

PHONOSTYLISTICS AND SECOND LANGUAGE ACQUISITION

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1. Introduction

This paper is one in a series discussing the acquisition process of second¹ language phonology within the framework of Natural Phonology. As all others in the series,² the paper is based on both experimental and observational data. Its main concern centres on the acquisition of second language phonostylistic (i.e. style-dependent) processes of casual speech.

Do learners acquire the ability to speak casually in a foreign tongue? In other words, do they acquire the phonostylistic processes of foreign casual speech? If so: what is the underlying mechanism of this acquisition process?; is it universal for all learners?; what criteria decide about a mechanism employed? Answers to the above questions are sought out in the present paper.

2. Hypothesis

The model of Natural Phonology is easily applicable to the situation of an adult L2 (second language hereafter) learner. His phonological system is much reduced in comparison with that of a child, and comprises only selected processes and underlying representations together with learned rules. It is this native system that is confronted with foreign language requirements. L1 (first language hereafter) processes are subconsciously applied by the learner to L2 strings, which results in interference in L2 unless a native process happens to be identical with one selected to operate in L2. When the L1 system of the learner lacks some process operating in L2, he has to learn

¹ "Second" and "foreign" are used interchangeably.

² Cf. the references for other papers in the series.

it, in the same way as he learns L2 rules. If the processes happen to be differently limited in the two languages, the learner has to learn the L2 constraint as a new rule.

The L1 interference is predicted to be stronger in casual speech situations, as the phonostylistic processes of casual speech are less constrained and they are applicable to the most natural and least controlled style of speech.

This simple and straightforward model of the acquisition is, however, by no means comprehensive enough to account for the process in its whole complexity. It can be questioned on at least two grounds. Firstly, the acquisition of L2 phonology is conditioned by a multitude of socio-psychological factors whose significance is overlooked in the model. Secondly, the model predicts that L2 processes acquire the status of rules in the learner's L2 production and, consequently, do not apply in uncontrolled speech e.g. in slips of the tongue, by analogy with other rules and by contrast with processes; however, the prediction seems observationally inadequate.

The setting in which a language is acquired – formal or natural³ – may constitute a demarcation line between two different groups of learners. It is not only the presence or lack of instruction that leads to different degrees of achievement within the two groups – this would be a decisive factor if other determinants were of equal value. The other conditioning factors, however, are usually quite discrepant and, also, play different roles in the respective settings.

The most important factors are: the attitude of the learner towards the language learned and to its speakers which is partly responsible for the learner's motivation for learning the language; the purpose of learning the language which influences his orientation; and the aptitude of the learner for learning in general and for studying languages in particular.

Motivation and orientation can be predicted to be far from similar in the two settings. Aptitude, on the other hand, plays a different role in each of them.

