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Variable Schwa Deletion in French of Orléans: The Role of Age as a Sociolinguistic Factor: A CORPUS STUDY

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Abstract

The present paper is a micro diachronic and a socio-comparative study which examines the behaviour of a well-known pronunciation variant in French**,** the so-called schwa. The aim of it is to understand the nature of this variation (elision and maintenance) in monosyllabic words; clitics (#c(ə)#c) in French of Orléans, considering age as a sociolinguistic factor leading to this simplification process. Also, the evolution of the variational behaviour of this vowel in the same context across a diachronic interval of forty years (from 1968 till 2014) will be studied.

To achieve the research objectives, a corpus-based research procedure was implemented, using ESLO Corpus "Enquête Sociolinguistique à Orléans". It is divided into two sub-corpora ESLO 1 (collected between 1969 and 1974) and ESLO 2 (collected starting from 2014). Based on the findings, it comes clear that the young generation drops more frequently schwa in their spontaneous speech. Their rate of elision was higher in both corpora compared to the one of the old speakers (34,6%, for the old generation compared to 41,7% for the young one). Yet, it is found that the increase of schwa deletion through the diachronic period of forty years is not highly significant. However, it was found that schwa deletion is conditioned by other linguistic and sociolinguistic variables which have not been addressed in this research paper. Consequently, the discussion is left for future research.

Keywords: Age as a sociolinguistic factor, Clitics, French of Orléans, elision, ESLO corpus, schwa.

1. Introduction

In spoken discourse, typically in conversations and spontaneous speech, the fundamental aim of native speakers is to transmit their message in the most efficient manner to achieve intelligibility and comprehensibility. Consequently, they unconsciously take part into a simplification process which involves the clarification of their speech by articulating only what is essential for their conveyed message (Gimson 2001). In fact, speakers tend to eliminate certain segments and sequences of sounds as they attempt to get their message across, without altering the correct meaning of the word, or the whole message. In other words, phonemes lose their phonological information, yet do not affect the meaning of speech production. These kinds of elimination processes are referred to as elision, also said deletion and reduction. Johnson (2004) notices that a significant amount of reduction is used in connected speech.

One of the most famous and complex reduction phenomenon in real life interactions in French is schwa elision (Connine, Ranbom, & Patterson, 2008; Delattre, 1951, Hansen,2000). It has become the central object of interest for many researchers in different perspectives since it manifests complex interactions between linguistic and extra-linguistic (sociolinguistic) factors. However, previous research has only provided some linguistic insights into the phenomenon, where proponents have confirmed that it is influenced by various factors such as speech rate (Grammont 1963, Fouché 1959, Delattre 1966), its position in words and rhythmic groups. (Grammont 1894, cited in Laks, Durand, 2000).

However, little work has been done on the influence of extra linguistic factors on the elision or realisation of the vowel. Only some observations were made by some linguistics. Pulgram observed that: "lower class speakers are normally inclined to use fewer /ə/s" (1961:309). The actual study will somehow participate and contribute to the study of schwa elision as far as sociolinguistic factors are concerned.

Thus, the objective of the research is to find whether age, which is a sociolinguistic factor, influences the elision or maintenance of schwa. Second, investigate on whether through a certain period of time (1974 till 2014) the amount of schwa elision increases or declines.

2. The French Vowel Schwa

The vowel schwa is regarded as a complex phonological process in French and many other languages. It has become the central object of interest for several researchers in different perspectives (for more details see Eychenne, 2006). Actually, the nature of its complexity appears first in its terminology. We observe that throughout history, the term given to this vowel was in a constant change. Martinet (1972) called it metaphorically "le E caduc" referring to the lapsed leaves of a tree which fall due to the wind. Delattre (1966), another figure in the field, proposed the term "E-instable", referring to "Unstable E", then, "E-muet", meaning "mute E" when the vowel is always not realized or not pronounced. Yet, he used E-caduc "lapsed E" when the vowel is elided i.e.: dropped and not pronounced.

