4 CONCLUSION

Current acoustic analysis of whispered and normally phonated vowels with falling and rising tones confirmed various results of previous experiments on whispered speech. For instance, it was found that $F_1$ frequency is significantly higher in whispered vowels, compared to the frequency of voiced vowels. Also some trends were retested that may corroborate the hypothesis that changes in $F_2$ frequency may be an important cue to identification of whispered tones.

At the same time, some new findings were discovered as the result of applying dynamic parametric analysis to whispered samples. $F_2$ frequency difference between normally phonated and whispered vowels appeared to be significant although unlike $F_1$ frequency difference, it was not consistently significant, but significant $F_2$ changes tended to be localised.

Furthermore, it is important to interpret the results of this experiment with caution. The failure to find unequivocal statistically significant difference between whispered tokens with falling and rising tones, for example, does not mean the difference in question is not used by listeners as a cue to distinguish between tones in whisper. One of the reasons for why such differences might not have been found is a relatively small number of speaker subjects. It will be necessary to conduct a perceptual experiment in order to be able to speculate on what acoustic correlates are actually employed by listeners.

REFERENCES


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1 INTRODUCTION

Luxembourgish, the national language of the Grand-Duchy of Luxembourg (Loi 1984), has been described as one of Europe's under-described languages. In view of a new Luxembourgish monolingual dictionary, an online spellchecker and the prospect of a Luxembourgish version of Microsoft® Language Interface packages (see Gammers 2004, Germard 2004), the demand for linguistic knowledge about the language is ever growing.

The aim of this paper is first of all to explain the phonological feature called 'mobile-n deletion' (Keller 1961; hereafter shorted to MND) and how this feature has been described in linguistic and non-linguistic literature. After this extensive review, two studies will be portrayed. The first task will examine each Luxembourgish phoneme and how it interacts with the rule of MND. This task is not particularly innovative, as it only tries to verify previous studies and verify native speaker intuitions. The second task analyses the particular case of MND before the voiced alveolar fricative /ʃ/. Although Gillees (2005) already clarified parts of this particular phonological environment, new light will be shed on this matter, and these will go towards complementing previous studies.

Regarding the outline of this paper, the following section 2 analyses what previous linguistic and non-academic literature has contributed towards the study of MND in Luxembourgish. Section 3 presents the methodology used for this paper, while following section 4 discusses the results obtained from a linguistic investigation. The penultimate section, 5, discusses the results and raises new issues in the field of Luxembourgish. The conclusion in 6 attempts to draw together information presented in the previous chapter concerning the features and the future of MND in Luxembourgish.

Luxembourgish, when not quoted from other works, is written according to the most recent spelling rules (Règlement 1999), and any errors will be mine.

2 THE RULE OF MOBILE-n DELETION

2.1 LI Teaching Materials

The main section here provides an outline of the MND rule and analyses research to date. The subsection examines specifically the comments on MND that have been offered in non-academic texts intended for the LI market. These texts mostly contain guidelines on how to write Luxembourgish according to the official 1975 orthography (for a history of its spelling, see Newton 2000), which was then revised in the summer of 1999.

As already pointed out by Kiehle (2000), the "definition [of the rule] recurs to intuitions of native speakers" (ibid: 4), in which Kiehle cites the spelling rules of the 1975 orthography: "Mëschven lei tramm, twël aver ëschswëtten. "Here we always write as we speak." The Règlement additionally explains under what conditions of juncture (consonants and vowels) final -n is deleted or retained. However, when the spelling rule was revised and updated in 1999, reference to deletion environments was no longer included.

* Special thanks go to my participants for their time and patience. Many thanks to Margaret Deuchar, Martin Dardell, Peter Gilles, Pan Macdonald, Gerald Newton, Roel Vlaeminck, and Regina Weichert for their helpful comments and suggestions.
Under the existing conventions, "n" is retained only when the following is a vowel or one of the following phonemes: /æ/ or /a/ or /e/ or /æ/ (written as <a>). Examples of the role of -n are given in Table 1 below.