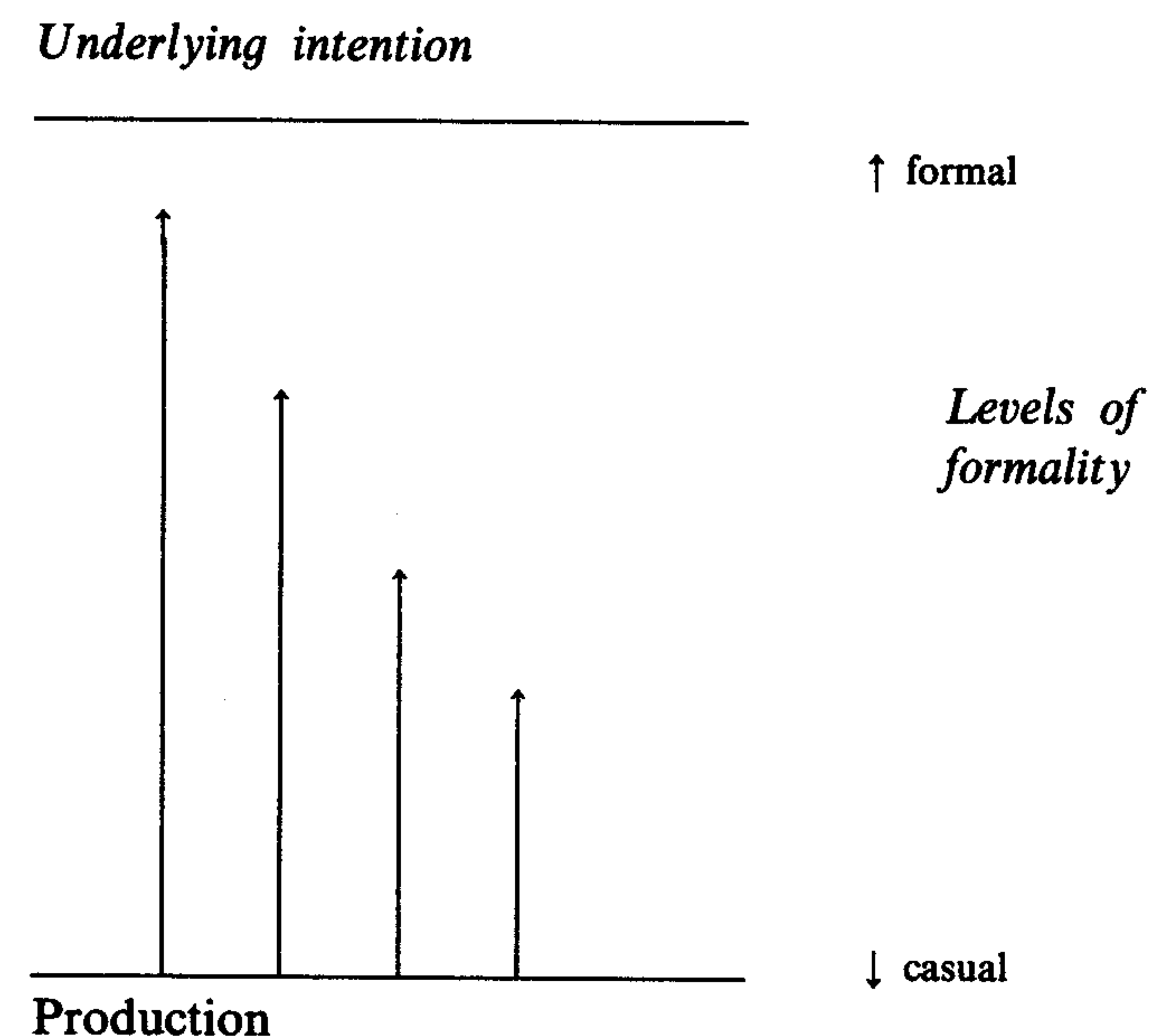
One may hypothesize that, depending on the value of the above factors, the learners in the two settings acquire foreign language phonology by using different mechanisms. In the case of formal setting learners the mechanism may be conscious learning of both processes and rules. On the contrary, natural setting learners may "employ" subconscious acquisition, in the child's fashion, leading to the reactivation in the learners' minds of natural phonological processes which have been passive since the time first language acquisition finished. Alternatively, the learning procedure may be homogeneous

³ By *formal setting* I mean any teacher-based training course in a second language; by *natural* – the acquisition of a second language in a second language speaking country through every day interactions with the speakers i.e. for purely communicative purposes.

for the learners of both settings: they learn by observation and imitation (the formal setting learners are richer by instruction), while they differ largely in the level of achievement, with favourable conditions being usually on the formal setting learners' side.

The latter suggestion is favoured by the author. Both, however, have to be subjected to testing.

Irrespective of the nature of the acquisition mechanism, it is uniform for all phonological processes i.e. obligatory, optional and phonostylistic. The term *phonostylistic* is used here, after Dressler (1985), to denote style-dependent phonological processes. In the paper, only the basic style differentiation is utilised i.e. formal vs. casual. Phonostylistic variation as a phenomenon is understood as follows:



The underlying sound intention is the same irrespective of the style used by the speaker (in his native tongue); however, it is reached to varying degrees in particular styles, the biggest gap between production and intention existing in casual speech.

