

VARIATIONS IN POLISH NASAL /ɛ/:
A CONTRIBUTION TO THE DEVELOPMENT OF CONTRASTIVE
SOCIOLINGUISTIC METHODOLOGY

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Contrastive sociolinguistics (CS) is a relative newcomer to the field of contrastive linguistics. Although there has been as yet little empirical work done, attempts have been made to clarify a number of theoretical and methodological problems (Janicki 1979, 1982). In this article I will briefly review some of Janicki's ideas, and present some sociolinguistic data on Polish. Although these data were not collected within the theoretical and methodological framework of contrastive analysis, I believe they may help exemplify some points Janicki has made, and answer some questions he has raised.¹

In his 1979 article on the development of CS, Janicki concerns himself primarily with the goals and methodology of CS, and in particular with the possibility, indeed the necessity, of finding equivalent sociolinguistic patterns in the two languages under investigation. This involves the extension of current sociolinguistic theory and methodology to the developing field of CS. This means studying language as it is used in the speech community, studying language as social behavior. The behavior in question consists of "actual

¹ This article is loosely based on a paper presented at the 18th International Conference on Polish-English Contrastive Linguistics (Johnson 1982). I have made several substantial changes, however. The entire section on communicative competence has been removed; I am currently expanding it and will publish it as a separate paper. I have also dropped the discussion of the fronting of /a/, and have expanded the analysis of /ɛ/, including data not presented in the earlier version. (A full discussion of both variables can be found in Johnson 1980). An expanded version of the section on /a/ and language change-in-progress is also being prepared as a separate paper. I wish to thank the participants at the conference for their often insightful questions, comments, and criticisms, and especially for the interest and enthusiasm shown by many for whom quantitative analysis and variation theory are new approaches to the study of language.

performance as investigated on a group of speakers strictly defined by social and geographical parameters" (Janicki 1979:33).

Janicki outlines a two-fold objective for CS, to "provide a systematic juxtaposition of equivalent and nonequivalent sociolinguistic patterns, and provide an analytical framework for the formation of theories of language use" (*ibid.*:34). A major concern in the fulfillment of this objective is that the two varieties, in this case languages, actually be "comparable in sociolinguistic terms... Contrastive sociolinguistic analyses cannot be undertaken until the necessary *levels of comparability* have been established and clearly defined" (*ibid.*:35, emphasis in original).

The concept of levels of comparability is somewhat more complex than it appears at first glance. Granted, all languages are comparable in terms of function, i.e. all have a range of functional varieties. All languages have stylistic variation, or variation in registers; all languages reflect social differences based on categories such as age, sex, and social status. But the sociolinguistic markers of these linguistic varieties will not necessarily be the same in two different languages, making direct comparison difficult.

More recently, Janicki has raised yet another problem involved in establishing levels of comparability, in which he includes sociolectal and stylistic levels (Janicki 1982:2). The problem, of course, is that the number and/or range of, for example, stylistic levels, may be different in two different languages. If the "informal" style in one language includes a greater range of linguistic behavior than the "informal" style of another, then are these valid levels of comparability?

This notion of speech style is one that has troubled sociolinguists for some time because of the arbitrary nature of the styles delineated. We know from observation of speech behavior that all individuals and all speech communities include in their repertoires a range of speech styles, from almost cryptically intimate through an extremely formal or "frozen" style, to use Joos' term (Joos 1962). However, these styles represent a continuum; there are no natural boundaries separating one style from another. Since the boundaries are imposed by the linguist for his or her own purposes, there is no set number of styles in any language. We also know that it is virtually impossible for the linguist to elicit very informal speech from informants; the mere presence of an outsider with his or her paraphernalia is a constraining influence on the style of speech a person will use.

Nevertheless, we continue to use this concept of style, we continue to elicit arbitrarily bounded styles because they have proven to be useful. The kinds of cross-style variation speakers use give us more data, give us additional information about the range of variation the speakers have in their repertoires. The patterns of variation in speech that emerge as a speaker moves from the artificially formal style of the word list to the relatively informal con-

versational style have enabled us to make useful generalizations about linguistic behavior and linguistic or sociolinguistic processes. As long as we, the investigators, remember that our "styles" represent only a portion of the range of behavior available to the speaker, and as long as we remember that they are categories imposed on the data, we can continue to use them as heuristic devices and can test their validity as heuristic devices cross-culturally.

