

The phenomenon of raising in the dialect of Agrinio: levelling due to dialect contact

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Περίληψη

Η παρούσα μελέτη παρουσιάζει την υποχώρηση του φωνολογικού φαινομένου της ανύψωσης των άτονων μεσαίων φωνηέντων /e/ & /o/ στη διάλεκτο του Αγρινίου ως αποτέλεσμα εξομοίωσης (levelling), λόγω της επαφής διαφορετικών γλωσσικών κοινοτήτων και διαλεκτικών συστημάτων στην πόλη αυτή. Οι μεμονωμένες αλλά και οι αναγκαστικές κατά καιρούς μετακινήσεις ατόμων πληθυσμών προς την πόλη οδήγησαν στην εμφάνιση της εξομοίωσης στην ομιλία των κατοίκων ιδιαίτερα των καινούργιων μεικτών γειτονιών. Η έρευνά μας είναι ποιοτική και ποσοτική και βασίστηκε σε συλλογή και επεξεργασία ηχογραφημένων ομιλητών που γεννήθηκαν στην πόλη και έχουν διάφορα κοινωνικά χαρακτηριστικά αναφορικά με το φύλο, την ηλικία, την εκπαίδευση και τη γειτονιά.

Λέξεις-κλειδιά: Ανύψωση των μεσαίων φωνηέντων, εξομοίωση, διαλεκτική επαφή

1 Introduction

The dialect of the city of Agrinio belongs to the northern dialects (of regions such as Aitolokarnania, Epiros, Thessaly, Evia etc.) which are marked, among other things, by the phonological phenomenon of raising of the unstressed /e/ & /o/ to [i] & [u] respectively. In the past, phonological descriptions of northern dialects shared three phonological phenomena (Newton 1972, Κοντοσόπουλος 1994): a) deletion of the unstressed high vowels /i/ and /u/, i.e., /pa'tisi/ > [pa'tis] “to step on”. b) raising of the unstressed mid vowels /o/ and /e/ to [u] and [i], i.e., /no'mizi/ > [nu'miz] (he/she thinks), /pe'di/ > [pi'di] (child), and c) diphthongization of the stressed mid vowel /e/, i.e., /'pefto/ > ['pjefto] (to fall) (Lengeris, Kainada and Baltazani 2016).

Northern Greek dialects have been classified into three categories in terms of two phonological phenomena: that of raising of the unstressed vowels /e/ and /o/ to /i/ and /u/, respectively, and that of deletion of the unstressed /i/ and /u/. The distinction of dialects is as follows: a) the extreme northern dialects, where we come across both mid vowel raising and unstressed high vowel deletion b) the northern dialects-including that of Agrinio-where all unstressed high vowels in word final are deleted and mid vowels are raised, and c) the semi-northern dialects whereby unstressed vowels in word final are deleted whereas unstressed mid vowels are not raised.

Several dialectal studies have been carried out in recent years which investigated the above mentioned phonological phenomena using the tools of acoustic phonetics, allowing for a more objective and detailed description (Topizi and Baltazani 2012, Lengeris, Kainada and Topinzi 2016 for Kozani, Papazachariou 2012 for Chalkidiki, Kainada and Baltazani 2015 for Epiros, Papas 2017 for Thassos, Παπαζαχαρίου 2019, Παπαζαχαρίου and Πάλλη 2019 for Lesvos, Νικολαΐδου et. al. 2019).

The present study examines how unstressed /e/ and /o/ raising to [i] and [u] respectively, as evidenced in the city of Agrinio at present, has been developed, as well as the extent to which it is correlated with linguistic and social factors. Firstly,

our research objective was to investigate the nature of mid vowels' raising. Is this a phonological phenomenon- as has been described by previous research (Newton 1972, Μαργαρίτη-Ρόγκα 1985, Trudgill 1986, Κοντοσόπουλος 2000, Μπασέα-Μπεζαντάκου 2000, Ντίνας 2005) or is it also influenced by morphological structures (such as forms – stems/suffixes– and types of morphemes -conjunctions, articles, pronouns etc.). Secondly, our aim was to establish whether social parameters could influence raising. More specifically, we investigated demographic variables such as gender, education, and district (place of residence) of our speakers as possible functions of raising. Finally, we addressed the issue of linguistic contact. Given the mobility and settlement of different dialectal populations in Agrinio in the last 100 years, and the emergence of new dialectally mixed neighborhoods since 1960, we looked at the possible emergence of linguistic contact mechanisms such as levelling.

