FACTA UNIVERSITATIS
Series: **Linguistics and Literature** Vol. 2, N° 10, 2003, pp. 389 - 402

ON SOME SOCIOLINGUISTIC VARIABLES IN THE ACQUISITION OF A PHONOLOGICAL SYSTEM

UDC 811.111'34:81'27

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Abstract. *In this paper, the author investigates the influence and interrelatedness of certain socio-linguistic variables, usually considered significant in foreign language acquisition, especially on the level of phonology, i.e. in acquiring the phonological (sub-) system of a foreign language. The data collected by empirical research presented in this paper show that, although the influence of some of these variables is doubtless and remarkable, it is not always possible to single out one of them and to disregard the rest for purposes of analysis. It is not always possible to say which of these influences will prevail under some circumstances either. The acquisition of a foreign phonological system is an immensely complex process, influenced by numerous factors simultaneously, and so is, as the data presented here show, the process of acquiring one's own 'standard language', if it differs from the dialect one acquired as mother-tongue.*

INTRODUCTION

Numerous researches have focused on various factors that can influence the observed degree of mother-tongue interference in the acquisition of the phonological system of a foreign language. Among others, the factors most often singled out as crucial in the acquisition process are *the age* of the learner at the time he/she started learning English[1], and *the number of years spent studying it*[2]. Relying on the data most frequently presented in research papers[3] and theoretical discussions (e.g. Ellis 1996), we aimed primarily at

Received November 1, 2003

[1] Birdsong 1992, Bialystock 1997, Bongaerts *et al*. 1995, Flege 1987, Flege 1988, Flege 1993, Flege 1995, Flege, Takagi and Mann 1995, Flege 1991a, 1993, Flege and Fletcher 1992, Flege, Frieda and Nozawa 1997, Flege, Munro and Mackay 1995b,c, Ioup, Boustagui, Tigi and Moselle 1994, Ioup and Weinberger *eds*.1987, James and Leather *eds.*1987,Leather and James 1991, Long 1990, 1993, Munro, Flege and MacKay 1996, Patkowski 1984, 1990, Singleton 1989, Singleton and Lengyel *eds*. 1995, Wode 1977, White and Genesee 1996, etc.

[2] Best and Strange 1992, Fledge 1991a, Flege 1993, Flege 1991b, Fledge *et al*. 1997, Munro 1993, Riney and Flege 1998.

[3] Barry 1989, Bradlow 1996, Bradlow *et al.* 1997, Godinez and Maddieson 1985, Ingram and Pittam 1987, Stoel-Gamon, Williams and Buder 1994 etc.

investigating the possible influence of these two individual SLA factors upon the degree of interference observed in the interlanguage of learners of English as a second/foreign language (459 subjects), more specifically, in their perception and production of the relevant distinctions in the subsystem of the 12 pure vowels of English.

Moreover, since our research subjects – primary and secondary school pupils learning English in formal setting, at school – were native speakers of an urban variety of Serbian which is considered to be remarkably different from standard Serbian, especially with respect to the vowel system and the specific accentual system of standard Serbian as described in literature (tonic accent, two long accents with different pitch direction patterns, and two short accents with different pitch direction patterns), our research focused not only on the vowels of English as perceived and produced by our subjects, but as much on the differences and similarities of the vowels of standard Serbian and those of the urban Niš variety of Serbian. In other words, the research was also focused on the characteristics of vowels as produced by native speakers of the Niš dialect on the one hand, and, on the other, on the ability of our subjects to perceive and produce all the vowel distinctions relevant in standard Serbian. The aim was to try and trace some of the observed effects of interference back to our subjects' native dialect.

The data obtained in our experimental-phonetic research did confirm that almost all learners' mistakes in vowel perception and production can be ascribed to mother-tongue ('mother-dialect') interference. However, the empirical data clearly indicated that the so-called foreign accent phenomenon is a highly complex one. Namely, it is not always possible to detect a clear co-relation between the observed level of mother-tongue interference in the performance of a foreign language learner and any of the factors usually considered crucial for foreign accent reduction, not even the two major factors considered central in our investigation. Foreign accent reduction proves to be a highly complex task, which depends on the inter-related influence of many different individual and social factors. Thus it is not always possible to isolate those which should be considered the most important, nor is it always possible to pin down the exact way in which a particular sociolinguistic variable exerts its influence on the process of L2 vowel acquisition.

Therefore, in both aspects of our research – the one focused on the EFL vowel system and the one focused on the subjects' native dialect – we tried to 'capture' the possible influence of several potentially relevant socio-linguistic factors, usually intuitively recognised, by professionals and laymen alike, as highly influential[4]. Namely, every teacher of English as a foreign language would certainly agree with statements such as, for instance, 'Girls are quicker than boys in catching the quality of sounds in a foreign language', or, similarly, 'When a student's performance in English as a foreign language is assessed, all the basic language skills – listening, speaking, reading and writing – are taken into consideration', including, presumably, that aspect of students' performance traditionally referred to as 'pronunciation'. But are these statements really true?