When we are trying to set up levels of comparability between two languages, we must decide whether we are interested in comparability at the level of function or at the level of analysis. Ideally, of course, these two levels would be congruent. In actual practice they need not be. It is obvious that the boundaries and even the contexts of "informal" speech may be different in Polish and English. My contention is that at this point in the development of CS it does not matter. The dividing line between "informal" speech and "careful" is arbitrarily set anyway, even in the speech of a single individual.

The stylistic range of any speech community, or any individual, is a continuum artificially divided into discrete segments by the sociolinguist. This division into segments is based on both linguistic and nonlinguistic factors. Traditionally, style has been defined by context, and data-gathering sessions are often designed to elicit a range of discrete styles, usually including artificially formal styles such as the reading of word lists. (See Labov (1972) for a detailed discussion of this problem.) The same techniques that are used to elicit styles in English can be used in other languages to test the hypothesis that different varieties of speech can be elicited by varying the context. Once we have established that the concept of style is valid and that changing the context can trigger some kind of style shifting, then we can, if we wish, investigate more carefully differences in the stylistic continua of two or more languages.

In this paper, therefore, I am not claiming that the styles I elicited represent all possible styles available in Polish, nor that the repertoires of Polish and English speech communities are identical. I do maintain that they are demonstrably comparable, and that the use of arbitrarily defined styles has resulted in the collection of data which indicate linguistic processes in Polish strikingly similar to those described in various studies of English and which add to our knowledge of language and linguistic behavior in general.

I am further arguing in this paper for the comparability, or even the equivalence, in Polish and English of other social factors such as age, sex, and social class membership which have been shown to affect or interact with sociolinguistic processes in English-speaking communities.² I believe that

² I am presenting only Polish data in this paper; comparable studies of English are legion. See for example Labov 1966, 1980; Trudgill 1974, 1978.

this approach meshes neatly with Janicki's proposed solution to the problem of establishing levels of comparability: "the essence of contrastive sociolinguistic inquiries will be contrasting linguistic items as they are distributed in the multi-dimensional social space" (Janicki 1982:11).

The data I am using for this paper come from a survey I conducted in Poznań in 1977.³ The survey was based on the model developed by Labov in his New York study (Labov 1966) and subsequently used by others in various studies conducted in the United States, Canada, and Great Britain. I used a stratified representative sample of 37 individuals. The stratification of the sample was based on age, sex, and social class membership. Social class membership, in the case of the adults, was determined by education and occupation; children were assigned to their parents' social class. The social class descriptors used were based on results of empirical sociological research done in Poland. (See, for example, Wesolowski 1979, Wesolowski and Słomczynski 1968).

The sample was further divided into two age groups: high school students 17 or 18 years old and their parents, whose ages ranged from 46 to 56. All the parents interviewed were either natives of Poznań or had lived there at least twenty years. All the students had been born and raised in Poznań. The final sample then consisted of sixteen members of the intelligentsia, evenly divided by sex and age, fourteen working class people (six adults, eight students) evenly divided by sex, and seven members of a socially ambiguous group (two adults, five students). These last were people who for various reasons did not fit neatly into the two previously delineated social groups. For example, there were students whose father was working class but whose mother was from the intelligentsia, and there were adults who came from a working class background, had little education, but who were working in jobs usually limited to the intelligentsia.

Data were collected in structured interviews in the schools and homes of the informants. I did not conduct the interviews myself, since my American accent caused most of the informants to slow down and speak more carefully. The interviews were actually conducted by a Polish sociology student; I was, of course, present at all interviews.

The interview schedule was designed to elicit a range of styles, including reading a word list, reading a connected text, and two conversational styles: a careful interview style and a more relaxed "informal" style. The division of conversational data into careful and informal styles was based in part on guidelines set forth by Labov (1972). Speech was automatically classified as careful if it was the first sentence in a direct response to a question or if it was

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directed at me. Speech was automatically classed as informal if it was directed to a friend or family member. For the classification of those utterances which did not fit any of these categories I used other linguistic and nonlinguistic cues: speech tempo, vowel reduction, and context (for example, speech occurring while the respondent was paying attention to something other than the interview was usually considered informal). Long narratives were classed as informal in most cases. For example, one of the questions prompted many of the adults to tell us about their experiences during and after the war. Any utterance about which I was unsure was classed as careful, so that any error would be on the conservative side.