2 Methodology

Our objective was to collect samples of conversational speech using a digital sound recorder. In this framework, we had to use methodological tools which would allow us to overcome the known challenge which Labov (1972b: 209) has coined as the “observer’s paradox”. This paradox is not always easy to solve, being directly related to the structure of the interview as a speech event. Yet, we believe we have succeeded because the field researcher avoided acting hegemonically like a journalist who would continually ask questions. Instead, the field researcher drew on her mutual local ties with the speakers to behave as an equal. The interviews mainly centered on topics such as the speakers’ interests, their profession and on happy memories from their past which would help them feel at ease (Μικρός 1999: 81-83). During the recordings, the field researcher tried to complete speakers’ personal profiles with any missing information, in an implicit way.

2.1 Recordings and participants

Interviews were carried out in the winter and spring of 2019 in Agrinio which is a city of 46.899 inhabitants according to the 2011 population census. Our database was created by recording 40 speakers (20 men and 20 women) who were selected on the basis of the following criteria: a) they are native-borns and residents of the city of Agrinio b) their parents were born in Agrinio or in other areas whose populations have since relocated to Agrinio, and c) that they live in different districts of the city. The duration of the interviews ranged between 30 and 45 minutes, and we analyzed on average 5 minutes per speaker. We used the professional digital recorder Marantz PMD-661.

2.2 Data

In the transcribed material, we used Praat to mark the vowels which were to be studied (Boersma & Weenink 2019). In total, we marked 6799 phonological tokens of the unstressed vowels and 3135 tokens of the stressed vowels /a, e, o, i & u/, following the Variation Studies methodology for dialectal research. The descriptive quantitative analysis was carried out with SPSS (the Statistical Package for Social Sciences).

3 Acoustic analysis of vowels

The statistical analysis of phonological data produced two vowel spaces (Figure 1,2) which include the five Greek unstressed and stressed vowels /a, e, o, i, u/ of men and women. We deemed it was necessary to include all the five vowels since they define the vowel space. Comparison of the two vowel spaces yields the following results: 1) with regard to the unstressed high vowels a) the mean F1 value of /i/ (407 Hz) appears to be realized at approximately the same height as the stressed /i/, while the mean F2 value (1917 Hz) shows that the unstressed /i/ is centralized, b) the mean F1 value of /u/ (407 Hz) has approximately the same value as that of the stressed /u/ which means that it is also realized at the same height. Equally, the mean F2 value of /u/ (1073 Hz), compared to the F2 value of the corresponding stressed vowel, shows that it is centralized in the vowel trapezium, as well. 2) With regard to the unstressed medial vowels /e/ and /o/ a) the mean F1 value (460 Hz) of /e/ exhibits raising, covering almost half the distance towards the unstressed /i/, while the mean F2 value shows that the vowel is centralized, b) the mean F1 value of /o/ (456 Hz) shows that it is realized higher than the corresponding stressed vowel, while comparison of the F2 formants shows that, just like the unstressed mid vowel /o/, it is more centralized in the vowel space 3) the mean F1 value of the unstressed low /a/ (585 Hz) raises high enough that it covers more than double the distance of both /e/ and /o/, while F2 also points to centering.

The uniqueness of the unstressed vowel space of the dialect of Agrinio lies in the fact that the low vowel /a/ is raised considerably in terms of F1, the mid vowels /e/ and /o/ exhibit a tendency towards the high vowels /i/ and /u/, without however approximating them, while the high vowels /i/ and /u/ are at the same height as the corresponding stressed ones, albeit more centered in terms of F2.