[4] The data were collected by means of a questionnaire filled out by each subject, anonymously, after they had taken the perception tests in English (22 pairs of words illustrating relevant vowel distinctions) and Serbian (19 pairs of words illustrating relevant distinctions between vowels in long, short and unstressed syllables), and after their production of English and Serbian vowels had been recorded for purposes of spectral analysis. The questionnaire contained 26 questions, roughly half of them relevant for English as a foreign language, and the rest relevant for their performance in Serbian. Some of these questions provided facts – e.g. the sex of the subject, his/her mark in English, etc., but some others provided the subject's subjective judgement or opinion on a certain topic.

VOWEL PERCEPTION IN ENGLISH

Among numerous factors, both linguistic and extralinguistic, which indeed affect the aural and/or oral performance of EFL students, some are individual (the subject's health, his/her general hearing ability, his/her general cognitive capabilities and intelligence, talent for music etc.), and some are external or social. The latter are either related to the conditions in the learning setting, such as the competence of the teacher as a model, the teaching methods and techniques used, the equipment and devices used in class etc, or they are relevant on a more general scale. For instance, the socio-economic status of the subject's family can be relevant in the sense that some subjects can be exposed to English outside school to a much greater extent than others (visits to English-speaking countries, attending additional English courses, satellite TV, Internet, computer and video games etc.).

Concerning the performance of our subjects in the domain of foreign language vowels, we investigated the possible relatedness of their success in the perception and production of all the relevant vowel distinctions (in quality and quantity) and the following socio-linguistic variables: 1. the sex of the subject, 2. his/her overall success at school, 3. his/her average mark in English, 4. studying English outside school (language courses, tutorials), 5. exposure to the speech of native speakers (either during visits to English-speaking countries or in class, by using authentic audio and video materials), and 6. the musical talent of the subject[5].

The cross-examination of the subjects' overall results in the **perception** of the relevant distinctions in vowel quality and quantity and these factors showed the following. No differences were observed in the performance of our subjects with regards to **sex differences**. Namely, the male part of the population (192 subjects) showed the average of 16.7 (minimum 7, maximum 22) correct answers on the perception test (out of 22 tasks), whereas the female part of the population (267 subjects) showed exactly the same average score, 16.7, as well as almost the same range of correct answers (minimum 6, maximum 22). These findings are somewhat different from the results of some previous researches (e.g. Ostojić 1980), and definitely contradict the popular belief that girls are more successful than boys in 'picking up' the accent of a foreign language.

Another factor usually considered to be closely related to student's success in this area as the pupil's **overall success at school**, here expressed by a mark on a scale from 1 (poor) to 5 (excellent).

Table 1.

Overall success	N	Minimum	Maximum	Mean	Std.Deviation
1	5	2,00	7,00	3,80	1,9235
2	29	1,00	16,00	5,04	3,8866
3	82	0,00	15,00	4,66	3,5943
4	138	0,00	14,00	5,61	3,3862
5	205	0,00	16,00	5,42	3,4640
Total	459	0,00	16,00	5,30	3,4861

[5] This variable was particularly difficult to measure. Namely, lacking any objective means of measuring the degree of a subject's musical talent, we chose to rely on the subject's own judgement concerning his/her gift for music.

However, the results of our investigation showed that in the English vowel discrimination test there was no remarkable inter-relatedness between the success of a subject in the perception test and his/her overall success at school, i.e. there were no systematic differences in the results of the so-called 'good pupils' and the so-called 'bad pupils'. Moreover, as can be seen in Table 1, the lowest average number of 'errors' was found with pupils who marked their overall success at school as poor, average or barely satisfactory.

The result is very similar when the students' **average mark in English** as a school subject is concerned (Table 2) – there is no clearly established relationship between a student's success on the perception test and his/her mark in English, except with those subjects who had described their mark as 'poor' (mark 1).

Table 2.

Mark in English	N	Minimum	Maximum	Mean	Std. Deviation
1	1	7,00	7,00	7,00	,
2	39	0,00	15,00	4,97	3,9101
3	83	1,00	16,00	5,75	3,8122
4	112	0,00	14,00	5,74	3,2982
5	224	0,00	16,00	4,96	3,3580
Total	459	0,00	16,00	5,2985	3,4861

The data concerning whether the subjects had been **studying English outside school** are summed up in Table 3.

Table 3.