The variable I will discuss here is the nasal vowel /ɛ̃/ in word-final position. This variable was originally chosen for analysis because I had noticed in informal observation that there seemed to be a great deal of variation in its realization, and I wondered what kinds of constraints there might be on this variation.

Previous studies of Polish nasal vowels show a remarkable lack of unanimity about their phonemic status, distribution, and phonetic realization. They agree, however, that word-final /ɛ̃/ is virtually always denasalized. Stankiewicz (1956:520) maintains that "the nasal vowel /ɛ̃/ is in free variation with /ɛ/ in emphatic or, rather, artificial speech. In colloquial standard Polish there is no opposition between, e.g. /zɛm'e/ 'lands' (pl.) and /zɛm'e/ 'land' (acc. sg) [orthographically *ziemie* and *ziemię*]. The two forms are homonymous". He further maintains that in the Wielkopolska dialect, which includes Poznań, there are no nasal vowels, only oral ones.

Bąk, describing the realization of /ɛ̃/ in Standard Polish states, "The vowel /ɛ̃/ at the end of a word has weak nasalization in careful speech, and in colloquial speech a complete lack of nasalization" (1977:53; my translation). Entenman (1977:31) believes that Polish nasal vowels are nasalized only before continuants. Both he and Ruhlen (1978:230) explain the presence of the diphthong [eɨ̃] (see below) as a stage in the process of denasalization.

Brooks feels that the distribution of nasal vowels "is limited to two positions: before fricatives and word-finally" (1968:26), and considers the word-final position to be crucial in the analysis of nasal vowels. In an experiment using educated speakers of the Warsaw dialect, she found three variants of word-final /ɛ̃/: [ɛ̃], [eɨ̃], and [eɨ̃̃], the third variant occurring "only in emphatic or deliberate speech" (1968:40). Only 14% to 17% of word-final /ɛ̃/ showed any nasality.

None of these studies accounts for the observed occurrences of nasal variants of /ɛ̃/ in colloquial speech or attempts to constrain their occurrence in careful speech. In this paper I will investigate the occurrences of word-final /ɛ̃/ in the Poznań dialect, and show how the variation is constrained by both linguistic and social factors.

The variable. In the data collected from the 37 speakers, there were 859 occurrences of word-final /ɛ/. Four variants were distinguished:

- (ɛ̃) a monophthongal nasal vowel, 53 tokens, 6.2% of the data
- (eĩ) a diphthong,⁴ 285 tokens, 33.2%
- (eN) a vowel followed by a nasal consonant, 188 tokens, 21.9%
- (e) an oral monophthong, 333 tokens, 38.8%.

Of these, the first three were considered to be nasal variants; (e) was considered completely denasalized. Of the nasal variants, (ɛ̃) and (eĩ) are considered by many speakers to be "standard" or prestige forms. The use of (eN) in any phonological environment other than preceding a stop is stigmatized.

In the analysis presented here I shall present an overview of the distribution of these variants, with particular attention paid to the distribution of the variant (eN), the most interesting sociolinguistically.

Each occurrence of the variable in the corpus was coded for eight conditioning factors: stress; the grammatical form in which the variable occurred; the manner of articulation of the following segment; sex, age, and social class of the speaker; speech style; and the individual speaker. Stress, following phonological environment, style, and social class are the most interesting constraints on the general distribution of the variants; social class and age are the most significant factors constraining the occurrence of (eN). Interestingly enough, sex of speaker had virtually no effect on the realization of the variable.

Stress. When word-final /ɛ/ occurs in a stressed syllable it is almost invariably nasalized (See Figure 1.) Stress is, in effect, a categorical constraint. However, there is no corresponding effect of absence of stress, indicating that other factors also constrain nasalization.

	(ɛ̃)	(eĩ)	(eN)	(e)	
stressed	1.4%	59.8%	34.7%	4.1%	N=73
unstressed	6.6	30.7	20.7	42.0	N=786

Figure 1: Effects of stress

Phonological constraints. The effects of the manner of articulation of the following segment are interesting because they do not fit the expected pattern.