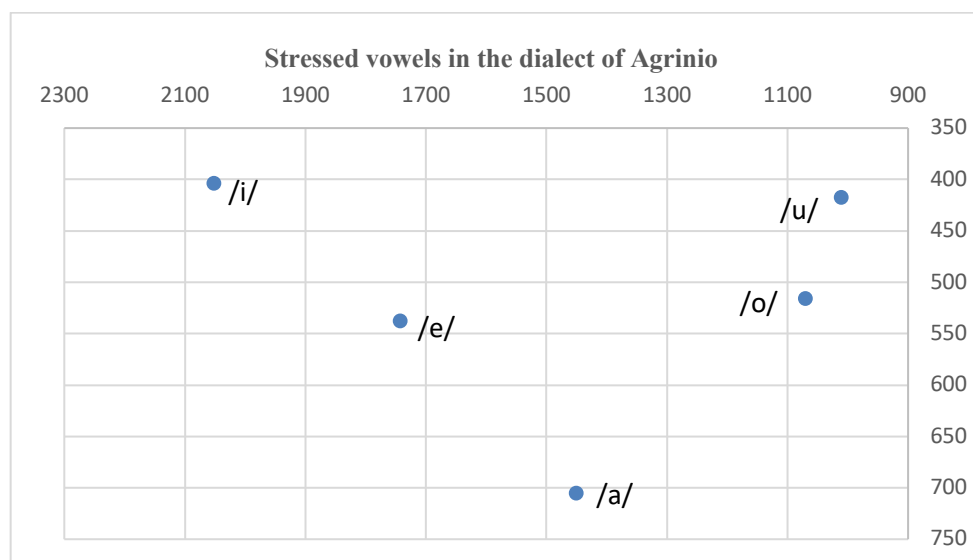


Figure 1| The stressed vowels /a, e, o, i, u/ in the dialect of Agrinio

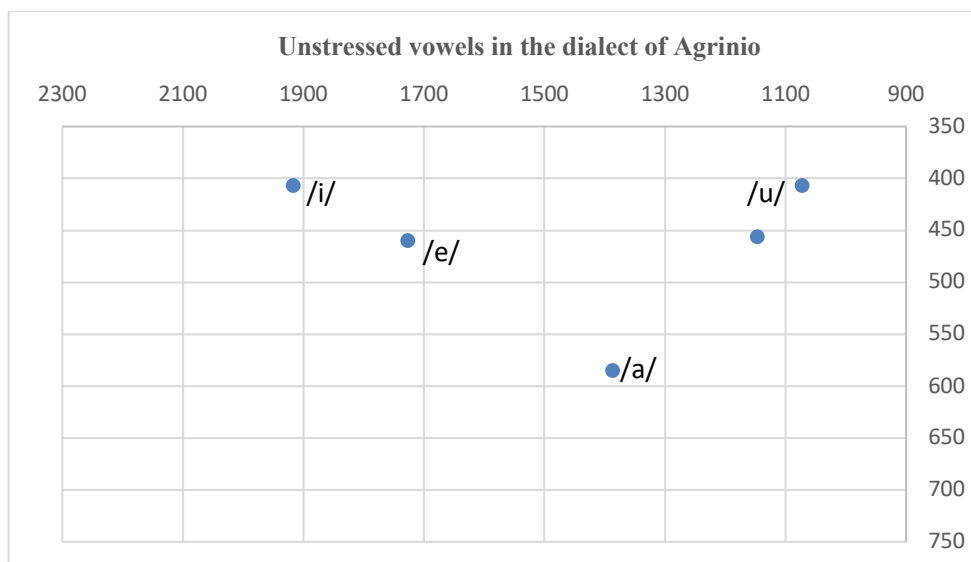


Figure 2| The unstressed vowels /a, e, o, i, u/ in the dialect of Agrinio

F1 and F2 mean values of stressed vowels				F1 and F2 mean values of unstressed vowels			
Vowel	N	F1	F2	Vowel	N	F1	F2
/a/	515	705	1451	/a/	1182	585	1387
/e/	699	537	1742	/e/	1667	460	1727
/i/	869	403	2052	/i/	1152	407	1917
/o/	875	515	1070	/o/	1317	456	1147
/u/	164	417	1010	/u/	249	407	1073

Table 1| F1 and F2 mean values of stressed and unstressed vowels in the dialect of Agrinio

In other words, the mid unstressed vowels /e/ and /o/ tend to be raised in the dialect of Agrinio, although they are never realized as [i] and [u] respectively. Moreover, the unstressed /o/ is realized more as [u] than /e/ is realized as [i]. It is interesting the unstressed mid vowels in Chalkidiki (Figure 3) (Papazachariou 2012), and in Kozani (Figure 4) (Lengeris et al 2016) exhibit similar patterns. In fact, aside from the non-realization of the unstressed mid vowel /e/ as [i], comparison of the vowel spaces from the three geographical areas reveals several differences between them.