The "E central" is another term used to refer to the vowel; however, it is rather based on an articulatory definition. An additional important and a well-known concept is "schwa" pronounced "\ʃva\" in French. The latter means nothingness in Hebrew. This term will be used throughout the study for two reasons. First, schwa is a well-known term used in modern literature in the field of phonology and phonetics. Secondly and most importantly, "schwa" makes the difference between the phonetic and written forms of the vowel. In fact, "e" is not the only orthographic representation of the vowel. It receives other forms like in ‹m**ons**ieur› ‹sir›, or ‹p**eu**t être› ‹maybe›. Liegeois (2014)

The particularity of schwa is also observed at the level of phonetics. As a matter of fact, historically, it was regarded a unique and concrete phoneme just like the other vowels. In other words, it not only had a distinctive function, but also a specific timbre which is different from the /ø/ mid-close and the /œ/ mid-open. In fact, it was central, mid open and a non-labialized vowel. However, in contemporary French, the latter progressively reduced and adopted an unstable timbre which freely oscillate between two mid front rounded vowels (/ø/ or /œ/). Like in the examples: ‹F**eu**›- /fø/- ‹fire› and ‹oeuf›- /œf/- ‹egg›. (Delattre, 1966; Bürki et al, 2008:4).

Therefore, it appears that schwa is whether pronounced as /œ/, which is a rounded vowel, articulated with lips rounding. Or, pronounced as a close-mid front rounded vowel /ø/, like in the following example ‹je› /ʒø/. Nowadays, both pronunciations, and representations are in accordance with the denotation of the schwa symbol /ə/ in the International Phonetic Alphabet. The reason behind this representation is particularly attached to its unstable nature, which is shown in its ability to appear and disappear depending on the context.

Finally, it is important to note that the most prominent particularity of schwa is its ability to be dropped. It becomes a reduced vowel in the same context, without altering the meaning of the word. Said differently, it is characterized as a weak vowel which can be elided in the same utterance without influencing the meaning of the utterance. For instance, a speaker can whether produce the utterance: ‹je ne peux pas› - ‹I cannot› keeping the realization of the vowel /ʒənəpøpa/, or without pronouncing it /ʒənpøpa/. This deletion process makes the vowel a peculiar French phonological variable. What matters now is to know in which contexts and under what circumstances the schwa vowel must be maintained or dropped.

3. Linguistic factors

Many studies have confirmed that schwa deletion is influenced by multiple linguistic factors, also considered as segmental and suprasegmental factors, since they are at the sound level and what is beyond it. Hence, linguistics suggests factors such as word length, sonority, the nature of consonantal/phonotactic environment and speech rate (style). Among these, three factors stand out. Firstly, Grammont (1963) points out that schwa deletion exhibits different behaviours depending on the phonotactic environment of the adjacent consonants. Actually, he named this phenomenon, the law of three consonants ‹la loi des trois consonnes›. The rule suggests that when the vowel [ə] is surrounded by three consonants, its maintenance is compulsory. For example, ‹con**tr**e**p**arti› /kɔ̃**tʁ**ə**p**aʁti/ ‹counterparty›. In this case, schwa serves as a support to back up and avoid the realisation of three consonants /**tʁp**/. However, in an environment like ‹petit› [**p**ə**t**i] ‹small›, when less than three consonants surround the schwa, the deletion is possible. Delattre (1951); however, insists on the fact that this rule does not have a strong effect on whether or not deletion can occur. He claims that it is not reliable and can be misleading in some context, like in the following sequences ‹visite stupide› ‹stupid visit›, schwa should be maintained, yet it can be dropped, although the deletion realizes a cluster of three consonants /vizi**tst**ypid/.

Secondly, a number of researchers observe that vowel deletion is largely influenced by speech rate and rhythm (Grammont 1963, Fouché 1959, Delattre 1966). In other words, the more speed speech is, the more the vowel is likely to be deleted. Obviously, when an individual speaks slowly, he pays attention to articulate and pronounce every segment including schwa, since no simplification process is required. This argument is also sustained by Dalby (1986). He studied schwa deletion in two different contexts, read speech and speech from news broadcast and television. He discovered that schwa is realized in 44% in fast speech, and deleted only in 2% in slow speech. Interestingly, Delattre (1951) assumes that the deletion of schwa leads to the disappearance of the whole syllable. For instance, ‹Saturday› ‹samedi› /sa.mdi/; whereas, if schwa is realised, the syllable is also maintained /sa.mə.di/.