⁴ As Brooks (1968) notes, the offglide of the diphthong is variably nasalized. Wiesław Awedyk has informed me that the non-nasalized diphthong is stigmatized, although Brooks described its use by educated speakers of the Warsaw dialect. Since I felt both variants of the diphthong to represent the same kind of linguistic behavior, I lumped them together in my final analysis. I realize now that that was probably an oversimplification. The raw data are not immediately available to me, but I believe that approximately 90% of the diphthongs in the corpus were nasalized, which supports Awedyk's contention.

According to references cited above (Brooks 1968; Entenman 1977; Stankiewicz 1956) we would expect to find that the variable was always realized as (eN) before stops, as (ɛ̃) or (eĩ) before continuants, and as (e) before a pause.⁵ This is not what the data show, however (See Figure 2).

	(ɛ̃)	(eĩ)	(eN)	(e)	
stop	1.5%	7.3%	46.0%	45.3%	N=137
fricative	8.0	25.9	23.8	42.3	N=286
trill	35.9	28.2	10.3	25.6	N=39
liquid	5.4	37.8	2.7	54.1	N=37
glide	9.1	31.8	22.7	36.4	N=22
vowel	0.0	36.8	5.3	57.9	N=19
pause	3.1	50.8	14.4	31.7	N=319
(no segment)					

Figure 2: Effects of following segment

Only 46% of the variants before a stop are (eN); diphthongs are most likely to occur before a pause (162 of 289 diphthongs, or 53% are found in this environment); and oral vowels occur in all environments. In fact, all variants occur in all possible environments with only one exception: (ɛ̃) never occurs before a vowel. Even if we eliminate those cells with fewer than five cases each, to minimize error, we still find (ɛ̃) occurring before fricatives, trills, and pauses; (eN) before stops, fricatives, glides, and pauses; and the diphthong and oral variants in all possible phonological environments.

Obviously the following phonological environment cannot explain the distribution of the variants of /ɛ/. Other kinds of constraints must be operating on the variable, unless we assume that all variants of /ɛ/ are in free variation.

Style. Stylistic variation is clearly evident in these data (See Figure 3). In the word list style denasalization never occurs, regardless of following phonological environment. (There were three possible following phonological environments for the forms found in the word list: a following pause for those speakers who pronounced each word in isolation, which most did; and a following stop and fricative for those who read the list as though it were a connected text. The forms occurred in the following order: ...się, proszę, ś(więty)...)

	(ɛ̃)	(eĩ)	(eN)	(e)	
word list	4.2%	72.2%	23.6%	0.0%	N=72
reading	8.9	42.5	32.2	16.4	N=506
careful	2.5	8.5	3.9	86.0	N=200
informal	0.0	1.2	2.2	96.3	N=81

Figure 3: Effects of style

⁵ A following /l/ (always realized in this dialect as [w]) and following nasal consonants were considered neutralizing environments; occurrences of the variable in these environments were not included in the analysis.

In the most informal style, however, 96.3% of all forms (78 of 81) were denasalized, again regardless of following phonological environment. Between these two extremes there is also a clear break between the two conversational styles on the one hand and the two reading styles on the other.

The patterns of stylistic variation displayed here are typical of those found in sociolinguistic studies of English-speaking speech communities, including Labov's work in New York City (1966) and Trudgill's in Norwich (1974).

*Social class.*⁶ The effects of social class membership on the realization of the variable are suggestive, but are not as marked as the effects of style (See Figure 4).

	(ɛ̃)	(eṽ)	(eN)	(e)	
intelligentsia	8.1%	36.3%	12.8%	42.9%	N=422
intermediate	3.4	37.0	16.4	43.2	N=146
working class	4.8	26.8	37.8	30.6	N=291

Figure 4: Effects of social class

The intelligentsia speakers use the "prestige" nasal variants more often than do the working class speakers; they also tend to denasalize the vowel more often. The most striking difference between the two groups is in their use of the (eN) variant: it accounts for only 12.8% of the tokens of the intelligentsia, while the working class use it in 37.8% of all possible cases.

Variation within a single style. Since the stylistic constraint is so powerful, it obscures any effect the other factors may have. In order to see to what extent age and social class affect the realization of /ɛ/ it is necessary to look at the variation within a single style. The reading style was chosen for this section of the analysis because it is the only style in which all speakers had a large number of occurrences of the variable in the same phonological environments (there were fifteen occurrences of word-final /ɛ/ in the reading). The results are noteworthy (See Figure 5).