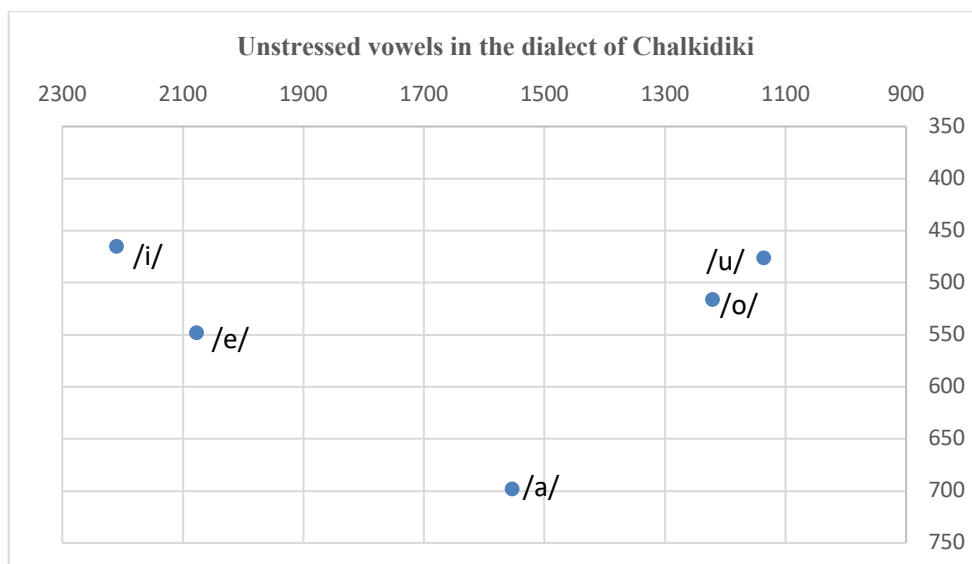


Figure 3| Unstressed vowels in the dialect of Chalkidiki (Papazachariou 2012)

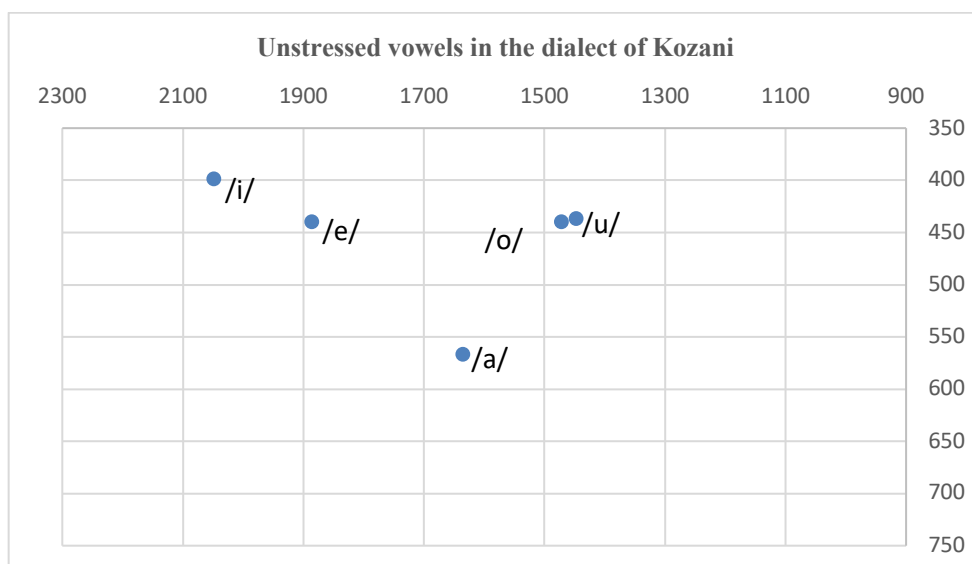


Figure 4| Unstressed vowels in the dialect of Kozani (Lengeris et. al. 2016)

Mean F1 and F2 values of the unstressed vowels of Chalkidiki			Mean F1 and F2 values of the unstressed vowels of Kozani		
Vowel	F1	F2	Vowel	F1	F2
/a/	698	1554	/a/	592	1432
/e/	548	2078	/e/	470	1643
/i/	465	2210	/i/	376	1872
/o/	516	1222	/o/	451	1208
/u/	476	1137	/u/	403	1206

