kim. In the early 1990s, he listened to a local rock station that frequently broadcast ads for a Philadelphia jewelry store which he understood as “Robbins Ethan Walnut,” with the slogan “Our name is our address!” Over the years, he remembered “Ethan Walnut Street” as a strange address. In 1998 he was walking west on Walnut Street in Philadelphia’s Old City, passed 8th Street, and saw the store with its sign reading “Robbins 8th and Walnut.”

2.8.4 *The lowering of /e/*

In the 1970s, the lowering of /e/ appeared as an incipient change in the vowel system of Philadelphia, part of the general re-orientation of the front vowel system to a Northern rather than Midland model, which was consistent with the raising of

/ey/ in checked syllables. There are many indications that this change is progressing in Philadelphia, and the natural misunderstanding data set confirms this.

- (59) Hairdresser [Phila]: [...] dress an' everything.
 Gillian S. [Montreal] ⇒ grass an' everything.
 Hairdresser: I was wearing a silk dress.
 Gillian S. ⇒ suck grass [...] [She quickly realizes the woman meant silk dress]

The case of (59) is paralleled by the mishearings of *req[uisition]* as *rack* and of *Jerry* – as *Jarry* in one case and as *Jared* in another.

2.8.5 The vocalization of /l/

In many areas of the US, syllable-final /l/ is undergoing vocalization. ANAE does not trace this variable, since it is not reliably recorded in telephone interviews, but does report on a number of mergers of vowels before /l/ that appear to be largely associated with vocalization. The vocalization of /l/ is one of the main contributors to misunderstanding in this data set, with 25 instances. In coda position, the unrounded glide representing /l/ is often heard as a rounded glide. Thus *hold* was heard as *who?* and *Bill* as *who's*; *rental* as *Reno*; *Strassel* as *Strasso*. Conversely, an /l/ not intended can be supplied, as in the mishearings of *go* as *goal*, *O-negative* as *all negative*, *omissions* as *all missions*, and *sulking* for *soaking*. In pre-consonantal coda position, /l/ is most often lost, as in *boats* for *bolts* and *office* for *alpha's*.

The most numerous and dramatic examples of misunderstanding appear in intervocalic position, and the 13 cases found are heavily concentrated in Philadelphia, where the vocalization of /l/ is extended to this position (Ash 1982a, b).⁸ A leading and paradigmatic item is the confusion of *balance* and *bounce*. It has been observed experimentally that if customers walk into a running shoe store in Philadelphia and ask for “New Bounce” shoes, they will be shown “New Balance” shoes without further question. In the data set we observe:

- (60) Jeffrey W. [Philadelphia]: [...] to see if the payroll sheets balance
 Corey M. [NY] ⇒ to see if the payroll sheets bounce.
- (61) Larry B. [Philadelphia] [speaking to his 4-year-old son Jonathan]: [...] balance.
 Jonathan, 4: Bounce. [repeats, and begins to bounce up and down.] [observed by Ruth H.]
- (62) John M. [Philadelphia]: You meet two kinds of people in life, some can balance their checkbooks and some can't.
 Mark K. [Northern NJ] ⇒ bounce.

The phenomenon is not confined to Philadelphia:

- (63) Mary Ann [TX, travel agent]: There's a small balance due.
 Ruth H. [CT]: There's a *what* due? [adds that she had no idea what was intended, it sounded like "bounce" if anything.]

We have recorded a long string of misunderstandings of intervocalic /l/ spoken by Philadelphians. A teller reading my name "William" was heard to say *WHAM*. A man on the phone said "Tell him it's Harvey," and the listener heard *Thomas Harvey*. *Volleyball courts* was heard as *Bible courts*. A Philadelphian asking for a *cooler* was understood as asking for a *Coor* (one of the minority cases in which the pragmatic situation favored the misunderstanding). *Spelling* was heard as *spine*.

The converse error is also found with intervocalic /l/. Thus in the course of her work Ruth Herold asked a man in Eastern Pennsylvania where his father was born. Having heard many deletions of intervocalic /l/, she heard him say "Williamsburg," and only after some time did she find out that he had said "Waynesburg." Though most of these errors arise in communication between Philadelphians and others, (64) occurred in a conversation between two Philadelphians observed by an outsider.

- (64) Instructor [Philadelphia]: Tell me what this sentence implies to you:
 "Mr. Williams strode into the office."
 Student [Philadelphia]: It means he was real casual.
 Instructor: For *strode*? As in *stride*? Do you know what "stride" means?
 Student: I'm sorry, I thought you said "strolled." "Strode" means "forcefully."

2.9 r-less vs r-ful Dialects

There is some tendency towards the vocalization of /r/ codas in Philadelphia (Myhill 1988), but the chief sources of r-lessness in our data are from British, New York City and African-American speakers. Thus one New Yorker heard the *floor* of another New Yorker as *flaw*, and a listener raised in upper New York State heard another New Yorker's *yarn* as a *yawn*. The *Carl* of one African-American speaker was heard as *call* by another African-American listener. As is well known, the insertion of /r/ where it was not intended is also quite frequent. A New Yorker heard a Mid-Atlantic *autistic* as *artistic*, and another New Yorker heard Midland *Aubie's* as *Arbie's*. Given the general variation of /r/ with zero, even a Midland listener may hear /r/ where it was not intended.

- (65) Jill N. [NYC]: They have a new pawn shop now.
 Naomi N. [NE] ⇒ They have a new porn shop now.