Besides speech rate, other linguistic variables have been reported to influence the deletion or the maintenance of schwa, which related to the phonotactic environment of the vowel, ei: the nature of the consonants that precede or follow the vowel. Therefore, the following factor of maintenance and/or elision is more related to the segmental aspect of the prosodic words. To start with, schwa which is preceded by one consonant is frequently dropped ‹mont**e**› /mɔ̃t/ ‹go up›. Also, the vowel is more or less susceptible to be elided when it is preceded by two syllabically unified consonants. To be able to understand, take this example: ‹cette petite chaise›- ‹this small chair›- [s**ɛtpt**it- ʃɛz]. In this case, schwa is preceded by /tr/ (the unified consonants), where the first consonant /t/ is more closed than the second one /r/, which allow it to be dropped. However, the author points out an exception with the pronunciation of the well-educated people who tend to elide schwa and the liquid consonant which follows. As a result, ‹notre gloire›- /nɔtʁə**g**lwaʁ/-‹ our glory› becomes /nɔt**g**lwaʁ/, without violating the first rule. In the next section, the researcher shows that, in monosyllabic context and after a consonant, schwa in

‹de›, ‹le›, ‹me›, ‹ne›, ‹que› and ‹te›, is regularly maintained (excluding after /r/). whereas, in ce, je et se le, schwa realization is less regular. (Delattre, 1951 cited in Liegeois, 2014).

Other researches have also provided some insights into the distribution of schwa across segmental and morphological contexts. Before derivational suffixes ‹ment›, ‹rie›, ‹té› and as mentioned previously, schwa is elided when it is preceded by one consonant, and maintained when preceded by two consonants, for example ‹fla**t**erie› /flatʀi/ ‹flattery›.

Having considered the nature of schwa elision in relation to linguistic factors, it is now necessary to explore another area which provokes the realisation of this phenomenon; sociolinguistics factors, which are the centre of our interest in this research paper.

4. Sociolinguistic factors

As mentioned above, schwa deletion in French is a phenomenon which has been investigated by a large number of researchers who have claimed with evidence that linguistic factors play an important role in its deletion. Yet, besides these factors some sociolinguistic factors, also referred to as sociolinguistic variables, have been reported to influence schwa deletion, such as age, social class, regional dialects etc... Trudgill (1983) argues that these factors may change according to speech communities, since each one has its own social norms. Actually, various studies tried to provide explanations to illustrate the influence of social factors on the choice of individuals as far as linguistic variants are concerned. In addition, each factor has its peculiar influence on the occurrence of a variant (In our case, the variant is the vowel schwa).

In fact, Léon (1997) observes that schwa is a variable which represents a linguistic variation as well as a social one. This point is also sustained by Pulgram (Cited in Hansen 2000) who argues that: "lower class speakers are normally inclined to use fewer /ə/" (1961) (p.309). However, this empirical evidence is limited in the sense that they are regarded as observations or suppositions which are not based on concrete database.

However, recently, this phenomenon has become the main interest of several researchers. For example, Hansen (2000) conducted a sociolinguistic comparative study which investigates the elision of vowel /e/ in the Parisian French monosyllables and word-initial positions. The researcher's purpose is to identify whether sociolinguistic variables age and social class are factors which provoke this elision. The results of the reading recordings analysis demonstrate a distinctive social tendency among both classes. In fact, participants from the middle-lower class tend to drop the realization of the vowel schwa in their speech. In contrast, those from the upper class maintains it. However, the speaking task reveals a homogeneity in the usage of "e caduc". In addition, reaches the conclusion that young speakers maintain significantly less schwa in both contexts than old speakers in spontaneous speech. (Monosyllables: 28 % vs. 40 %, syllables initials 31 % vs. 48 %). (p.4). Hansen (2000) also compares the results of Péretz-Juillard (1977) with the results of his own corpus and finds that schwa deletion among both generations has the same behaviour with approximately the same statistics.

In this research paper, the focus is put on one sociolinguistic factor "age". Therefore, it is important to explain to what extent age influences the speaker's language, and in what way can a speaker's language changes throughout life. The idea is discussed in the next section.

5. Age as a sociolinguistic variable.

Age is a sociolinguistic variable which plays a significant role in language variation. It is a factor which influences individual's' linguistic choices; consequently, affecting sociolinguistic variation. As a matter of fact, according to several sociolinguistic research and investigations, speech features may vary according to the age of individuals; young, teenagers or adult speakers. This approach of investigating linguistic variation across different ages is referred to as "apparent time methodology" (adopted in the present research paper). It is a comparative research procedure which aims at comparing speech of younger individuals with that of older individuals. The resulted data of speech differences of both groups is regarded as linguistic change. It is also important to mention that a general tendency is observed among both groups. Accordingly, the old generation discourse is characterized by older forms; whereas the young generation speakers adopt or favour new forms.