Table 2| Mean F1 and F2 values of the unstressed vowels in Chalkidiki and Kozani

The above acoustic analysis results confirm the raising of the unstressed medial /e/ and /o/ while questioning the realization of /e/ and /o/ as [i] and [u] respectively. This

finding, which is similar in all three acoustic analyses, differs both from the traditional descriptions of this phenomenon and from the reception of native speakers of the dialect. For this reason, we initially checked to see whether there is variation in the realization of the unstressed /e/ and /o/ (that is, realizations which a native speaker of the dialect recognizes as [i] and [u], and others which the same speakers recognize as [e] and [o]). Confirming that there are different realizations of the unstressed mid vowels, we turned to examine other linguistic parameters which could be correlated with this fact.

At this juncture, it is necessary to justify our decision to have a native speaker (the field researcher) classify the realizations of /e/ and /o/, instead of relying exclusively on specific F1 and F2 values. As anyone who has worked with acoustic analysis knows, it is highly likely that any one realization of any vowel, -of /a/ for example-, is different from all other realizations of the same vowel by the same speaker. In the same vein, the more measurements the researcher receives, the more positions in the typical vowel trapezium are covered. Looking at the depiction of a spectral space with over 3000 vowel realizations, it becomes obvious that no part of the spectral space will be left void. Moreover, linguistic systems of five phonological units will disperse in the vowel spectral space as much as a linguistic system which contains seven or eight phonological units would. In other words, speaker A of a five-vowel linguistic system will realize /i/, for instance, in a much wider area of the vowel space than speaker B whose vowel system contains both the phonological units /i/ and /i/. What this means is that there is a possibility that the same vowel is recognized by speaker A as /i/ and by speaker B as /i/. It becomes clear that in two separate dialectal linguistic systems, the same vowel could be recognized as two different phonological units. Taking this into account, the evaluation of the native speaker is vital in identifying and classifying different vowels. A perception test would perhaps have been more appropriate to this end. Nevertheless, we consider the judgment of the native speaker in identifying different vowels reliable, as is the case with every research in the framework of Generative Linguistics.

As a native speaker of the dialect, the field researcher identified that /e/ is realized either as [e] (1155 realizations) or as [i] (135 realizations). Similarly, medial /o/ is realized either as [o] (1032 realizations) or as [u] (285 realizations). In fact, the high realizations of medial vowels overcome in height the high vowels /i/ and /u/ (Figure 5).

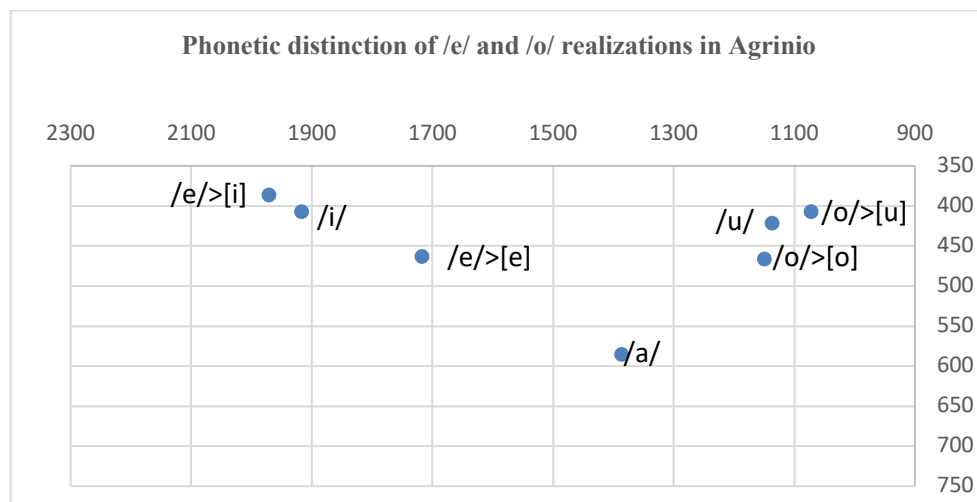


Figure 5| Vowel trapeziums and instances of raising of the unstressed vowels /a e o I u/