<table>
<thead>
<tr>
<th>Retained -n</th>
<th>Deleted -n (represented by )</th>
</tr>
</thead>
<tbody>
<tr>
<td>on Apf &quot;an apple&quot;</td>
<td>kee. Ball &quot;oo ball&quot;</td>
</tr>
<tr>
<td>on Beere &quot;a broken&quot;</td>
<td>de. Flach &quot;the fish&quot;</td>
</tr>
<tr>
<td>den Igu &quot;the igloo&quot;</td>
<td>de. Kounces &quot;the guest&quot;</td>
</tr>
<tr>
<td>den Uhu &quot;the horned owl&quot;</td>
<td>kee. Kouns &quot;no king&quot;</td>
</tr>
<tr>
<td>on Nul &quot;a null&quot;</td>
<td>e. Minch &quot;a person&quot;</td>
</tr>
<tr>
<td>den Twun &quot;the finger&quot;</td>
<td>de. Swuelt &quot;the middle&quot;</td>
</tr>
<tr>
<td>en Thun &quot;the tower&quot;</td>
<td>e. Wan tof &quot;the wagon&quot;</td>
</tr>
<tr>
<td>en Zuch &quot;a train&quot;</td>
<td>en Bote &quot;a boat&quot;</td>
</tr>
</tbody>
</table>

Other sources such as Braun (2002), Ministère de l'Education Nationale (2001) or Johannas-Schlechter (2004), do give guidance on -n deletion and retention. However, none of them mentions that "n" can also be deleted, and therefore not only "words" in the lay definition of the term, Prefixes ending in -n, or the first element of compounds ending in -n, also undergo MND. Although not specifically labelled as such, two sets of examples occur in Ministère de l'Education Nationale (2001: 8), i.e. Dammenwiwu "ladies' tour", versus Dammenwiw "ladies' shoes", and Frittenüppen "chip pan", versus Frittenüppen "frying fat". Johannas-Schlechter (2004) does not give any examples at all, but merely repeats in front of which letter -n is retained or deleted. Her text is, however, the only one also mentioning that "n" is retained before the punctuation mark "、“", by which she means that MND does not take place exclusively in sentence-final and clause-final position.

2.2 FL Teaching Materials

The stress on writing with reference to MND is also very much present in materials intended for the teaching of Luxembourgish as a Foreign Language (LaF). One of the very first LaF books (Christophy 1979), a book subtitled Bilingual Guide to Luxembourgish Conversation (emphasis mine), writes that MND comes into operation before the above-mentioned environments "unless stressed or followed by a comma" (Christophy 1979: 90, emphasis mine). Comma, however, are a written convention, not an oral one, and that within writing across languages, punctuation varies a great deal: whereas German, and strictly speaking Luxembourgish, for instance, use commas as a grammatical regulator of subordinate clauses, English and Dutch do not.

One of the LaF materials produced by the Centre des Langues Luxembourg, the National Language College, is J wii Leiszte Burgessch (1994). This explains MND according to the rules set out above, but with the added information that -n is kept before "/'," as these markers represent "pauses" (Centre des Langues 1994: 27), which are a feature of the spoken language. The most unexpected explanation of MND is presented by Schiltz (2003), who writes:

"n" has to be added to the ending of the preceding word before a vowel (a - i - o - o - n). This also applies among other things for the consonants t - d - h - n - r as well as to pauses in speech: a comma, a semi-colon as well as at the end of sentences. (Ibid: 35)

1 "Die Felder n - Regel" bezieht, dass vor einem Substantiv (a - i - o - o - n) ein "n" an die Endung des vorhergehenden Wortes gesetzt werden muss. Dies gilt unter anderem auch für die Konsanten t - d - h - n - r, so wie bei Sperrpausen einem Komma, einem Strichpunkt sowie um Satzende." (Schiltz 2003: 34).