The learner's ultimate aim (of which he is not aware) is to "decipher" the foreign language intention level. Approaching this aim is an individual endeavour: the task may be made easier for the learner in a formal setting by supplying him with proper instruction; in a natural setting the task may be harder if the learner is exposed predominantly to casual speech effectively masking the underlying intention. In the latter case, the learner matches his foreign language perceptions to the native intention.

Besides the main acquisition mechanism, there exists at least one more way in which L2 processes find their place in the learner's foreign language speech. The learner learns frequently used lexical items containing the process outputs. This refers especially to those applications of phonostylistic processes which have become lexicalized, and, therefore, function style-independently. The lexicalizations originate mainly in casual speech.

The character of a speech situation depends, among other things, on such factors as the topic of conversation, the relationship with the interlocutor(s), the place of the conversation, personal characteristics of the speakers and the like. The situation which speakers enter most often is a casual speech one. It does not require of the speaker any special control of his linguistic performance, which makes him pay very little attention to pronunciation. The low level of attention triggers the application of the processes serving ease of articulation — casual speech lenitions.

Speed of delivery constitutes another dimension in casual speech. It usually correlates in an inversely proportional manner with attention: the higher the attention level the lower the speed. This, however, is not a constant. In casual speech, when there is little attention paid to the way of speaking, speed might well stay low. Consequently, speed is a factor involved in a one-way implication: high speed implies the application of certain assimilatory processes contingent upon the inertia of articulators, but not the opposite: the application of these processes does not imply that the utterances in which they occur have been produced with high speed.

There are instances in the literature of maintaining the distinction between fast and casual speech processes or rate — and register-sensitive ones (cf. Hasegawa (1979), Kaisse (1985) or Kerswill and Wright (1987)) as well as of approaching speed and casualness inseparably (cf. Dressler (1985), Shockey (1987) or Ramsaran (1978)). The former position is untenable unless the role of speed is understood in the sense described above. Although from a physiological point of view, theoretically, high speed of delivery does favour the application of some processes (articulators cannot "make it"), still this kind of exclusively physiological conditioning does not belong to speech reality. As Shockey puts it: "human beings probably do not ... ever speak so fast that it's impossible for them to realize all the phonetic distinctions which would be present in a slow version" (Shockey 1987:223).

Coming back to attention, it varies both paradigmatically and syntagmatically. Paradigmatically, the level of attention decides the style of speech e.g. high level of attention renders the style formal. Syntagmatically, within a given style attention may drop or increase e.g. for a time span of one word. Thus, for instance, in a casual style (overall attention low) it may be drawn to an informationally loaded word; or, in a formal style (attention high) it may decrease for a frequently used word, which ultimately leads to lexicalization of this particular item.

All that has been said about casual speech processes refers to native speech. A major problem with the acquisition of those processes by the second language learner consists in the fact that the level of attention in foreign speech does not drop low enough for the processes to apply in a natural way. They are learned and, if at all, applied, semi-consciously or in a semi-controlled manner.

3. Experiment

The purpose of an experiment was to examine the learners' use of a subgroup of phonostylistic processes of English — casual speech processes. The subjects were asked to read a short dialogue (Appendix 2) — in pairs, and a set of 21 short phrases (Appendix 1) — individually, with the following instructions in mind: to read the dialogue quickly and in the most casual way possible (they were allowed to read it silently beforehand) and to read the phrases as quickly as possible (each of them three times).

The reading sessions took place in an anechoic chamber in order to obtain good quality recordings.

There exist, however, certain unavoidable drawbacks connected with the collection of casual speech data. Casual speech situations are those in which an experimenter is an intruder. Moreover, they can hardly be arranged in an anechoic room.⁴ Still a further difficulty is connected with obtaining *non-native* casual speech data.