Vowel	N	F1	F2
/i/	1152	407	1917
/a/	1182	585	1387
/e/ > [e]	1606	463	1718
/o/ > [o]	1032	466	1150
/u/	249	407	1073
/o/ > [u]	285	421	1137
/e/ > [i]	131	386	1972

Table 3| F1 and F2 of the unstressed vowels /a e o i u/

According to Table 3, /e/ and /o/ are raised compared to the corresponding stressed mid /e/ and /o/, but only 7.5% of /e/ is realized as [i], and only 21.5% of /o/ is realized as [u]. For this reason, we attempted to investigate the extent to which linguistic and non- linguistic parameters are correlated with the [i] & [u] realizations of /e/ and /o/ respectively.

Further research showed that the realization of the unstressed /e/ as [i] occurs in word morphemes, whereby [i] most frequently appears in the connective conjunction /ke/ > [ci] (73 realizations as [ci], vs 154 realizations as [ce]). The [i] realization appeared to occur in other lexical units too, such as verbs: ‘I was born’ (11 realizations as [ji'niθ-] vs 16 realizations as [je'niθ-]), ‘I wait (3 realizations as [pirim-] vs 6 realizations as [perim-]) and ‘I begin’ (2 realizations as [ksicin-] vs 3 realizations as [ksecin-]). It is also found in the noun ‘Friday’ (4 realizations as [paraski'vi] as the only realization of the word) as well as in the number ‘fifty’ (3 realizations as [pi'nida] vs 1 realization as [pe'nida]. The realization as [i] appeared mostly in verb and noun stems, and rarely in suffixes (6 noun and 13 verb suffixes). It is interesting that 11 out of 13 verb suffixes were inflections of the third person singular past tense (such as ['içi] ‘had’, ['evazi] ‘placed’, ['irθi] ‘arrived’ and ['piri] ‘took’).

As regards the unstressed /o/, our data produced 1291 realizations of this mid vowel, 283 (22%) of which correspond to its realization as [u]. Of these 283 realizations, 101 relate to the masculine and neuter articles in their various cases (ie., /o/ > [u], /ton/ > [tun] and /to/ > [tu]), representing 33% of the realizations of /o/ in masculine and neuter articles (101 realizations as [u] και 218 realizations as [o]). In suffixes of nouns and adjectives, /o/ rarely raises to [u] in nouns (merely 8 tokens out of 123, and merely 1 token out of 26, respectively). In verb suffixes, it appears 21 times where, in 18 cases, it appears in the inflection of the first- person present tense (25% of total realizations of the first -person present tense)

In relation to stems, /o/ is more often realized as [u] in verb stems (33 realizations as [u], of the total 98, or 31.5%), than in noun stems (71 realizations as [u] out of the total 404, or 17.5%). Moreover, there are certain stems which are clearly characterized by the frequent realization of /o/ as [u], such as the Greek impersonal verb for ‘it is possible’ which becomes [bu'ri] (10 realizations) in contrast to, interestingly enough, the personal verb ‘I can’ which is realized as [bo'ro], [bo'ris], [bo'run] & [bo'rusame] in its different inflections (14 times).

There are also other stems where /o/ tends to be realized as [u], such as: a) the adverb of degree [pu'li] (17 high realizations of the total 40, or 42%) b) the adverb of

place [apu'ci] (9 high realizations of the total 11), in contrast to [apo'do] which, in its 5 occurrences, was realized with the mid vowel [o] c) the noun /xro'non/ as [xru'non] (7 realizations) and as [xro'non] (4 realizations) d) the noun /'poli/ where /o/ was raised to [u] 5 of the total 11 times, and e) the verb stems, /filoksen/ with 4 high realizations and no medial realizations, /yno'riz/ with 5 high realizations and 2 medial realizations, and /no'miz/ with 4 high realizations and 7 medial realizations. Apart from the above-mentioned morphemes, /o/ is realized as [u] in many more nouns, verbs and adverbs whose rate of appearance in our samples, however, was not high enough for us to draw conclusions about either realization of the unstressed /o/.