If we apply this rule, however, Luxembourgish does not have mobile-n deletion, but mobile-n ‘addition’, which would be added euphonically before vowels and above-mentioned consonants. According to Schiltz, the following example (1) would be acceptable (added -n emphasised in bold), although it is not.

(1) *Déen Amsterdam nwu orangana. That ant is orange.
   "This ant is orange."

Sentence (1) is clearly grammatical as none of the lexemes end in -n. Regarding the issue of -n-insertion, however, Brauch (1954: 29-30) writes that a paragoguic -n is inserted in between dur/st "you" or si/n "she, they" and en/t/n "en/t/n".

(2) wa se n e bestatt hitton if she n be ordered had "if she had ordered it"

(3) hias de(n) n e kannt had you n him known "if you had known him"

2.3 Exceptions to the Rule

The exceptions to MND escape mention in almost all non-linguistic materials except for Braun (2002), who includes five types of exceptions to rules of MND as laid out above. For the first exception, he writes that:

even if -n is always written before /d/, /t/, /n/, /r/, or /h/, this does not mean that -n is never written before other consonants. (Ibid: 16)

As an example, he lists (4) where -n is deleted before /r/ and (5) where it is kept before the same environment (Ibid, author’s emphasis).

(4) eeh ha(r) lang geshlief / I have long slept
   "(I have) slept for a long time"

(5) d’Keelesbeam hüt rëchef the bowling alley lies slanting
   "the bowling alley is on a slant"

The way in which Braun attempts to express this exception suggests that -n is kept because of the following consonants. Instead, Section 2.4 will show that what accounts for the exception is actually the word or morpheme itself, which contains final -n.

The next set of exceptions to MND provided by Braun are the following saim "his"; unstressed se "they"; seng "his" and si "her", for which preceding -n is subject to optional deletion. It is worth making the observation that the words provided as examples belong to the class of rare lexical items in Luxembourgish that have initial /s/. This raises the question whether -n is optionally deleted because of the right context of -n (the word starting with /s/) or the left context of it (the word with -n). A review of this particular exception is presented in Section 2.4.
Céleste Kramann - Sima sif or Si sif? Mobile-n Deletion in Luxembourgish

With regard to the other three exceptions, Braun writes that -n is retained when it occurs in a proper noun, at the end of a verse, and when the layout for posters, titles, etc. requires it, such as in D‘Kanner zangen / Christblietlanner "The children are singing Christmas carols." (Ibid: 17, author’s emphasis)

These three exceptions seem, however, to be unconvincing, as they do not correspond to what would be found in spoken MND. They merely appear to be a prescriptive adaptation, produced for the benefit of written media.

2.4 Linguistic Literature on MND

As already mentioned above, the present section provides a review of what academic texts have said about the feature of MND as it occurs in Luxembourgish. The earliest documentation of MND is in Klein (1855: 17), who says that final -n is apocopated (German: apocopiert) before all consonants except the dentals /d/, /t/, /l/, and /l/. Furthermore, he writes that words ending in -an also form an exception. It is striking that he does not mention the occurrence of MND before vowels and /l/.

A century later, Bruch (1953) wrote that final -n is audible only before the consonants mentioned above (as in Klein), although Bruch also added final -n as a trigger for MND. There is no mention, however, of retention of -n before vowels. He explains this phenomenon as assimilation of -n assimilating within the expiration unit (in sandhi), or in a composite word. In his compendium of Luxembourgish grammar (1955), the description of the rule for MND is reversed, and he writes that:

[[If a final -n in a core of a sentence or a compound precedes a word that begins with h, d, t, n, or z, then this final -n disappears." (Bruch 1955: 43)]

There seems to be some confusion later on, as the examples following that show -n retention before dentals and /l/.

Keller (1961) does not mention the retention of -n before vowels either, but he is the first one to document the exceptions to MND. He observes that -n is kept when "a […] is the product of assimilation and reduction." (Keller 1961: 268). Words like djen "think" or djen "blind" keep their -n because they reduced their -en or -el clusters. The exception to this exception, however, is an "and" where -n is mobile. The negative prefix on- is also retained in all environments. Furthermore, Keller is the first to mention an academic text that -n before s or st "also, they in "frequently preserved." (Ibid.)