In his study of Martha's Vineyard, labov (1972) illustrates the importance of age in a sociolinguistic investigation. The results of his study revealed that the younger age group living in an island maintained their old forms of pronouncing linguistic features in order to maintain their identity and distinguish themselves from another speech community coming from New English.

The fundamental question that one should ask is, how to determine age differences and to what extent they influence language change. In fact, it is essential to determine how such age groups are identified. In other words, how to classify individuals into groups according to their age-related patterns of variation. Eckert (1998) assumes that: "age centers around a set of life stages that are "native categories" (p.159). These native categories are:

Childhood (Ages 3-11). Including:

- Early Childhood (Ages 3-6).
- Middle Childhood (Ages 6-8)
- Late Childhood (Ages 9-11)

Adolescence (Ages 12-20)

Adulthood (Ages 20-80). Including:

- Early Adulthood (Ages 20-35)
- Midlife (Ages 35-50)
- Mature Adulthood (Ages 50-80)
- Late Adulthood (Ages 80+)

However, constituting an appropriate age group is not an easy task for linguists. There is no general modals or agreements to elaborate such age groups. Yet, there exists several studies which tried to categorize age groups divisions. For example, Dubois and Horvath (1998) divided their Cajun sample into three age groups (19-39; 40-59; 60 and over). Trudgill (1974), on the other hand, constituted his informants age groups into decades.

Thus, we can notice that age categorization differs according to sociolinguistic studies, yet what is important is that each linguist justified his/her choice. Milroy and Gordon (2003) point out that: "age by itself has no explanatory value; it is only when examined in the context of its social significance as something reflecting difference in life experiences that it becomes a useful analytical construct". (p. 39). Therefore, in this research paper, age was categorised into two different age groups, namely young (15-35) and adult (35-60) speakers (which was originally determined in the Corpus).

All these pieces of information that we have dealt with will serve as a basis for the practical part of the study presented in the following section, which aims at answering two hypotheses. First, whether age, which is a sociolinguistic factor, influences the elision or maintenance of schwa. Second, whether through a certain period of time (1974 till 2014) the amount of schwa elision increases, declines or stays stable.

6. The corpus construction and data annotation

This paper is a micro diachronic and a socio-comparative study which examines the behaviour of a phonological variant in French**,** schwa. The study deals with the elision or the absence of this vowel in monosyllabic words, more precisely, in clitics of Orélans French, or #c(ə)#c. In order to achieve the research aims a corpus study was constructed from ESLO corpus. Actually, all tokens were retrieved from both sub-corpora (ESLO 1 and ESLO 2). The whole original corpus contains 7 million transcribed words, yet due to time restrictions, the author constructed a sub-corpus of approximately 1 million words approximately equally distributed between ESLO 1 (453298 words) and ESLO 2 (521931 words). The corpus is available directly on the following link: http://eslo.huma-num.fr/index.php/pagecorpus/pageaccescorpus

It is also important to mention that the constructed corpus contains interviews, conferences, and lunch conversations. To answer the first hypothesis related to the development of schwa variable through the diachronic interval of forty years the study corpus was used as a whole to present global results; however, only interviews were selected to tackle the second hypothesis of whether age influences the variability of schwa. The reason behind the choice of interview is that, first, they represent the largest amount of data compared to lunch conversations. In addition, they are also regarded as spontaneous and social speech interactions, which perfectly meet our expectations.

The reason behind the choice of ESLO corpus is its important size and massive data. In fact, it contains seven million words which give the possibility to remedy for the lack of pertinent data and explore new quantitative research questions. In addition, it is divided into two sub-corpora which were both collected in Orléans, yet in two different period of time. Actually, the first sub-corpus was collected between 1969 and 1974, whereas the second was collected starting from 2014. This diachronic interval of forty years allows to compare the same set or type of data, and examine the evolution of different phenomena in terms of frequency of occurrences. In this case, the subject matter is schwa deletion.