Comparing the realizations of the two unstressed mid vowels, the same pattern emerges. For both unstressed /e/ and /o/, their high realization is connected to lexical morphemes – /e/ is raised in the conjunctive ‘and’, and /o/ is raised in the masculine and neuter articles and in specific, albeit not many, noun, verbal and adverbial stems; in the latter, high realizations occur more frequently than the average occurrence of the individual high realizations of /e/ and /o/. By contrast, in the suffixes of mostly nouns and secondly verbs, /e/ and /o/ are rarely raised. In case this does happen, they are either realized in the third person singular past tense (/e/), or in the first person singular present tense (/o/).

4 Demographic variables of the research

4.1 Gender – Age

We also studied the extent to which unstressed /e/ and /o/ raising to [i] & [u] respectively, in the dialect of Agrinio, might be linked with sociolinguistic characteristics such as gender, age, education as well as the district (place of residence). Participants were divided into three age categories: a) 18-36 years old (6 men and 8 women), b) 37-59 years old (6 men and 6 women), c) 60-87 years old (6 women and 5 men).

4.2 Education

According to their educational background, participants were divided into groups of people who had completed a) elementary education b) lower secondary education (gymnasium) c) higher secondary education (high school) d) Institute for Vocational Training d) Higher Technological Educational Institute e) University f) Postgraduate studies.

4.3 Sections of the city

The city is divided in twelve municipal departments which have been categorized in four sections depending on the population composition. Until the beginning of the 1960s, the city was made up of almost homogeneous neighborhoods which were inhabited by native-borns -locals- or groups of people who had mass migrated, such as refugees from Minor Asia, people from northern Nafpaktia and from Epiros. In the following decades, this distinction faded as new dialectally mixed neighborhoods emerged, while many old neighborhoods also became more blended (Μαραγιάννης 2011:129-135). Nevertheless, this fact did not cause instant population homogeneity during the city's growth. It is also worth noting that as new districts were being

developed, there were already districts which were scattered and not considered part of the city planning.

Agrinio is comprised of: a) districts of mostly locals (i.e. the typical city center) b) districts which had been initially inhabited by Asia Minor refugees and Pontic Greeks but which later also included people from Epiros as well as locals c) the peripheral areas on the city edges which, until 1970, had been inhabited by various speech communities and d) the new neighborhoods which started developing in the last forty years and which are characterized by the blending of different speech communities. The present study did not include residents of districts outside the main urban structure.

5 Results in terms of the demographic variables

5.1 Raising of the unstressed vowels /e/ and /o/ to [i] and [u] in terms of age

Our data showed that the youngest age group realize the unstressed /e/ as [i] at 3%, the middle age group at 9% and the elderly group at 12%. Analysis of Variance (ANOVA) and the Tukey post hoc test showed that the language behavior of young people is statistically different from the two other age groups (Sig. =0.000). In relation to the unstressed /o/, young people raise it to [u] at 9%, the middle age group at 28% and the elderly at 38%. ANOVA Test and the Tukey post hoc test showed that all three age groups are significantly different.

5.2 Raising of the unstressed vowels /e/ and /o/ to [i] and [u] in terms of gender

Gender-related analysis showed that men and women do not differ significantly in raising the unstressed /e/ to [i]. However, according to the T-test, there is significant difference between men who raise the unstressed /o/ to [u], at 25%, and women who realize it as [u], at 17% (Sig.=0.000).

5.3 Raising of the unstressed vowels /e/ and /o/ to [i] and [u] in terms of education

In terms of education, differences are detected between speakers. Speakers of elementary education raise the unstressed /e/ to [i] at 22%, those of secondary education at 9% (lower secondary education) and 8% (higher secondary education), those of higher education at 5%, and those with a postgraduate degree at 1%. Analysis of Variance (ANOVA Test) showed that a) the linguistic behavior of elementary education speakers is significantly different from that of speakers of other educational levels b) that the linguistic behavior of speakers with postgraduate education is significantly different from that of speakers of elementary and secondary education. With regard to unstressed /o/ raising, speakers of elementary education account for the largest percentage, at 43%, those of lower and higher secondary education, for 24 and 23% respectively, those of higher education, for 21% and, finally, those with a postgraduate degree, for 7%. Statistical analysis results showed that speakers of elementary education raise the unstressed /o/ significantly more frequently than speakers of the remaining educational levels. The holders of a postgraduate degree, accordingly, account for the least [u] realizations in comparison with the other educational levels.