Keller (1961), like Bruch (1953, 1955), writes that -n is kept before /l/, Newton (1990), however, does not include the dental nasal in the non-MND environment. On the other hand, he writes that MND before /l/ is "variable." (Newton 1990).

Keller and Newton succeeded in explaining the rule of MND, together with some of its exceptions. It is, however, only in Schmidt (1984) that an attempt to explain MND is given, which he sees as a "euphonic means" or "euphonische Mittel." (Schmidt 1984: 51), or "relief in pronunciation." This is only partly true, as Gilles observes (e-mail communication) that -n is very often part of the inflectional morpheme -en and is not euphonically there.

The explanation by Russ (1996) of MND is very similar to that of Keller (1961), although Russ does not mention any exceptions to the rule.

The studies most deeply concentrating on MND, however, are those by Gilles, on dialect convergence in Luxembourgish (Gilles 1999) and his thesis on MND (Gilles 2005). He writes that Luxembourgish has developed a "complex deletion phenomenon in an external sandhi" (in kompleks Tilgungswesen im externen Sandhi) (Gilles 1999: 221), and that it shares this with other varieties of Franconian. He writes also that this phenomenon has been "unfortunately labelled as the ‘Rule of Fifte’" or mobile -n" (Ibid.). Consequently, he reinterprets the rule as a "cancellation rule (Tilgungsrégel)" (Gilles 1999: 222), and speaks thus of "n cancellation" (n-Tilgung) (Ibid: 221), in which final -n is "preserved or kept" (Ibid: 222).

Note that this present paper does not distinguish any clear difference in labelling the phenomena discussed and does not, unlike Gilles, wish to make a point of why the term "mobile-n deletion" and its abbreviation "MND" has been chosen.

Despite the naming technique of Gilles, his study on MND (Gilles 2005) clarifies the exceptions under which MND is not applied. Words ending with a short vowel and -n, such as Mann "man", Sten "tense, reasons", Ever "end", or Stew "more" always keep their final -n because these words "carry the Middle-Franconian tone accent 2" which "triggers a non-contrastive lengthening of the nasal [n]." (Gilles 2005; see Frings 1916).

3 Methodology

3.1 Participants

Six speakers of Luxembourgish were asked to participate in this study. Apart from the first speaker, who acted as the pilot study, all participants were native speakers of Luxembourgish. All speakers were known to the author before the study. The female-male ratio is 4:2 and the mean age of the speakers is 36 years.

The materials handed out to the participants were provided in English, Luxembourgish, French, and German in order to present the participants the language they were most familiar with.

The consent form asked for the respective participant’s name, their gender, their age, their mother tongue, and which other languages they know. The anonymity of the participants is preserved in assigning each of them an alphabetical letter in chronological order: the first participant is A, the second one is B, etc. A summary of the participants’ information can be found below in Table 2.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Sex</th>
<th>Age</th>
<th>Naming Task Data</th>
<th>Frog Story Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>f</td>
<td>49</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>B</td>
<td>f</td>
<td>25</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>C</td>
<td>m</td>
<td>50</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>D</td>
<td>f</td>
<td>23</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>E</td>
<td>f</td>
<td>25</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>F</td>
<td>m</td>
<td>29</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

x = xisistent data, x = no data

3.2 Tasks

The participants were asked to perform two tasks. The first task consisted of taking one sentence and inserting in it different male forenames. The sentence was expected to vary stylistically and/or dialectically, so a verbatim German translation of the expected Luxembourgish sentence was given as support: Sind sie den (forename) suchen gegangen? "Did they go looking for (forename)?" The advantage of this artificial sentence is that the Luxembourgish translation offers the several variants represented in Figure 1 below.
The main variant in this task was den “the”. Since Luxembourgish uses determiners with personal pronouns, it was expected that the determiner would be either pronounced de or den depending on what the following initial phoneme of the male forename was. Note that the determiner used with female forenames is the feminine determiner d “the”, which does not change and was for this reason rejected from this study.