English outside school?	N	Minimum	Maximum	Mean	Std. Deviation
no	303	,00	16,00	5,46	3,5932
yes, since I was 5	7	1,00	6,00	2,00	1,9149
yes, since I was 6	14	,00	11,00	2,50	2,9807
yes, since I was 7	15	1,00	9,00	4,87	3,2264
yes, since I was 8	5	1,00	8,00	4,60	3,0496
yes, since I was 9	27	,00	11,00	5,89	3,5009
yes, since I was 10	23	1,00	8,00	4,96	2,5491
yes, since I was 11	24	1,00	15,00	5,21	3,3619
yes, since I was 12	10	1,00	10,00	6,50	2,5927
yes, since I was 13	10	,00	6,00	3,80	1,9889
yes, since I was 14	7	,00	12,00	7,43	4,3534
yes, since I was 15	9	2,00	11,00	6,33	3,5707
yes, since I was 16	3	2,00	7,00	4,33	2,5166
yes, since I was 17	1	7,00	7,00	7,00	,
yes, since I was 18	1	3,00	3,00	3,00	,
Total	459	,00	16,00	5,30	3,4861

On the average, the subjects who had studied English outside school (there were much fewer or these in the population – 156, whereas 303 subjects had not), indeed did better in their perception test. However, this general conclusion needs elaboration. As is obvious from Table 3, only those subjects who had started studying English at a very

young age (5 or 6) had remarkably fewer 'errors', whether we observe the average or the maximum number of wrong answers. Those subjects who had started at the age of 7 or 8 also show a lower average (and maximum) of errors, but with those subjects who had started at an older age the results vary too widely to provide a basis for reliable conclusions. Nevertheless, this factor must be considered relevant for the subjects' success in vowel perception in English, especially when observed together with the age factor.

The **total number of years spent studying English**, at school *and* outside school proved to be very relevant. Namely, as can be seen in Table 4, the average number of 'errors' decreases as the number of years spent studying English increases, and it does so with such regularity that this factor must not be disregarded:

Table 4.

I've been studying English for:	N	Minimum	Maximum	Mean	Std. Deviation
1 year	69	,00	16,00	6,11	4,0942
2 years	15	1,00	12,00	6,47	3,2042
3 years	38	1,00	13,00	7,38	3,6938
4 years	42	1,00	16,00	6,62	3,8060
5 years	61	,00	14,00	6,08	3,5038
6 years	63	1,00	12,00	6,11	3,0906
7 years	39	1,00	11,00	4,59	2,5723
8 years	29	1,00	7,00	3,38	1,5449
9 years	23	,00	12,00	4,17	2,4616
10 years	16	,00	11,00	4,25	2,8402
11 years	13	,00	7,00	3,31	1,6525
12 years	37	,00	8,00	2,41	1,9070
13 years	2	2,00	2,00	2,00	,0000
14 years	5	1,00	6,00	2,40	2,0736
15 years	1	,00	,00	,00	,
16 years	2	1,00	3,00	2,00	1,4142
17 years	4	,00	2,00	1,25	,9574

Of the mentioned individual factors of relevance, we have included only the **talent for music** in our investigation. Namely, in the questionnaire the subjects were asked to judge their own talent for music on a 3-level scale (very talented, moderately talented, not talented at all). Although we were aware that a person's opinion on such a matter cannot be considered an objective measure of his/her ability, either because a person who is talented would not state so out of modesty, or, on the contrary, because a person might have undue esteem for his/her own talent, we still decided to investigate this matter, because this factor is often singled out as *the* most important one for foreign accent reduction. Therefore, we wanted to see whether there would occur any statistically significant correlation between a subject's own judgement about his/her talent and his/her success on the perception test.

Indeed, our data showed that there is a relationship between these two variables. Namely, the subjects who did estimate themselves as talented (274 subjects) did make a considerably smaller number of errors in their perception tests, judging by the average scores. On the other hand, those subjects who did not consider themselves talented (185 subjects) did make a greater number of errors. Despite the fact that there were subjects in

the former group who had maximum 16 errors (minimum 0), as compared to maximum 15 errors in the latter group (minimum also 0), the average number of errors in the former group was only 4.89 as compared to even 5.90 in the latter group. A statistically significant correlation (0.144 on the 0,01 level) is another argument for the conclusion that this individual variable must be considered extremely significant in the perception of relevant vowel distinctions in foreign language acquisition.

As far as **exposure to native speakers' speech** is concerned, the research showed that an extremely small percentage of our subjects had visited any of the English speaking countries (and even those who *had,* claimed to have spent there a very short time, except for two subjects who had lived abroad for longer than 12 months); only a small number of subjects said that they had ever used English to communicate anywhere but in their English classroom. On the other hand, a very high percentage of our subjects declared that they regularly watched satellite TV programs and films in English. However, the most important finding was that a vast majority of our subjects (403 out of 459) declared that in their English classes at school authentic audio and video materials were used not at all (306 subjects) or very rarely, for instance once in a semester (97 subjects). Only the oldest group of subjects (45 students of the English Department, Faculty of Philosophy in Niš, who had been studying English for 10 to 12 years) declared that audio and video materials were used in class regularly, once a week or more often than that. Therefore, it was practically impossible to investigate the interrelatedness of this factor and the others. In other words, the fact that better results in the perception of English vowels were achieved by those subjects who claimed to have been exposed to native speakers' speech in class quite regularly, cannot be ascribed to this fact only, because that group of subjects is specific – they had longest been learning English, and some of them had started at the youngest age. Nevertheless, a considerably better performance of those subjects who had been studying English not only at school but also elsewhere, can probably be ascribed to the influence of this factor.