Next the findings of ESLO1 and ESLO2 annotations as a whole are demonstrated and compared in order to answer the first problematic. Then, the second hypothesis is studied by analysing adult and young speakers' schwa elision. Finally, the general results are discussed.

ESLO 1			
	Time period	Nb of tokens	Nb of clitics
Interviews	8 :18 :24	380152	8133
Conferences	3 :08 :04	32573	3092
Lunch conversations	2 :00 :45	40573	2225

Table 1. *Compiling ESLO1 corpus*

ESLO 2			
	Time period	Nb of tokens	Nb of clitics
Interviews	8 :35 :07	450923	9394
Conferences	1 :40 :12	30308	1847
Lunch conversations	1 :12 :31	40700	1013

Table 2. Compiling ESLO2 Corpus

ESLO			
	Time period	Nb of tokens	Nb of clitics
Interviews	16:53:31	831075	17527
Conferences	04:48 :16	62881	4939
Lunch conversations	03:13 :16	81273	3238

Table 3. Compiling ESLO

The author annotated phonetically all clitics of the constructed corpus using Praat software Boersma (2022). The annotation procedure implies putting parenthesis between (e); the letter which represents orthographically the sound schwa, when schwa is not realized or pronounced phonetically. Conversely, when it is realized, the author keeps the original transcription. In the case where the sound is not audible, or its realization/ elision cannot be determined due to the quality of the recordings or something else, the hesitation symbol is used =? . To be able to understand, consider these examples extracted from our sub-corpus.

Corpus	Genre	Recording Code	Extract	Phenomenon
ESLO 2	Interview	1024	**j(e)** disais ça juste pour situer le l'endroit I said this just for locating the place	Elision
ESLO 1	Interview	9	mais je trouvais que **je=?** n' avais pas assez But I found that I had not enough	Hesitation
ESLO 1	Interview	9	on a on a on tient donc **le** client We have we have thus the client	Maintenance

Table 4. Elision/hesitation and maintenance of schwa.

6.1. Participants

Another significant point to mention is that twenty-six subjects took part in the experiment, since twenty-eight recordings were selected. They were divided into two different age groups, namely young (15-35) and adult (35-60) speakers. This age division is originally determined in ESLO corpus, and in Abouda and Skrovec (2015) research study. They are all native speakers of French and are originally from Orléans, a city which is located in north-central France, about 111 kilometres southwest of Paris. It is important to note that none of them lived outside of Orléans for over six months. Therefore, their French is natural and spontaneous, without any external influences. In addition, none of them has speech deficiencies. The informants were selected randomly, depending on the chosen recordings.

6.2. Research materials

Data extraction and processing have undergone series of specific and technical manipulations realized by a qualified engineer. As a matter of fact, the extraction procedure was carried out in three phases. During the first phase, the Transcriber files which contain the written data of the study corpus were converted into Praat format using the Conversions tool. Therefore, the author was able to annotate phonetically all clitics of the constructed

corpus using Praat software. The second processing phase consists on converting the files containing the annotated corpus in order to compile them in TXM software. This tool is a key element for the present investigation. It permits to explore the study corpus and obtain genuine quantitative data.

TXM is a textometry software which is able to analyse massive bodies of texts. It performs quantitative and textometrical investigations. Moreover, several annotation features can be queryable via the software. For instance, we can interrogate the corpus for schwa value in clitics (elided, maintained or hesitation), in addition to various words of the corpus, lemmas and the morphosyntactic categories. The labelling of the latter was performed by TreeTagger. Another option that TXM afford is to query the sub-corpora (ESLO 1, 2) for the recording code, in addition to the speaker's code, age and socio-professional category. Consequently, several queries have been used to extract and explore the needed. The obtained results were exported into Excel tables and analysed.

7. Results and discussion

The findings and global results of the first hypothesis are highlighted in a table demonstrating the amount of schwa elision for both generations (the young and old generations). The overall measurement results are summarized in two tables. The first one represents results obtained from the analysis of ESLO 1; while the second demonstrates those of ESLO 2. Shortly afterward, the obtained results of both corpora will be compared in order to tackle the second hypothesis related the evolution of schwa throughout time.