5.4 Raising of the unstressed vowels /e/ and /o/ to [i] and [u] in terms of districts

In terms of the districts, the [i] realization is found among residents of the typical city center and of the original peripheral city areas at 7 and 8% respectively, among residents of the refugee districts at 13%, and among residents of the new dialectally mixed neighborhoods at 3%. Statistical analysis (Analysis of Variance and Tukey post hoc Test) showed that the refugee districts are significantly different from all other neighborhoods. In a similar vein, the new mixed neighborhoods are significantly different from the city center and the refugee districts, but not from the original peripheral areas of the city which constituted the first city expansion in late 1960.

As regards the raising of the unstressed /o/ to [u], statistical analysis showed that the city center, the original peripheral areas, and the refugee districts did not differ significantly between them, ranging between 25 and 28%. On the other hand, the new neighborhoods account for a significantly smaller percentage of raising, at 5% (Sig.=0.000).

6 Levelling in the dialect of Agrinio

Since the 19th century, the economically developing city of Agrinio has attracted populations from around the county as well as from bordering counties, for the purpose of work, trade, and permanent settlement. There has also been forced mobility to the city after the Minor Asia Disaster in 1922 (Παπατρέχας 1991: 396), during the civil war (1946-1949) (Μπακαδήμα 2010: 211), and after the construction of two hydroelectric power stations in the 1960s (Τσιαμάκης 2006: 13,23,39).

According to the theoretical model of Language & Dialect Contact, proximity and contact between different speech communities generates the conditions for linguistic accommodation. Linguistic accommodation starts with casual interactions which repeat throughout daily contact between speakers of different dialects, or during the commuting of people to and from cities; this represents short-term linguistic accommodation (Britain 2013: 165). Linguistic variables which had been branded as stereotypical are thus modified (Trudgill 1986: 3, 11).

In case where the intra-community contact between speakers of different dialects, or the daily mobility of people to and from the city, last longer periods of time, i.e., decades, long-term linguistic accommodation arises. Long-term linguistic accommodation in turn activates the mechanisms of Koineization that lead to the creation of a new -local- koine. The first mechanism of this long-term process is the mechanism of Levelling (Trudgill 1986, Kerswill 2002b: 188). Levelling describes the creation of a linguistic level (morphological, phonological, syntactical etc.) which is made up of linguistic units and variables which are shared by both speech communities. This is achieved in two ways: through the elimination of different units, or the different variants of the same variables (Trudgill 1986, Kerswill 2002a: 671-672), or through adoption of very few salient features by all the speakers, even by those who had not been using them until levelling (Trudgill 1986, Britain 2010:195). This happens because speakers seek neutral forms which do not denote or represent the social identity of a speech community; consequently, the distinguishing features of the native dialect are faded out (Kerswill 2002b: 188, 197, 206).

In the present study, it appears that levelling is under way since one of the fundamental phonetic/phonological features of northern dialects, that of raising of the unstressed /e/ and /o/ to [i] and [u] respectively, is disappearing. More specifically,

according to our results, speakers of a younger age, of university education and/or inhabiting the new mixed districts (in a nutshell, those who differ from the typical older locals) produce high realizations to a very small degree.

Moreover, our analysis showed that the number of [i] & [u] realizations of the mid vowels has decreased is also linked to the differentiation of this phenomenon. So far, we have considered raising to be a phonological/phonetic phenomenon. Our data, however, points to the fact that this is no longer the case in the dialect of Agrinio. More specifically, high realizations of the unstressed /e/ to [i] are not connected with a specific phonological environment but with specific morphemes such as the conjunction 'and', the third person singular of past tenses, and some lexical morphemes (i.e., the stems of the verbs 'I was born', 'I waited', 'I began', as well as the stem of the number 'fifty' and of the noun 'Friday'). The above show that the phenomenon has now become morpho-phonological instead of merely phonological. In relation to raising /o/ to [u], the same pattern appears, although the phenomenon is still developing. More specifically, /o/ is raised to [u] in the different cases of the masculine and neuter articles, in the inflection of the first person singular present tense, in the impersonal verb for 'it is possible', /bori/, as well as in the stems of certain nouns and verbs (such as in the words 'years', 'girl' 'I know' and 'I think'). In these cases, [u] realizations occurred more times than [o] realizations. What is more, more than 40% of [i] realizations occurred a small number of times in many different words, as a new variation.

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