When the results achieved by different groups of subjects – grouped together according to the age factor (when they had started studying English) or the time factor (how long they had been studying English) are analysed with respect to the abovementioned variables, the only conclusion that can be drawn with certainty is that each of these variables is significant in some aspect of analysis, or under some circumstances, although no general pattern of influence could be established for the whole population. The analysis showed that the mutual influence of a number of factors is so complex that the influence of each and every one of them cannot be singled out and analysed independently, without taking into consideration all the others. The significance of each variable will vary from one case to another, so that a single variable can show a high and systematic influence in one group of subjects but no influence at all in another group of subjects.

VOWEL PRODUCTION IN ENGLISH – VOWEL QUANTITY

The results of the investigation of the interrelatedness of these variables and the subjects' performance in the domain of vowel production are somewhat different. Namely, none of the factors proved systematically related to the production of relevant vowel quantity distinctions in English. **The sex of the subject** was not significant, i.e. the differences observed in the average results of the male and female parts of our population

cannot be considered significant. Neither subjects' **overall success** at school, nor their **mark in English** as a school subject proved systematically related to their performance. Our data supported only the relevance of the fact that those subjects who had been **studying English outside school** (Table 5) did have remarkably better results in their production of relevant vowel distinctions with respect to vowel quantity, because the subjects who had studied English elsewhere and had started at the age of 9 or earlier than that did produce considerably greater differences in vowel quantity than all the other subjects.

Table 5.

I've been studying English outside school:	iː	I	e	æ	ʌ	ɑː	ɒ	ɔː	ʊ	uː	ɜː	ə
NEVER	150,3	110	120,7	129,0	120,1	169,3	119,8	164,8	120,1	170,3	182,2	54,3
Since I was 5	184,0	85,1	121,4	148,1	116,4	200,6	129,0	164,1	123,1	157,3	165,1	89,7
Since I was 6	169,1	73,9	123,2	124,6	111,2	197,1	113,6	187,4	113,6	203,1	203,7	48,8
Since I was 7	166,4	88,6	111,0	152,4	114,5	163,7	134,6	173,1	119,1	186,5	193,9	54,9
Since I was 8	171,0	89,4	128,3	122,6	118,4	188,6	113,0	157,6	123,2	178,4	205,6	46,8
Since I was 9	149,4	107	151,2	139,6	121,4	183,3	158,6	202,0	139,4	198,3	183,9	69,3
Since I was 10	155,8	88,3	139,8	155,4	114,3	183,4	119,7	170,2	128,7	188,8	186,0	62,7
Since I was 11	153,8	86,3	125,3	130,6	120,4	166,5	119,7	161,5	112,6	179,7	238,0	61,2
Since I was 12	131,7	78,7	106,7	128,7	119,5	161,3	109,8	141,0	121,2	153,1	161,0	60,6
Since I was 13	148,1	84,8	126,6	131,8	116,3	159,3	113,8	165,1	111,0	171,1	169,9	43,3
Since I was 14	158,1	99,1	103,7	125,0	121,0	172,9	109,1	133,6	104,4	150,0	164,0	56,8
Since I was 15	146,7	80,7	104,3	120,0	118,8	166,6	105,0	127,6	113,4	161,7	154,2	50,2
Since I was 16	124,0	75,3	97,3	118,0	122,3	162,3	101,0	143,3	105,7	148,3	154,3	44,3
Since I was 17	154,0	86,0	154,0	131,0	173,0	180,0	154,0	163,0	117,0	186,0	158,0	51,0
Since I was 18	130,0	86,0	148,0	132,0	101,0	240,0	120,0	165,0	104,0	223,0	320,0	60,0

In difference to the findings in the domain of vowel perception, when the production of quantitative differences between English vowels are analysed with respect to **the subjects' talent for music**, the results do not show any significant and systematic relatedness of these two variables. Namely, those subjects who had judged themselves as talented had better average results only in the production of some vowel quantity distinctions, but only slightly. These findings cannot really offer any support for the common belief that the ability to produce adequate quantitative distinctions in a foreign language is closely related to musical talent.

Table 6.