Acknowledging these drawbacks should not prevent one from investigating casual speech. In the present experiment it was assumed that: identical conditions of the recordings for all subjects rendered the results for particular speakers and processes comparable, and that tendencies noticeable for the sample, especially if matched by observational data did bear significance with respect to testing the hypothesis on the acquisition of foreign language phonostylistics (cf. also Preisler 1986:46ff)

As for the subjects in the experiment, among 33 of them, 22 were Polish — all of them students of English in their first year. The remaining group consisted of speakers of different nationalities (and, thus, native languages) i.e. Austrian, Spanish, Chinese, Japanese and Korean. The subjects were diversified in order to find out about possible universal traits in the second

⁴ There have been attempts at obtaining real casual speech in these circumstances e.g. leaving subjects unexpectedly in an anechoic chamber under the pretext of forgetting the materials to be read by them, and recording their conversation meanwhile; or sitting with subjects in the chamber, trying to involve them in a lively conversation on some catchy topic. These, however, may very easily fail: one might wait long to get a stretch of connected speech in the former case, and in the latter — subjects might resist indulging themselves in a natural conversation in the claustrophobic atmosphere of an anechoic room.

language acquisition procedure. 3 native speakers of English, performing the same task in identical circumstances, served as a control group.

The recordings were analyzed auditorily by the author and one phonetically trained control listener.

4. Results

When listening to the recordings an immediate observation was that although all subjects were given the same instruction *to speak as quickly as possible*, the tempo of some was almost slow. Below, the range of values in syllables per second for the rate of speech of 26 of the subjects is presented – based on two stretches of text selected from the dialogue:

6.5
6.3
5.8
5.6
5.3
4.9 (two subjects)
4.7 (six subjects)
4.4
4.3 (two subjects)
4.2
4.0
3.8 (four subjects)
3.6
2.6
1.7

Thus, “the rapidity of rapid speech” varied from speaker to speaker. This, however, did not impede casualness: phonostylistic processes of casual speech did apply irrespective of speed. For instance:

| | A | B |
|---------------------------------------|---|---|
| <i>I've met Peter at the station.</i> | + | – |
| <i>Has your letter come?</i> | + | – |
| <i>Tell me what you want.</i> | + | + |

where rate of speech for A and B is the same
(8 sylls/sec)

As for the native speakers of English, the only phonostylistic processes all three of them applied (apart from a style-independent sandhi process of

linking r) were the following: nasal assimilation in *triumph* and palatalization (“Yod coalescence”) in *Tell me what you want*. In 13 other contexts phonostylistic processes did apply in the readings by two or only one speaker (they could have applied in 26 contexts).

The main body of data concerns non-native subjects. The results are organized in the following manner: percentages of speakers are presented whose speech displayed a phonostylistic process in a given context.⁵

A. dialogue.

A maximum number of potential occurrences of a process in a given phrase throughout all readings was 17. Out of 18 potential contexts in the dialogue, 11 below were affected.

| Context | Process | Percentage of occurrences |
|---------------------------|--------------------|---------------------------|
| <i>triumph</i> | nasal assimilation | 94.1 |
| [–mf] | | |
| (<i>inquire about</i>) | linking r | 70.6 |
| (<i>power assisted</i>) | ” | 47.1 |
| <i>couldn't you</i> | Yod coalescence | 35.3 |
| [–t/f (j)u] | | |
| <i>exact colour</i> | stop deletion | 23.5 |
| [–k ^h k–] | | |
| <i>a test drive</i> | ” | 16.7 |
| [–s d–] | | |
| <i>dont buy</i> | stop deletion | |
| [m(p) b–] | nasal assimilation | 11.8 |

⁵ For the purposes of a present discussion, major discrepancies between Polish and English phonostylistic processes concerned need to be mentioned.