Other variables are guan and guanen “goun”, which were expected to vary dialectally, and were not considered important for this study. De and den “the” were expected to vary according to what sound would follow in the forename. The difference between si and se “they” is one of stressed versus unstressed forms. As for sist and sist “are”, a clear result was expected, since the following sound is /z/ in si and se respectively. It was hoped that this result would confirm what Gilles (2005) and literature prior to this had said with regard to position before /z/.

As for the forenames, these were given on a separate sheet, on which each name represented one Luxembourgish phoneme. The vowel /a/ was not represented, as it had been used as the “lost phoneme”, in order to make sure that the participants understood which exact sequence to produce. As for other vowels, not all the Luxembourgish vowels were included in the name list, as not all of them (esp. diphthongs) occur initially in a forename, and secondly because all vowels are expected without distinction to be preceded by final -n in any case. Three more phonemes were added to the inventory. The first one is /w/, as in the noun Weekend. The hypothesis was that /w/ would be represented as /j/ in Jong “boy, son”, inasmuch as final -n is deleted before that phoneme, while both semi-consonants are approximants /j/ being a native phoneme, whereas /w/ is a recent one. The last two phonemes, although present in Luxembourgish, have been neglected in previous literature, probably because both sounds have several graphemes, depending on the language from which the word in question is taken. The affixate /éf/, for instance, can be written /sp/ as in English, <dsc> as in German, or /sp/ as in Italian.

Note that although the voiceless labio-lingual fricative /f/ is occasionally produced by Luxembourgish speakers, it is often voiced as /f/ or /f/ and was therefore not included in the list. Also absent on the list is the phoneme /j/, which was omitted through an oversight. The voiceless post-alveolar fricative acts the same as its voiced counterpart /g/, and thus presents no problem for this survey. The names and their respective initial phoneme are given in Table 4 below.

### Table 4. Names and Phonemes in the First Task

<table>
<thead>
<tr>
<th>Male Forename</th>
<th>Expected Initial Phoneme</th>
<th>Male Forename</th>
<th>Expected Initial Phoneme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruno</td>
<td>/b/</td>
<td>Norbert</td>
<td>/b/</td>
</tr>
<tr>
<td>Sébastien</td>
<td>/s/</td>
<td>Otto</td>
<td>/o/</td>
</tr>
<tr>
<td>Daniel</td>
<td>/d/</td>
<td>Paulo</td>
<td>/p/</td>
</tr>
<tr>
<td>Edo</td>
<td>/e/</td>
<td>Roger</td>
<td>/o/</td>
</tr>
<tr>
<td>Frédéric</td>
<td>/f/</td>
<td>Samson</td>
<td>/s/</td>
</tr>
<tr>
<td>Gauthier</td>
<td>/g/</td>
<td>Théo</td>
<td>/t/</td>
</tr>
<tr>
<td>Hans</td>
<td>/h/</td>
<td>Tchoukowsky</td>
<td>/t/</td>
</tr>
<tr>
<td>Jacques</td>
<td>/j/</td>
<td>Uwe</td>
<td>/u/</td>
</tr>
<tr>
<td>Jörg</td>
<td>/j/</td>
<td>Victor</td>
<td>/v/</td>
</tr>
<tr>
<td>John F. Kennedy</td>
<td>/k/</td>
<td>Wayne</td>
<td>/w/</td>
</tr>
<tr>
<td>Karlo</td>
<td>/k/</td>
<td>Yam</td>
<td>/y/</td>
</tr>
<tr>
<td>Laurent</td>
<td>/l/</td>
<td>Zorro</td>
<td>/z/</td>
</tr>
<tr>
<td>Mark</td>
<td>/m/</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The second task consisted of two elements. First the informant looked at a wordless picturesstory book, Frage, where are you? (Mayer 1969), then followed this by narrating the “frog story” in Luxembourgish, while the informant was able to flick through the story a second time if this was needed. This specific task was chosen so that the informants could produce Luxembourgish of a relatively less contrived nature.