Subjects judging themselves as talended											
iː	I	e	æ	ʌ	ɑː	ɒ	ɔː	ʊ	uː	ɜː	ə
151,7	85,7	121,7	129,9	117,9	172,6	116,9	165,5	117,9	173,9	183,2	54,1
1,8		0,9		0,7		0,7		0,7		3,4	
Subjects judging themselves as not talented											
iː	I	e	æ	ʌ	ɑː	ɒ	ɔː	ʊ	uː	ɜː	ə
152,4	88,4	124,5	134,2	121,6	179,6	128,6	167,1	124,2	174,0	187,4	59,0
1,7		0,9		0,7		0,8		0,7		3,2	

VOWEL PRODUCTION IN ENGLISH – VOWEL QUALITY

Similar results were obtained for the subjects' ability to produce adequate qualitative vowel distinctions in English. None of the factors proved crucial for the differences in the subjects' performance - neither the subjects' **overall success at school**, nor their **mark in English,** not even their musical talent. Table 8 shows the average results with respect to **sex**:

However, the subjects who had **studied English elsewhere**, beside the regular classes at school, did have better results than the others. Namely, the results of the subjects who had studied English outside school and had started at the age of 9 or earlier did produce more adequate quality distinctions between English vowels.

The most intriguing question arising from these findings is certainly the one pertaining to the obvious positive influence of studying English outside the formal educational setting. The question is what it is that makes studying English at school so different from studying English elsewhere. Of course, the fact that the subjects had had additional practice, more classes, and spent more hours studying English is definitely significant, and so is the fact that these subjects were exposed to more than one teacher-model and a wider array of teaching/learning methods and techniques. The crucial difference, however, can be exposure to native speakers' speech, because, as this investigation confirmed, authentic audio and video materials are almost never used in class in our schools, whereas they are known to be the cornerstone of most modern intensive language courses offered elsewhere.

PERCEPTION OF RELEVANT VOWEL DISTINCTIONS IN STANDARD SERBIAN

The influence of dialectal differences on the process of L2 acquisition has long been recognised as significant (cf. Turk 1983-84, Lew 1985). Among various extralinguistic factors relevant in this respect, we focused on those which can be related to some characteristics of the variety of Serbian spoken as mother tongue by a vast majority of our subjects. Beside the traditionally investigated parameters such as the subject's sex or the length of their formal education, we singled out the following as potentially relevant as well: 1. the subject's place of birth; 2. where he/she is currently living; 3. mother's place of birth; 4. father's place of birth; 5. the educational background of the subject's parents (since either parent's idiolect, socially and geographically conditioned, can be considered crucial in the child's linguistic development); 6. subject's talent for music; 7. subject's personal opinion on his/her idiolect – whether it differs from the standard, to what extent and in what respect; 8. subject's opinion on the variety of Serbian used in various social settings he/she comes in touch with - at school, at home, among his/her peers, on the radio and TV etc.

In difference to the findings pertaining to the subjects' performance in English as a foreign language, some of these factors did prove significant for their performance in their mother tongue. Firstly, there occurred some differences in the average results with respect to **the subjects' sex**. The average scores of the male part of the population (192 subjects or 41.8%) were a bit below the average of the population as a whole - their average number of errors was 5.4 (0 to 14, s.d. 2.59), whereas the average score of the female part of the population (267 subjects or 58.2%) was 4.7 errors (0 to 12, s.d. 2.48), which was remarkably better than the average score of the population as a whole. A more de-

tailed analysis of the errors made by boys and girls respectively reveals that the subjects who made 7 or more errors (up to 14) were mostly male subjects (from 66.7% to 83.3%). These findings are very suggestive, and so is a positive correlation between the subject's sex and the success in the perception test for their mother tongue (0.141 on the 0.01 level).

With respect to the variable concerning the subject's **place of birth**, the results are also highly indicative: the average score of the subjects born in Niš is extremely below the scores of the subjects born in Vojvodina or Central Serbia[6]. These findings suggest that the variety acquired as mother tongue in early childhood remains a significant factor in the linguistic behaviour of a person throughout his/her life, no matter what later developments may follow. To support this, a high statistically significant correlation was observed between the place of birth and the number of errors a subject made on his/her perception test (-0.143 on 0.01 level).

As far as the **place a subject is currently living in** is concerned, the results are almost the same, which is not surprising since a statistically significant correlation was observed (0.313 on the 0.01 level) between this variable and the subject's place of birth. In other words, the population was thus structured as to represent – as far as possible – the native speakers of the urban Niš dialect of Serbian. The relevance of this variable is also obvious if we consider the fact that a statistically significant correlation was observed (0.178 on 0,01 level) between the place a subject lives in and his/her success in the perception test. The average scores are also suggestive. Namely, the 428 subjects (93.2%) living in Niš made 5.3 errors on the average (minimum 0, maximum14), whereas those fewer subjects who are studying or attending a school in Niš but still do not feel like residents of this town had much better scores[7].