While English demonstrates noncontinuant assimilation and, possibly, stop deletion in e.g. *Don't be late!*, Polish has only a process of a voiceless stop becoming a voiceless nasal in a homorganic cluster: nasal+stop+nasal word internally.

English is richer from Polish by a plosive assimilation (strident and nasal assimilation being also Polish).

English palatalization before [j] introduces a change by a segment (or in two features: [high] and [anterior] – cf. Rubach (1974)), while a Polish process results in a single feature change (e.g. [t]→[tj]).

Nasality is much more complex in Polish than in English, mainly due to the existence of nasal gliding and vowel nasalization processes which strongly interfere in the learner's English.

For a detailed description of both English and Polish phonostylistic processes of casual speech refer e.g. to: Rubach (1974), (1977) and (1980), and for Polish: Madelska (1987). Polish phonostylistic interference in English is treated also in Dziubalska (1983).

| Context | Process | Percentage of occurrences |
|----------------------------------|--------------------|---------------------------|
| <i>in case you</i> [-ʒ j-] | palatalization | 11.8 |
| <i>a fixed price</i> [-ks p-] | stop deletion | 11.8 |
| <i>ten pounds</i> [-m p-] | nasal assimilation | 5.9 |
| <i>goodbye</i> [-bʰ b-] | stop assimilation | 5.9 |

Phrases.

Percentages were counted from the overall number of speakers i.e. 33. In 14 phrases out of 20 the application of one or two processes was perceived.

| Phrase | Process | Percentage of speakers |
|---|---------------------------------|------------------------|
| <i>Tell me what you want</i> [-tʃ (j)u] | Yod coalescence | 48.5 |
| <i>You mustn't over-eat.</i> [-n̩ əu-] [-r-] | t-deletion/linking r | 45.5/33.3 |
| <i>cap and gown</i> [-ŋ g-] | stop deletion | |
| <i>a kind gift</i> [-ŋ g-] | non-cont. assimilation | 36.4 |
| <i>has your letter come</i> [-ʒ j-] | " | 27.3 |
| <i>What's your weight?</i> [-tʃ j-] | palatalization | 21.2 |
| <i>St. Paul's Cathedral</i> [s m̩ŋ p-] | " | 15.2 |
| <i>I can't go</i> [-ŋ(k) g-] | stop deletion | |
| <i>He won't buy it.</i> [-m(p) b-] | vowel elision | |
| <i>Don't be late.</i> [-m(p) b-] | nasal assimilation | 12.2 |
| <i>Don't miss your train.</i> [-m(p) m-] [-f j-] | stop deletion | |
| | non-cont. assimilation/palatal. | 12.2 |
| | | 12.2/6.1 |

| Phrase | Process | Percentage of speakers |
|---|-----------------------------------|------------------------|
| <i>He kept quiet.</i> [-pʰ k-] [-kʰ k-] | stop deletion and/or assimilation | 3 |
| <i>cup and saucer</i> [-p m̩] | non-cont. assimilation | 3 |
| <i>I've met Peter at the station.</i> [-pʰ p-] [-r-] | stop assimilation/linking r | 0/3 |

Even though rapidity was imposed on the speakers, still their speaking rate remained idiosyncratic. This, however, did not influence the application of phonostylistic processes in either way: the rate of speech alone is not a sufficient condition for casual speech processes to occur.

Native speakers generally applied fewer processes than foreigners. This suggests that, unsurprisingly, they did not find the experimental situation casual enough to trigger a full range of phonostylistic processes of casual speech (cf. levels of formality). Neither did speed have any impact: they spoke quickly but attentively (cf. an attention approach). The consistent occurrence of nasal assimilation in *triumph* and of palatalization in *Tell me what you want* can be accounted for.

The former is conditioned articulatorily (purely phonetically motivated): the vicinity of [m] and [f] in place of articulation makes the nasal assimilate to the following labiodental; moreover, the articulatory configuration of full oral opening for a vowel + complete oral closure and velic opening for a nasal + a narrow oral opening for a fricative is a difficult sequence not only for an English speaker (e.g. Poles share the difficulty) – it requires a concentrated effort on the part of the speaker to produce a clear bilabial nasal with a labiodental fricative next to it. (BASE of articulation?)