While the first task was used to verify what previous literatures have already written about MND, it is the second task that will be used to observe MND before /f/.

### 3.3 Recording

The recordings consisted of the two tasks, performed by each participant, and with very clear instructions as to what was expected of them. The recording was done in a quiet room where there were no distractions that could interfere. Each participant was recorded using a digital voice recorder type Olympus VN-120PC and a microphone type SONY ECM-F8 flat electret condenser microphone. Both permitted the recording of high quality data, and the recorder’s software allowed the data to be transferred from there to a computer, where each recording was converted to .mp3 format.

Unfortunately, of the twelve recordings, speaker A’s frog story ended up as ‘white noise’, and the name list for speaker F was accidentally deleted. Both were therefore not used in the data. The rest of the data has been placed on a CD-Rewritable, and consists of each participant’s respective name list, frog story, and the transcriptions of those. The sound files are in .mp3 format and the transcriptions are in .doc format.

### 4 Results

#### 4.1 MND in the Naming Task

The data from speakers A to E confirmed what previous literature had said about MND occurrence before certain phonemes. Within the forename environment, MND only took place before /f/, /f/, /y/, /z/, /g/, /f/, /f/, /f/, /f/, /f/, /f/, and /f/. It was also confirmed that final -n before /f/ is deleted, just as it was before /j/. As for the forename ‘Samson’, three speakers realised
the initial phoneme as /l/, before which the final -n of the demonstrative was deleted. Two
other speakers, however, used initial /l/ instead. This also leads to deletion of -n.
In the environment of Stimm /l/ (61% of the total of 25 instances) -n was deleted, whereas in 39% of those instances -n was kept. If the individual participants are taken into
account (Table 3), participants were either in favour of deleting -n before si/ or of keeping it.
They did not, however, mix both variables.
Table 3. Task 1: Realisation of Stimm si, According to Speaker (Age)

| Speaker | Stimm | si
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A (49)</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>B (25)</td>
<td>84%</td>
<td>92%</td>
</tr>
<tr>
<td>C (56)</td>
<td>96%</td>
<td>4%</td>
</tr>
<tr>
<td>D (23)</td>
<td>8%</td>
<td>92%</td>
</tr>
<tr>
<td>E (25)</td>
<td>92%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Analyzing Table 3, there is no correlation between the age of the speaker and MND before /l/
in the naming task. One explanation, accounting perhaps for retaining final -n, could be in the
instructions to the naming task, where the translation was of the German Stimm "Are they".
This could have influenced participants A, C, and E.

4.2 MND in the Frog Stories

The five frog stories collected from speakers B to F make up a small corpus of 4,067 words,
of which the mean number of words per speaker is 813.4. A concordance software revealed
103 instances of potential MND before the voiced alveolar fricative /l/. Table 6 below reveals
the number of instances categorised as whether the word after -n starting with /l/ is "function
word" or a "real" lexeme, whether the word /l/ ends with a schwa or not, and whether -n is
deleted or kept.
Table 6. Task 2: Results Regarding Mobile-α Deletion Before /l/ (N = 103)

<table>
<thead>
<tr>
<th></th>
<th>Function words</th>
<th>non-Function words</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-n kept</td>
<td>-n deleted</td>
</tr>
<tr>
<td>/l/</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>non-/l/</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>38</td>
</tr>
</tbody>
</table>