	ESLO 1			
	Nb of elision	**Nb of maintenance**	**Total**	**%Elision**
The young generation	988	1683	2371	41,70%
The old generation	1559	2944	4503	34,60%
Total	2547	4627	6874	76.3 %

Table 5. Schwa deletion for the young and old generations in ESLO 1

First, before presenting the results, the rate difference of the obtained results was tested in order to see whether they are significant or not. To do so, Chi2 software was used to compare the resulted rates. It is found that the rate difference is significative ($Chi=32.786$; $p < 0.001$), which permits to explore the results.

It is actually interesting to highlight that the average of schwa maintenance in general is greater in this period of time (between 1969 and 1974) with 62.5% of schwa maintenance and only 37.5 % of elision. Yet, these statistics includes both generations. It is therefore reasonable to mention another significant finding which present the elision of schwa of the adults and the young.

The above table shows that the young generation in ESLO 1 is more likely to drop schwa than the old one. In fact, the rate of deletion of the old generation is 34,6%, compared to 41,7% for the young. Thus, as expected and based on ESLO1 corpus, the research work proves that age has an important role in schwa behaviour. It appears that the present findings corroborate with previous results (Hansen, 2000; Péretz-Juillard 1977). Hansen (2000) studies schwa deletion in specific contexts; in monosyllables and syllable initials. He reaches the conclusion that young speakers maintain significantly less schwa in both contexts than old speakers in spontaneous speech. He also compares the results of Péretz-Juillard (1977) with the results of his own corpus and finds that schwa deletion among both generations has the same behaviour with approximately the same statistics.

It is now interesting to study schwa variable in ESLO 2. The same method of analysis is used, yet in a recent period of time (starting from 2014). The following table represents the obtained results of ELSO 2 for both generations.

	ESLO 2			
	Nb of elision	**Nb of maintenance**	**Total**	**%Elision**
The young generation	2120	2354	4474	47,40%
The old generation	604	787	1391	43,40%
Toral	2724	3141	5869	90.8%

Table 6. Schwa deletion for the young and old generations in ESLO 2

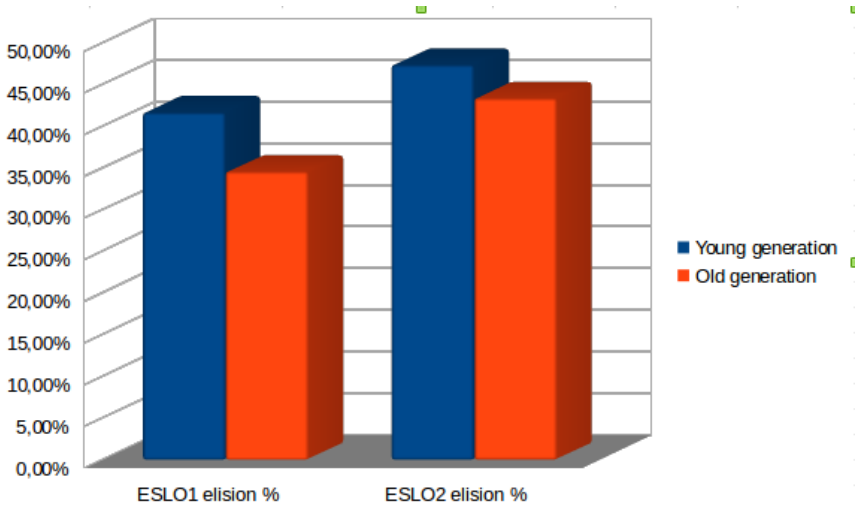

Figure 1. Schwa deletion for the young and old generations in ESLO Corpus

To start with, these results are significant with a Chi2 score of (Chi=6.5411 ; p< 0.05). Thus, the obtained valid data shows that the general rates of ELSO 2 also reveal that schwa maintenance is more frequent than schwa deletion in the actual period of time (2014). As a matter of fact, this period has a deletion rate of 42.4%, whereas the maintenance average rate is about 57.6%. Thus, we can observe from the above graph that for both ESLO 1 and ESLO 2, schwa maintenance is slightly more frequent than schwa deletion.

In addition, ESLO 2 shows the same schwa behaviour concerning age factor. In other words, the speakers with the lowest deletion rates are from the older age range with 43,4%, and the highest deletion rates can be found amongst the youngest 47.7%. As a result, it can be said that schwa deletion is a behaviour characterized by young people. However, these results need further explanations depending on the nature of clitics and their use amongst both generations. Therefore, exploring this specific context of elision is fundamental to have more answers about the obtained results. However, only clitics with a rate above of 50% of elisions are presented for each category (old and young generations) and each sub-corpus.