The latter is best explained as a case of lexicalization of phonostylistic palatalization in a commonly and frequently used phrase.⁶

Native speaker's data also demonstrated an idiosyncratic use of phonostylistic processes. This is confirmed by the author's observations, and points to a complex conditioning involved in the application of these processes, going

⁶ *Observations.*

The most interesting outcome of the observations of live English speech concerns two processes: phonostylistic palatalization and intrusive r.

Phonostylistic palatalization has undergone lexicalization before *you*, *your* and *year* (this may prove they are clitics) – it is commonly used style-independently, also on TV and radio, even by BBC News-announcers or by priests in church sermons. However, the process is still fully productive in the context of other lexical items beginning with Yod e.g. *It's early day* [ʒ] *yet*;

beyond pure phonetic criteria e.g. a process may be positively or negatively socially marked for a given speaker.

The lack of consistency in the application of phonostylistic processes by the foreign subjects suggests that, firstly, they learned those items which have been lexicalized in English with a process present or which, at least, have been heard by the subjects most often e.g. *Tell me what you want; couldn't you.*

Secondly, even if they have managed to consciously learn some of those processes, they have not achieved the ability to apply them in all relevant environments e.g.

I can't go [ai k^ha:ŋ(k) gəv]

vs.

He won't buy it [hi wəvnt bai it]

The phonetic motivation of labiodental assimilation (cf. *triumph*) seems universal and, therefore, the process was applied by the learners in the relevant English strings.

Individual foreigners demonstrated more phonostylistic casual speech processes in their readings than the native speakers. This proves the lack of precise style differentiation in the learner's speech: its phonological characteristics remain to a large extent constant — the learner puts into practice whatever he has learned no matter the circumstances.

Speakers of six different nationalities revealed similar tendencies with reference to the acquisition of second language phonostylistic processes of casual speech. One may infer, then, that the phonetic motivation of those processes is universally strong and that the non-phonetic i.e. mainly non-normative and performance factors influencing their application act in a parallel fashion in language and, consequently, introduce analogous difficulties into the acquisition process of a foreign language.

Sovie[tʃ] Union; Larges[tʃ] union; like tha[tʃ], yes. (Kaisse's (1987:37) examples of unacceptable contexts for palatalization are observationally inadequate).

Intrusive r has acquired an interesting social status in England nowadays. It is seen as "posh" by educated people (e.g. solicitors, bank managers), but at the same time persecuted by prescriptivists as vulgar. The latter cannot, however, stop its creeping into quite formal styles licensed e.g. by the BBC where announcers use it more and more often e.g. *Neil Kinnock's dilemma [r] is...* or *President Botha [r] of South Africa* and even lawyers say the *law [r] is or law [r] and order*. The latter, incidentally, seems to be one of the first candidates for lexicalization, together with *the idea [r] of*.

Uneducated classes would rather avoid intrusive r to isolate themselves from everything "posh" on one hand, and to obey prescriptivists on the other.

APPENDIX 1

- | | |
|-----------------------------------|----------------------------|
| 1) Put pen to paper | 12) Don't miss your train. |
| 2) I've met Peter at the station. | 13) My china is broken. |
| 3) Has your letter come? | 14) Good morning. |
| 4) Tell me what you want. | 15) You can have mine. |
| 5) I can't go. | 16) He kept quiet. |
| 6) St. Paul's Cathedral | 17) law and order |
| 7) bread and butter | 18) He won't buy it. |
| 8) a kind gift | 19) You mustn't over-eat. |
| 9) Don't be late! | 20) cup and saucer |
| 10) Mrs. Young | 21) cap and gown |
| 11) What's your weight? | 22) I've given up. |