In total, final -n is deleted in 59% of the cases; which is not a significant result.
Gilles' observation that final -n is always preserved before /l/ if the following word is
a lexeme (Gilles 1995: 227) was also confirmed by this survey, as 84% of lexemes starting
with /l/ trigger MND, whereas in only 16% of the cases final -n was kept. Although it
verifies Gilles' observations, it is worth of note that those lexemes or non-function words did not
always (i.e. less than 100%) trigger MND.
As for function words, the concordances found the following tokens: s’ "they"; sdi "his"; se "they"; sakh "himself, herself, themselves"; seng "his, her", seng "his, her", sengem "his, her"; sengen "his, her"; sengue "his, her"; sengue "his, her"; sengue "his, her"; they"; sii "to", sii "to"; sii "to"; sii "to". The general percentage of final -n retention and deletion is 51% and 49% respectively, which is not significant, as it
could mean that there is one easy chance out of two to delete the -n. Gilles' factors such as
age and dialectal variation could not be applied to this survey as there were an insufficient
number of speakers.
Instead of covering the same ground as Gilles did with his informants, it was the
purpose of the intended study to concentrate once more on the phonological environment.
Whereas Gilles analysed MND from the perspective of the words following -n, this study
takes the words that contain the final -n. More specifically, the purpose of the second

5 DISCUSSION

As already mentioned above, the naming-task survey revealed that final -n is retained before
vowels, the glottal /h/, and alveolar plosives and affricates, and is deleted before all other phonemes. Trying to test MND before /l/ has proven to be problematical, as some speakers did not always pronounce the name Sismai with a voiced alveolar fricative, and in the same
way, some people seemed to 'stick' to one form of Sis si or Sis si "Are they". This
linguistic survey only had results from five participants; a further study with a greater number
of participants is thus needed. Furthermore, a more representative section of the population
should be included in such a survey, reflecting, for instance, a broader range of ages, and a
selection of regional variations. It would also be of interest to compare L1 speakers of
Luxembourgish with L2 and foreign language speakers. Finally, in a research seminar given
at the University of Wales, Bangor, Dr Margaret Deuchar (personal communication)
suggested the comparing of data not only across dialects/accents, but also across social
classes. However, this would raise the issue of language and social stratification in
Luxembourg, which has not been greatly studied as far as Luxembourgish is concerned.

The only study that apparently analysed Luxembourgish issues in a social context is Davis (1994),
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in which she analyses language variation to class among Luxembourgish-speaking families.

If another study is to be done on a greater scale, some parts in the methodology could be changed, i.e., participants should narrate the frog-story first, as some participants in this study had roughly guessed what was being looked for, and in order to avoid linguistic self-consciousness and Labor's paradox, the survey should start from a broad task and ending in a narrow task. This narrow task should elicit the complete Luxembourgish phonemic inventory including all the diphthongs. This would require replacing the male forenames with masculine nouns. Additionally, not all elicitation should be relevant to the study question, so that informants do not immediately know what the exact since are.

Coming back to the results obtained in Section 4.2 and Figure 2, it should be noted that the MND in words with/without a final schwa occurring before a word have probably only given a slight indication of whether or not final -n is kept before /z/. It is hoped that a subsequent study will involve a greater number of informants and that other elicitation contexts could perhaps be added. Although the frog-story was less constraining than the naming task, naturally occurring data will certainly provide some good data as well. In that context, it is hoped that more corpora of the Luxembourgish spoken word will be set up in the future.

6 CONCLUSION

Although mobile-n deletion (MND) has already been mentioned in previous linguistic literature, it is only very recently that it has been investigated. This study firstly portrays in Section 2 how MND has been described in the past, not only in linguistic literature, but also in literature intended for non-academic public and written by lay linguists. Some progress in MND research was to analyse whether final -n is kept or deleted before the voiced alveolar fricative /z/. Although this was partly analyzed by Peter Gilles (2005), the present study complements his findings by suggesting that final -n is not only kept or retained in accordance with whether the word starting with /z/ is a lexeme (or rather a function word), but whether or not the preceding word ends in a schwa. An explanation in this second argument could lie in the nature of the -en ending, which is morphological and not lexical. From this arises the question why speakers of Luxembourgish would favour retaining the morphological -n before /z/, but delete the lexical -n in the other cases.

Thus, from this study some new findings have arisen and, although they only indicate statistical tendencies, it is hoped that further studies into Luxembourgish mobile-n deletion will be carried out, as a much clearer view remains to be achieved.

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