ESLO 2									
Old generation					Young generation				
Clitics	Elision	Maintenance	Total	Deletion %	Clitics	Elision	Maintenance	Total	Deletion%
Ce	57	20	77	74,00%	Ce	183	58	241	75,90%
De	100	217	317	31,50%	De	483	773	1256	38,50%
Je	316	83	399	79.2%	Je	707	187	894	79,10%
Le	38	84	122	31,10%	Le	317	416	733	43,20%
Me	52	75	127	40,90%	Me	88	81	169	52,10%
Ne	2	1	3	67%	Ne	15	15	30	50,00%
Que	3	290	293	1,00%	Que	166	570	736	22,60%
Se	35	13	48	72,90%	Se	135	36	171	78,90%
Te	1	4	5	20,00%	Te	26	29	55	47,30%

Table 7. Schwa deletion in clitics for the young and old generations in ESLO1

To start with, it is interesting to note from the above table that the rate of schwa omission in all clitics is higher amongst the young generation than the old one. However, if we compare the rate of deletion of the clitic <le> and <se> we observe that they have a large interval compared with the other clitics. In other words, the percentage of the remaining clitics are approximately closer; whereas, the average of deletion of <le> and <se> are quite farther. As a result, it can be said that young speakers drop more frequently the vowel in <le> clitic, than the old generation. Furthermore, schwa in the clitic <que> is more maintained by the old generation with 93.5% and 6.5% of elisions. Whereas the young generation maintains it with a rate of 86.6% and 13.2% of elision. This is one possible explanation which confirms the obtained results from ESLO 1. It is now possible to examine the percentages of ELSO 2.

ESLO 1									
Old generation					Young generation				
Clitics	Elision	Maintenance	Total	Deletion%	Clitics	Elision	Maintenance	Total	Deletion%
Ce	148	104	252	58,70%	Ce	89	40	129	69%
De	413	736	1149	35,90%	De	226	364	590	38,30%
Je	570	393	963	59.2%	Je	356	156	512	69,50%
Le	171	556	727	23,50%	Le	97	179	276	35,10%
Me	52	63	115	45,20%	Me	33	32	65	50,80%
Ne	75	48	123	61%	Ne	45	15	60	75%
Que	69	992	1061	6,50%	Que	87	570	657	13,20%
Se	58	48	106	54,70%	Se	54	27	81	66,70%
Te	3	4	7	42,90%	Te	1	0	1	

Table 8. Schwa deletion in clitics for the young and old generations in ESLO2

The results obtained from ESLO 2 reveals that the average of schwa deletion is higher in all clitics for the young generation. The is only one case where the elision is approximately equal. In fact, the frequency of elision of the clitic <je> is the same for both generation (79.2% respective 79.1%). It means that the rate of elision of the clitic <je> for the old generation has constantly increased compared to ESLO 1(59.2%) . These exceptions in ESLO 2 might explain the increase of the global elision rate for the old generation (34,6% in ELSO 1 and 43,4% in ELSO 2), in addition to the rate of other clitics, where the difference is not so glaring. However, despite these differences, the general rate of deletion is not influenced in ELSO 2. The young generation remains the most concerned by this phenomenon. Actually, the results show a large interval in the average of schwa elision of the clitic <que>. It is clear from the table that the old generation maintains approximately the whole time the vowel with an average of 99% and only 1% of elision, while the young generation omits schwa in <que> with an average of 22.6%.

It is also interesting to highlight that the deletion phenomenon is less concerned by some clitics than others, for both generations in ESLO 1and ESLO 2. In fact, <que> has a rate of elision of 9,6% in ESLO1 and 14,5% in ESLO2. One possible explanation is related to its nature and its context of use in utterances. This particular clitic tends to occur in verbal phrases where its schwa vowel is maintained. For instance, <qu'est-ce que ? > <what do ?> , <que voulez-vous?> <What do you want> , <est ce que?> <is?..> Etc. This is the reason why its rate of deletion is significantly low.

Finally, the overall results prove that age, which is a sociolinguistic factor plays an important role in explaining schwa elision phenomena in spontaneous speech, in contrast to other claims which sustain the fact that age does not influence the maintenance or elision of schwa variable (Malecot, 1976 cited in Hansen, 2000).