APPENDIX 2

- A. Good morning. I'd like to inquire about the Triumph you've advertized in today's *Standard*.
 B. Yes, we have the car here...
 A. Is the information given about the car valid?
 B. Yes, certainly. It is equipped with auto-transmission and power-assisted steering, which, I suppose, is the most important piece of information for you, and...
 A. Well, obviously, but... is it really ice blue with darker blue inside?
 B. Oh... yes, I can assure you that this is the exact colour of the car.
 A. All right, then. Can I arrange a test drive for, let's say, tomorrow?
 B. Yes, you can have it tomorrow...at...6 p.m.. It'll cost you £10 in case you don't buy the car.
 A. Ten pounds!! Couldn't you make it five?
 B. Sorry, madam, we have a fixed price for all customers.
 A. Well... al right. I'll be there tomorrow. Goodbye.
 B. Goodbye.

REFERENCES

- Angenot, J. P. et al. (eds). 1981. *Studies in pure natural phonology*. Florianapolis: UFSC Working Papers in Linguistics.
 Barry, M. 1984. "Connected speech: processes, motivations, models." *Cambridge Papers in Phonetics and Experimental Linguistics*. vol. 3. University of Cambridge.
 Channon, R. and Shockey, L. (eds). 1987. *In honour of Ilse Lehiste*. Dordrecht: Foris.
 Dell, F. 1981. "On the learnability of optional phonological rules." *Linguistic Inquiry* 12. 31-7.
 Dogil, G. 1978. "Some phonological rules for 'allegro' in English." An unpublished paper.
 Donegan, P. J. 1978/85. *On the Natural Phonology of Vowels*. New York: Garland Publishing, Inc.
 Dressler, W. U. 1972. "Allegroregeln rechtfertigen Lentoregeln." *Innsbruck: Innsbrucker Beitrage zur Sprachwissenschaft* 9.
 Dressler, M. U. 1984a. "Explaining NP." *Phonology Yearbook* 1. 29-51.