	(ɛ̃)	(eṽ)	(eN)	(e)
intelligentsia	10.3%	52.9%	18.8%	18.8%
intermediate	0.0	50.0	42.9	7.1
working class	4.2	15.6	69.8	10.4
Parents				
	(ɛ̃)	(eṽ)	(eN)	(e)
intelligentsia	14.8%	48.1%	18.5%	18.5%
intermediate	8.1	45.2	19.4	27.4
working class	7.4	47.4	32.6	12.6
Students				

Figure 5: Effects of class and age in the reading

⁶ The behavior of the intermediate social group is not discussed here; the group was so small (particularly in the parental generation) that the results may be insignificant on

The most obvious difference between social classes and age groups here is the use of (eN). The working class adults use (eN) more than twice as often as their children do, and almost four times as often as the intelligentsia. The fact that almost 70% of the tokens of the working class adults are (eN) cannot be explained by phonological environment; only 20% of the variables in the reading occurred before stops. It is obvious that in this controlled set of data social class is the strongest constraint on variation, with age of speaker also having a significant effect.

Phonological environments of (eN). Finally, to verify the effects of age and social class membership, I will show the distribution of the variant (eN), controlling for following phonological environment (See Figure 6). The figures given represent occurrences in all styles.

	CLASS		AGE	
	Intelligentsia	Working Class	Parents	Students
stop	56.6%	20.2%	26.3%	47.1%
fricative	26.4	38.5	34.8	38.2
pause	15.1	33.9	32.2	11.8
glide	1.9	3.7	3.4	1.5
trill	—	1.8	1.7	1.5
liquid	—	.9	.9	—
vowel	—	.9	.9	—
N=	53	109	118	68

Figure 6: Phonological environments of (eN) by class, age

Although a following stop is the predictable environment of the occurrence of (eN), only 20.2% of the (eN) tokens of the working class occur in that environment, compared to 56.6% for the intelligentsia. The lower than expected figures for all groups here is clearly a result of the effect of style; what is significant is the difference in the rate of occurrence between intelligentsia and working class, and between parents and students. Another surprising result is that for working class adults the second most favorable environment for (eN) is a following pause, resulting in forms like [idem] for *idę* or [śem] for *się*. A following stop actually ranks third in the list of constraints for these speakers. Working class adults are also the only speakers who can have (eN) in any environment, although the number of cases is too small to be significant in any category except stop, fricative, or pause.

Conclusions. The analysis presented above is significant on two different levels, for sociolinguistics in general and CS in particular. The analysis has shown that variation in the realization of /ɛ/ can not be considered random or

any but the anecdotal level, although I feel their behavior is indicative of larger social processes in Polish society (see Johnson 1979, 1980 for a further discussion of this problem). Data from this group were left in the charts for comparative purposes; they were omitted from Figure 6 because of lack of space.

free variation, and that the variable is sensitive to sociolinguistic constraints such as style, social class, and age of speaker. The variation is constrained by both linguistic and sociolinguistic factors: the occurrence of the variable in a stressed syllable and the style of speech are near-categorical constraints. Further variation can be accounted for by the social class and age of the speaker and by the manner of articulation of the following segment.

The constraints on the occurrence of the variant (eN) are particularly interesting. It is here that the effects of social class and age are most evident; elsewhere they are masked by the more powerful effects of speech style. It is likely that the use of (eN) by the working class is an example of what Trudgill (1974) has called covert prestige.

The results of the analysis have validated the use of elicited speech styles in Polish, even though the techniques for elicitation were developed for English-speaking speech communities. This in turn has important implications for the field of CS. The knowledge that elicited and arbitrarily bounded speech styles are meaningful in Polish, as they are in English, should make it easier to design research that is overtly contrastive in nature. We know now at least some of the dimensions that make up "the multi-dimensional social space" (Janicki 1982:11) — style, age, social class — and we know that they are as important in Polish as they are in English. Even though the stylistic repertoires of Polish and English are not identical, they are comparable at the level of analysis. Having established comparability at the level of analysis we can refine our techniques, expand our data base, and go on to comparative and contrastive analyses at the level of function.

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