No correlation could be established between the **parents' place of birth** and the success of our subject in their perception tests, although those whose parents had been born in this town did make a greater number of errors when compared to other subjects. Father's place of birth proved to be somewhat more influential than mother's place of birth, probably because there was a high correlation between the subject's place of birth and that of his/her father (0.226 on 0.01 level). As far as **the social background** of our population is concerned, no statistically significant correlation could be established between these variables and the subject's success in their perception tests[8]. The same could

[6] The subjects born in Niš made 5.2 errors on the average (minimum 0, maximum 14), whereas, for instance, subjects born in Vojvodina made on.y 2.3 errors (minimum 0, maximum only 4), those born in Bosnia made 2.7 mistakes on the average (minimum 2, maximum 3), those born in Central Serbia made 3.0 mistakes on the average (minimum 1, maximum 5). The average number of errors made by the subjects born in Croatia was 3.2 (minimum 0, maximum7), and of those born in Western Serbia 3.9 (minimum 1, maximum 7). The results of the subjects born elsewhere (e.g. in Southern Serbia, Eastern Serbia or Macedonia) are similar to the results of the subjects born in Niš, but a bit better (the average of 4.1 or 4.2 errors). The subjects born in Kosovo had the average of 5.1 errors, whereas those few subjects born in Sandzak made 5 errors. The subjects born in Montenegro made 5.5 errors on the average, whereas one subject born in Slovenia made as many as 9 errors in his perception test, eventhough he stated that he had been living in Nis for a number of years.

[7] The only subject who stated that he lived in Vijvodina made only 2 errors, three subjects living in Central Serbia made 2.3 errors on the average, 7 subjects living in Western Serbia made 2.3 errors on the average. Other subjects who stated that they lived elsewhere (Kosovo, Eastern or Southern Serbia) made up to 3.7 errors on the average - so the subjects living in Niš had the lowest scores of all.

[8] The structure of the population was as follows: over 60% of our subjects live in a family where the father has a university or colledge degreee, and in 55% of the families the mother has a university of colledge degree. Almost all the rest have a high school degree, and just a small percentage (3.2%) just a primary school diploma.

be said about the subject's overall success at school – surprisingly, some of the best results were achieved by subjects who described their overall performance at school as poor (1) or barely satisfactory (2).

However, the subject's **talent for music** proved to be a highly significant factor, just like in the perception test for English. A statistically significant correlation (0.162 on 0.01 level) was observed between this variable and the subject's success in the perception test. The average number of errors with talented subjects is remarkably lower (4.65, min. 0 max. 12) as compared to 5.49, min. 0 max 14). Another suggestive fact is that among those subjects who did the test very well (0, 1, 2 or 3 errors) the highest percentage belongs to those subjects who had claimed to be talented. Similarly, among those with the most errors, there are almost solely those who had claimed not to be talented. Since this variable proved to be relevant for both perception tests, in English and standard Serbian, it is very likely that musical talent is closely related with vowel perception.

A subject's personal opinion about his/her own idiolect proved to be closely related with his/her performance. As many as 235 (51.2%) subjects claimed that their idiolect was not different from standard Serbian in the domain of pronunciation, but at the same time, these subjects made as many as 5.2 errors in the perception test (0 to 12). On the other hand, 134 (29.2%) subjects who stated that their pronunciation was 'somewhat' different from the standard, but could not tell what constituted the difference made as many errors on the average (5.2, 0 to 14). Only 12% of our subjects (56) stated that their idiolects differed from standard Serbian in the domain of vowel pronunciation and accents, and these subjects made remarkably fewer errors in the test (4.1, 0 to 10). The most interesting finding was that 17 subjects who stated that their pronunciation differed from standard Serbian 'very much', and could pin down the difference as the one 'in the length of vowels' made only 2.8 errors on the average (0 to 6) in their perception test. These findings comply with the fact often pointed out in literature, namely, that *awareness raising* is a powerful aid in L2 acquisition and, as in this case, in acquiring a dialect that is in some respect remarkably different from one's own.

One of the most important findings was the fact that 45.3% (208) of our subjects believe that they speak Serbian correctly 'always and everywhere', irrespective of the social context, the formality of the situation or the register used. A high percentage of subjects (26.4% or 121), though, claimed to speak 'accurately' only on formal occasions, such as in class, or only in a challenging social setting, e.g. in another town. It is also interesting that the divergence of their own speech from that of standard Serbian is ascribed to the 'bad' influence of the urban surroundings by almost one third of our subjects (27.5% or 126), and that half the subjects believe that the people around them (relatives, friends, neighbours) do not speak 'accurately'. This means that they are aware that the urban Nis dialect of Serbian is different from standard Serbian in this respect and have a negative attitude towards this difference. A positive attitude is shown towards the formal school setting, because 39.4% of the subjects stated that their teachers spoke 'accurately' all the time, and 55.1% that this happened most of the time. A positive attitude is expressed towards the language used in the local media as well.