- Dressler, W. U. 1984b. "Conditions for the use of external evidence in phonology." In Rhodes, R. A. (ed). Forthcoming. 35-48.
- Dressler, W. U. 1985. *Morphology: the dynamics of derivation*. Ann Arbor: Karoma Publishers.
- Dressler, W. U. and Wodak, R. 1982. "Sociophonological methods in the study of sociolinguistic variation in Viennese German." *Language in Society* 11. 339-70.
- Dressler, W. U. and Tonelli, L. (eds). 1984. *Natural Phonology from Eisenstadt*. Padova: CLESP.
- Dziubalska, K. 1983. *Cyclic and post-cyclic status of phonological rules in rapid speech and language interference*. An unpublished M. A. thesis, Adam Mickiewicz University, Poznań.
- Dziubalska, K. 1984. "Cyclicality and phonostylistic interference." Discussion Papers from the 5th Phonologietagung. Eisenstadt 1984. 62-68. also in *PSiCL* 21. 87-93.
- Dziubalska-Kořaczyk, K. 1985. "How do Poles perform English "tips of the slung"?" *PSiCL* 22. 179-86.
- Dziubalska-Kořaczyk, K. 1985. "Second language learner's phonological behaviour in causal speech situation." In Dressler, W. U. et al. (eds). 1985. 53-61.
- Dziubalska-Kořaczyk, K. 1987 "Rule typology and second language acquisition." In James A. et al. (eds). 1987. 193-207.
- Dziubalska-Kořaczyk, K. 1987a. "English in native and foreign mouth — a laryngographic study of Polish-English contrasts." Proceedings of the XIth ICPHS, Tallinn 1987, vol. 6. 118-21.
- Dziubalska-Kořaczyk, K. 1987b. "Natural Phonology and the setting of foreign language acquisition — a preliminary account of a Polish-English study." A paper presented at the Natural Phonology Symposium at the XIth ICPHS, Tallinn 1987.
- Dziubalska-Kořaczyk, K. "Phonetic awareness of English speech in native vs. non-native speakers — a perception study." A paper presented at the spring 1986 meeting of LAGB, Norwich. To appear in Fisiak, J. (ed.). *Further insights into contrastive linguistics*. Benjamins.
- Fisiak, J. (ed.). 1980. *Theoretical issues in contrastive linguistics*. Amsterdam: John Benjamins.
- Gardner, R. C. 1985. *Social psychology and second language learning*. London: Edward Arnold.
- Giles, H. and Clair, St. (eds). 1979. *Language and social psychology*. Oxford: Basil Blackwell.
- Hasegawa, N. 1979. "Casual speech vs. fast speech." *CLS* 15. 126-37.
- Herok, T. and Tonelli, L. 1977. "Natural Process Phonology and the description of phonological variation." *WLG* 16.
- Herok, T. and Tonelli, L. 1979. "How to describe phonological variation." *PSiCL* 10. 41-55.
- James, A. R. and Leather, J. (eds). 1987. *Sound patterns in second language acquisition*. Dordrecht: Foris.
- Kaisse, E. M. 1985. *Connected speech*. NY: Academic Press.
- Kerswill, P. 1984. "Levels of linguistic variation in Durham." *Cambridge Papers in Phonetics & Experimental Linguistics* 3.
- Madelska, L. 1987. *Mowa spontaniczna. Analiza wariantywności fonetycznej w wymowie studentów UAM*. Unpublished Ph. D. dissertation, Adam Mickiewicz University, Poznań.
- Nathan, G. S. 1983. "A case for place — English rapid speech autosegmentally." *CLS* 19. 309-16.
- Ohala, J. J. 1974b. "Phonetic explanation in phonology." *Papers from the Parasession on Natural Phonology*. *CLS* 1974. 251-74.
- Ohala, J. J. 1986. "Consumer's guide to evidence in phonology." *Phonology Yearbook* 3.
- Preisler, B. 1986. *Linguistic sex roles in conversation. Social variation in the expression of tentativeness in English*. Berlin: Mouton de Gruyter.
- Ramsaran, S. M. 1978. *Phonetic and phonological correlates of style in English: a preliminary investigation*. Unpublished Ph. D. diss, University of London.
- Rhodes, R. A. (ed). Forthcoming. *Evidence in phonology*.
- Rubach, J. 1977a (1974). *Changes of consonants in English and Polish*. Wrocław: Ossolineum.
- Rubach, J. 1977b. "Contrastive phonostylistics." *PSiCL* 6. 63-72.
- Rubach, J. 1980. "Rule ordering in phonological interference." In Fisiak, J. (ed.). 1980. 365-77.

- Rubach, J. 1984. "Morphological and prosodic domains in Lexical Phonology." *Phonology Yearbook* 1. 1-27.
- Shockey, L. 1973. *Phonetic and phonological properties of connected speech*. Ohio State University dissertations.
- Shockey, L. 1987. "Rate and reduction: some preliminary evidence." In Channon, R. et al. (eds). 1987. 217-25.
- Stampe, D. 1969. "The acquisition of phonetic representation." *CLS* 5. 443-54.
- Stampe, D. 1980. *A dissertation on Natural Phonology*. New York: Garland.
- Stampe, D. 1984. "On phonological representations." *Phonologica* 1984. 287-300.
- Tropf, H. S. 1983. *Variation in der Phonologie des ungesteuerten Zweitspracherwerbs*. Unpublished Phil. Diss., University of Heidelberg.
- Wieden, W. 1979. "On the psycho-physics of speech tempo." *Arbeiten aus Anglistik und Amerikanistik* 4,1. 21-35.
- Wright, S. and Kerswill, P. 1987. "Connected speech processes: a sociophonetic approach." Proceedings of the XIth ICPHS, Tallinn 1987. 251-54.
- Zwicky, A. M. 1972a. "On casual speech." *CLS* 8. 607-15.