It was a good 30 seconds before this misunderstanding was straightened out by succeeding events.

2.10 Sound Changes General to North America

To this point we have been examining the effect on comprehension of regional differences, and primarily the effect of dialect contact. Some sound changes general to all or most of North America produce misunderstandings. Short *a* is raised before nasal consonants to one extent or another in all American dialects, to mid and high ingliding position, so that *Ian* is in many areas homonymous with *Ann*. Thus a New Yorker heard a Philadelphian pronouncing *Ann Arbor* as *Ian Arbor*, and a Southerner heard a New Yorker's *Ian Hancock* as *Ann Hancock*. This high ingliding /æh/ can be truncated and is most commonly misheard as /i/:

- (66) Charlotte A. [VA]: Is Ann coming?
 Marybeth L. [Philadelphia suburbs]: Incoming? Incoming from where?

It is also not uncommon for tensed short *a* to be heard as short /e/. Thus we find *Kennedy* for *Canada*, *pens* for *pans*, *bed* for *bad* and *bread* for *grass*.

2.10.1 The fronting of back vowels

ANAE, Chapter 12 shows that /uw/ is generally fronted throughout North America, with the exception of limited areas in Eastern New England and in Wisconsin/Minnesota. This fronting frequently reaches high front nonperipheral position, with a nucleus at [ü]. When the back glide is truncated or fronted, this vowel can be misheard as /iy/. Thus Philadelphia *scooter* was heard by another Philadelphian as *skeeter*. We also note *youth* misheard as *yeast*, *shoe* as *cheese*, and *boozey* as *beesy*.

The parallel fronting of the nucleus of /ow/ is general to the Mid-Atlantic region, the Midland and the South. The fronted nucleus is heard as an unrounded vowel. Thus a Philadelphian's *Ocean City* was misheard as *Nation's City*; a Pittsburgher's *phones* as *films*. Ruth H. observed the following struggle to understand the Philadelphia version of *boat*:

- (67) Philadelphia woman [boarding Piedmont Flight from Philadelphia to Florida]:
 I'm going down to Lauderdale and then on a boat.
 Stewardess [mimicking extreme Philadelphia pronunciation as if it were a place name] Abewte? where's that?
 Passenger: A boat.

Stewardess \Rightarrow ?

Passenger: A boat.

Stewardess [finally understands.]

2.11 An Overview of Natural Misunderstandings

The set of 869 natural misunderstandings collected yields some insight into the nature and extent of cross-dialectal comprehension, but it plainly has limitations. We have only occasional records of the phonetic form of the input, which we largely project from the dialect background of the speakers. We have no information on the absolute frequency of misunderstandings as compared to correct understanding. The data do give us an idea of the relative number of misunderstandings due to dialect motivation, though we cannot be sure of the extent to which the observers' attention was biased towards cases of this type. Most of the misunderstandings noted here crossed dialect boundaries; there are relatively few among speakers of the same dialect, but the comparison is not a controlled one.

These limitations will be corrected in Chapters 3 and 4, which report controlled experiments on cross-dialectal comprehension. Conversely, the results from natural misunderstanding will serve to correct the limitations of these controlled experiments, which evoke responses in an environment that is inevitably associated with the norms of careful, nonlocal speech patterns. The data on natural misunderstandings are free from such effects. We can of course project other methods of studying misunderstanding. One can examine errors in the transcriptions of recorded texts, or search through tape recordings of sociolinguistic interviews. From past experience, however, it seems that the first will provide too many errors, the second too few. With all its limitations, the method we used here emerges as one valid way of capturing the cognitive consequences of linguistic change.

These results run counter to the common illusion that North American English speakers have no trouble understanding other North American dialects of English. If the stored memories of our previous experience were available for search and comparison, along with our memories of who said what, as exemplar theory argues, we would not go on repeatedly confusing the Canadian allophones of *coffee* and *copy*. Instead we hear these utterances through the filter of our own categories: the allophone [ɔ] in *copy* is heard as the phoneme /oh/ in *coffee*. This result gives little support to the notion that, over the years, we construct a pandialectal phonology in the spirit of C.-J. Bailey (1972), to translate from one system into another. The study of natural misunderstandings displays a persistent, mechanical and comical incompetence on the part of the most highly trained and knowledgeable observers. Why are these errors so comical? It is because they show us to be victims of our own habitual behavior, unable to make use of the rich store of knowledge that we access through conscious reflection. We can return to the observation that a very

large part of these natural misunderstandings come from linguists whose professional competence rests on their knowledge of dialect differences. I write in the third person about these mishearers, though I was myself a prominent member of the group. If anyone should be able to draw upon a pandialectal grammar, built over years of study and experience, to interpret the productions of speakers of other dialects, we should have been able to do so. But we did not.

This view of the cognitive consequences of linguistic change makes it even more urgent that we pursue the search for the driving forces responsible for these large-scale rotations, mergers and confusions. Part B of this volume will make an effort to do so. But it seems that, whatever forces are operating to produce the results displayed in this chapter, they are outside of our control. It would be comforting to think that linguistic change is the work of active agency, in which we all maximize our status through the manipulation of social variants. But these 869 observations of natural misunderstandings show considerable distance between intention and achievement in linguistic interaction. We observe no desire to be misunderstood or to misunderstand, but, to the extent that we recognize it, there is a sense of strong dismay that something has upset the linguistic applect.