PRODUCTION OF RELEVANT VOWEL DISTINCTIONS IN STANDARD SERBIAN

Following the pattern observed in the investigation of the English vowels, the sociolinguistic factors showed much less influence on the subject's production of relevant vowel

distinctions in Serbian as well. There were no significant differences in the subjects' performance which could be ascribed to differences in their sex, although a slight tendency was observed for girls to produce somewhat more remarkable quantitative differences in some phonological contexts. The subjects' overall success at school was not relevant, and their estimated talent for music was just barely so – there is a tendency for the 'talented' group to produce somewhat more remarkable quantitative differences.

With respect to the subjects' **place of birth** (Table 9) and **residence** (Table 10), it is obvious that native speakers of the urban Niš dialect have a pronounced tendency to produce specific quantitative distinctions between vowels in three types of phonologically relevant contexts (long accented, short accented, unstressed), and that the pattern of quantitative differences typical of this dialect are different from those typical of standard Serbian, or from those produced by the subjects born or living elsewhere. This can be taken as an argument for the conclusion that the urban Niš dialect has its peculiar quantitative pattern of distinctions different from those observed in other dialects.

Table 7.

Place of birth	N	*i*	*e*	*a*	*o*	*u*
Niš	367	1,2 : 1 : 0,8	1,1 : 1 : 0,6*	1 : 1: 0,8	1,2 : 1 : 0,8	1,2 : 1 : 0,8
The vicinity of Niš	10	1,3 : 1 : 0,9	1,1 : 1 : 0,6	1,2 : 1 : 0,8	1,3: 1 : 0,8	1,3: 1: 0,9
Vojvodina	3	1,3 : 1 : 0,7	1 : 1 : 0,6	1,2 : 1 : 0,9	1,6 : 1 : 1,0	1,4 : 1: 1,0
Kosovo	25	1,2 : 1 : 1,0	1 : 1 : 0,5*	1,2 : 1 : 0,8	1,1 : 1 : 0,6	1,2 : 1: 0,7
Central Serbia	3	1,5 : 1 : 0,7	1,2 : 1 : 0,4	1,3 : 1 : 0,7	1,3 : 1 : 0,7	1,3: 1: 0,7
Western Serbia	11	1,4 : 1 : 0,9	1 : 1 : 0,6	1,3 : 1 : 0,8	1,3 : 1 : 0,7	1,2: 1: 0,7
Belgrade	1	1 : 1 : 0,8	1,1 : 1 : 0,3	1,3 : 1 : 0,8	1,4 : 1 : 0,7	1,2 : 1: 0,8
Sandžak / Raška	1	2,5 : 1 : 0,9	1,6 : 1 : 0,5	2,3 : 1 : 0,8	2,4 : 1 : 0,7	1,8: 1: 0,8

Table 8.

Permanent residence	N	*i*	*e*	*a*	*o*	*u*
Niš	394	1,2 : 1 : 0,8	1,1 : 1 : 0,6*	1 : 1: 0,8	1,2 : 1 : 0,8	1,2 : 1 : 0,8
The vicinity of Niš	34	1,2 : 1 : 0,9	1,1 : 1 : 0,6	1,2 : 1 : 0,8*	1,3: 1 : 0,8	1,3: 1: 0,9
Vojvodina	1	1,8 : 1 : 1	1 : 1 : 0,9*	1,4 : 1 : 0,7	2,2 : 1 : 1,3*	2,3 : 1: 1,1
Kosovo	5	0,9 : 1 : 1*	0,9 : 1 : 0,4*	1,2 : 1 : 0,4	1,5 : 1 : 0,5	1 : 1: 0,2
Central Serbia	3	1,7 : 1 : 0,8	1,2 : 1 : 0,5	1,5 : 1 : 0,8	1,7 : 1 : 0,8	1,3: 1: 0,8
Western Serbia	7	1,5 : 1 : 1	1,1 : 1 : 0,5	1,3 : 1 : 0,8	1,3 : 1 : 0,7	1,3 : 1: 0,8

As far as the produced differences in quality are concerned, the investigated factors showed varied and non-systematic influence.

Neither the subject's sex, nor his/her overall success at school or the length of formal education showed any correlation with the patterns of vowel distinctions observed in their vowel production. Not event their estimated talent for music proved to be relevant.

However, the findings concerning the observed differences in vowel quality as related to the subjects' **place of birth** and **residence** indeed showed a high correlation between these two variables and the typical qualitative patterns observed. Table 11 shows the relations of the average values of the first two formants (expressed via F4) in the three phonologically relevant contexts (long accented, short accented, unstressed syllable) for groups of subjects with different places of birth.

Table 9.