Having considered the first hypothesis related to the sociolinguistic factor "age", it is now possible to tackle the second hypothesis which deals with the evolution of the vowel throughout a period of time of forty years. Besides, three contexts of interaction were considered: interview, lunch conversations and conferences. These categories are balanced (see chapter 2, table 3 and 4) The obtained data from the corpus analysis are presented in the graph below.

	Nb of elision	Nb of maintenance	total	elision %
ESLO 1	4633	8666	13299	34,80%
ESLO 2	4589	7584	12173	37,70%

Table 9. Schwa deletion in ESLO1 and ESLO2

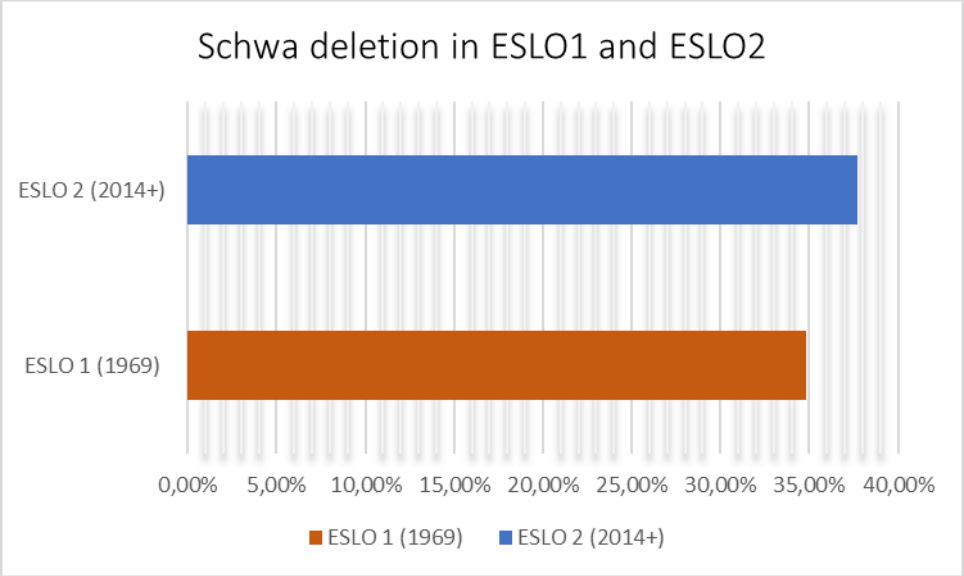

Figure 2. Schwa deletion in ESLO1 and ESLO2

As observed in the following graph, the rate of deletion has somewhat increased throughout the diachronic interval of forty years. In fact, the rate of schwa omission in ESLO1 (collected between 1969 and 1974) was about 34,8%, whereas it reached a rate of approximately 38% in ESLO 2. It means that schwa deletion phenomenon develops slowly across time and speakers tend to omit more frequently this vowel in their spontaneous conversations. The interpretation of these results needs deeper analysis. As a matter of fact, various linguistic and sociolinguistic parameters might be the reason of such changes. For instance, age factor might be a significant explanation, since old speakers are a bit more numerous that the young generation. And as we have observed the old generation drop less schwa than the young one. Also, other factors might be susceptible to explain such an increase, such as the context of conversation, gender, the rate of speech, contact languages etc.

8. Conclusion

Based on the findings from ESLO 1 and ESLO 2 it comes clear that the young generation drops more frequently schwa in their spontaneous speech. Their rate of elision was higher in both corpora compared to the one of the old speakers. Moreover, it is found that the increase of schwa deletion through the diachronic period of forty years is not highly significant. The rate of elision increased by 3% only. There are several factors which can be responsible of this minor rise. In this case, "age" factor might be one possible explanation, since the number of old speakers is a bit higher. And it appears that they maintain more frequently schwa. Other significant factors such as gender, the socio-cultural status of speakers, the speech rate and contact languages also. Therefore, further research needs to be conducted to determine the nature of these rates of schwa elisions. As said previously, schwa deletion is conditioned by other linguistic and sociolinguistic factors which has not been addressed in this research paper. Consequently, the discussion of these factors is left for future research.

Conflicts of Interest

The authors certify that they have no conflicts of interest to disclose in this manuscript.

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