Place of birth		iii	ii	i	eee	ee	e	aaa	aa	a	ooo	oo	o	uuu	uu	u
Niš	F1	0,09	0,09	0,10	0,15	0,15	0,14	0,22	0,22	0,19	0,16	0,16	0,15	0,11	0,10	0,11
	F2	0,63	0,62	0,58	0,56	0,56	0,49	0,39	0,38	0,40	0,26	0,27	0,28	0,24	0,24	0,25
Vicinity of Niš	F1	0,09	0,10	0,10	0,15	0,16	0,15	0,24	0,23	0,21	0,15	0,17	0,17	0,11	0,10	0,11
	F2	0,62	0,64	0,61	0,57	0,57	0,49	0,40	0,39	0,41	0,26	0,28	0,28	0,22	0,24	0,24
Vojvodina	F1	0,09	0,09	0,11	0,15	0,16	0,14	0,22	0,23	0,20	0,16	0,17	0,16	0,11	0,10	0,12
	F2	0,61	0,61	0,60	0,53	0,57	0,44	0,39	0,39	0,43	0,28	0,29	0,29	0,25	0,23	0,26
Kosovo	F1	0,08	0,09	0,10	0,14	0,13	0,10	0,23	0,22	0,19	0,16	0,16	0,15	0,10	0,11	0,11
	F2	0,59	0,59	0,56	0,58	0,58	0,50	0,39	0,40	0,42	0,27	0,27	0,32	0,22	0,24	0,25
Central Serbia	F1	0,09	0,09	0,13	0,14	0,14	0,13	0,23	0,21	0,19	0,16	0,17	0,15	0,10	0,10	0,11
	F2	0,62	0,59	0,59	0,55	0,55	0,49	0,37	0,36	0,38	0,24	0,28	0,29	0,20	0,23	0,22
Western Serbia	F1	0,09	0,09	0,09	0,15	0,15	0,14	0,21	0,20	0,18	0,15	0,16	0,15	0,11	0,10	0,12
	F2	0,61	0,60	0,58	0,54	0,53	0,47	0,37	0,37	0,40	0,25	0,26	0,29	0,21	0,23	0,27
Belgrade	F1	0,10	0,10	0,11	0,15	0,16	0,10	0,20	0,20	0,18	0,16	0,16	0,16	0,11	0,11	0,11
	F2	0,62	0,62	0,60	0,53	0,56	0,42	0,39	0,34	0,40	0,28	0,28	0,30	0,23	0,22	0,22
Sandžak	F1	0,09	0,09	0,09	0,13	0,13	0,12	0,20	0,19	0,17	0,14	0,16	0,13	0,10	0,10	0,10
	F2	0,61	0,57	0,57	0,58	0,52	0,51	0,35	0,41	0,45	0,22	0,28	0,28	0,22	0,27	0,21

It is obvious that the subjects born and raised in Niš follow a typical pattern of both quantitative and qualitative distinctions in vowel production, and this pattern is different from the distinctions typical for other subjects, born, raised or living elsewhere. For instance, those born in Central or Western Serbia have a completely different pattern of qualitative distinctions in the three phonologically relevant contexts, namely, the quantitative and qualitative differences are much more pronounced. This proves that the urban Niš dialect has its typical quantitative and qualitative patterns of vowel distinctions, different from those observed in other dialects.

CONCLUSION

In both problems investigated in this research – acquiring the vowel system of a foreign language on the one hand, and, on the other, acquiring the standard dialect of one's mother-tongue – some socio-linguistic factors do play a very important role, which should by no means be neglected. Although it is not always possible to discern the exact way in which some of these socio-linguistic variables exert influence on the linguistic behaviour of the learner, they must always be taken into account when analysing the process of language acquisition – on all the linguistic levels alike, but on the level of phonology in particular.

However, claiming that the acquisition of a phonological system (sub-system) is so complex a process that no generalizations are appropriate, because each learner follows his/her specific and unpredictable path of development, sounds like taking the easy way out of an indeed very difficult and complex problem. Much more fruitful prospects would be provided by further investigations of the interrelatedness of various socio-linguistic influences in the process of either L1 or L2 phonological acquisition.

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O NEKIM SOCIOLINGVISTIČKIM VARIJABLAMA U USVAJANJU FONOLOŠKOG SISTEMA

Tatjana Paunović

U ovom radu autor ispituje mogući ukršteni uticaj nekih sociolingvističkih varijabli koje se obično smatraju značajnim u usvajanju stranog jezika, naročito kada je reč o usvajanju fonološkog sistema (ili nekog od pod-sistema). Empirijski podaci prezentirani u ovom radu pokazuju da je međuuticaj različitih varijabli u ovom procesu izuzetno složen, te da nije uvek moguće posmatrati jednu zanemarivši ostale, odnosno, da je nekada veoma teško izdvojiti uticaj jedne varijable kao najvažniji. Usvajanje fonološkog sistema stranog jezika, a, kako pokazuju podaci prikazani u ovom radu, isto tako i sistema standardnog jezika ukoliko se on bitno razlikuje od dijalekta koji su govornici usvojili kao maternji, izuzetno je složen proces u kome važnu ulogu igraju brojni faktori.