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A Discussion of Issues from French Loans in Lebanese

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Abstract

Due to major interactions between the Lebanese and French peoples throughout history, the language varieties spoken in Lebanon frequently borrow words from French. In this dissertation, I explore and lay out the phonology of one such variety, Central Mount Lebanon Lebanese (CMLL), and identify four issues (the adaptation of rhotics, the voicing of bilabial plosives, the denasalisation of vowels and the appearance of emphatic consonants) in the study of French loanwords into CMLL, in hopes of identifying arguments in favour of one of the two primary models of Loanword Phonology: the Phonological Stance Model and the Perceptual Stance Model. The results of this analysis push in favour of the Phonological Stance Model all the while highlighting the importance of the Perceptual Stance Model in providing some questions the former Model raises.

Keywords: Lebanese, loanwords, loanword phonology, phonological stance model, perceptual stance model.

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Chapter 1

Introduction

Lebanon is a small country on the eastern bank of the Mediterranean Sea. As an important regional center for finance and trade, located at the intersection of Europe and Asia as a Western border of the Middle East, it is only normal for Lebanon to have been the setting for many peoples to interact.

As an old French mandate, not only is Lebanon part of the Organisation internationale de la Francophonie; its very educational system was initially put in place by French people, and the French language is therefore highly influential. For reasons that will become evident in the course of this paper, Lebanon offers an interesting linguistic landscape for the fields of Bilingualism and Second Language Acquisition, particularly because most of its schools either teach in French or in English. Naturally, such an environment is extremely favorable to the appearance of loanwords, which I will be discussing as of chapter 3. The field of loanword phonology itself probably has a lot to learn from Lebanese.

This paper looks at the adaptations of rhotics, nasal vowels, and voiceless bilabial plosives, as well as the apparition of pharyngeal consonants, in French loans into Lebanese, as separate from other loaning processes that may have occurred within the other varieties commonly referred to as Arabic Languages, as it is my view that an argument can (and hopefully, in a future paper, will) be made to analyse at least the Lebanese varieties as *closely related to and heavily influenced by* rather than *descended from* Classical Arabic, and thus as a separate language.

In chapter 2, I will be giving a linguistic overview of Lebanese and French, particularly with regards to linguistic development in the case of Lebanese, and phonology for both. Chapter 3 will introduce the reader to the main debate in the literature on loanword phonology. Chapter 4 will discuss the data I have collected and processed to build my arguments, which I will lay out in Chapter 5.

Chapter 2

French and Lebanese

Lebanese is a set of Semitic, Central Levantine, *spoken* varieties of language, spoken in Lebanon, very closely related to (and generally regarded as a subset of) Arabic.

Linguistic Development in Modern-Day Lebanon

One of the earliest languages — that we have record of — to be spoken in what is modern-day Lebanon, would have been spoken by the Canaanite (native *kena'* or, as the Greeks would later call them, Phoenician) peoples who inhabited the area around 3000 BCE (Hitti, 1957, p. 67). Modern Lebanese has kept traces of some of the sentence structure and vocabulary of Phoenician.

The Phoenicians traded with the Egyptians until the Hyksos (a nomadic Semitic people) conquered Egypt for about three decades; what is now Lebanon was then incorporated into the Egyptian empire for about a century until the fall of the Egyptian Empire, and was then independent for three centuries during which the Phoenician alphabet came about, under some influence of Egyptian hieroglyphs. (Hitti, 1957, p. 79, 122) This consonantal writing system is widely recognised to be one of the first alphabets in the world (and is technically an abjad).

Aramaic (a Central Semitic variety of language, like Classical Arabic, Phoenician and Hebrew) had replaced the spoken Canaanite varieties in the Levant by the 8th century BCE (Hitti, 1957, p. 92).

Assyrians (as of the 8th century BCE; Hitti, 1957, p.142), Babylonians, Achaemenids (Persian), Macedonians and Seleucids (Hellenistic Greek), then by Romans, all had parts to play in early Lebanese culture as they conquered the land and infused its people with their cultures and languages. Christianity was introduced in the 1st century CE, and a hermit named Maroun established a monastic tradition, which used Syriac in its liturgy (Hitti, 1957, p. 248), around the end of the 4th century CE: the Maronites.

In the 7th century CE (Hitti, 1957, p. 237), Classical Arabic, riding with the Islamic conquests, took over the region, in which it remained until the 13th century (Joseph, 2004, p. 196) and left an imprint on the language. The Crusades (in the 11th century CE) established Crusader states in Lebanon (the County of Tripoli and part of the Kingdom of Jerusalem), as well as contact between France and Lebanon (Battye, Hintze, & Rowlett, 2003, p. 2), which acts as the beginning of the history of French for the local population. The Maronites swore allegiance to the Pope, which would as of then lead to support for the Maronites from France and Italy. And then Lebanon was ruled by the Mamluks from 1291 (Hitti, 1957, p. 308) until 1516 (Joseph, 2004, p. 196).

Then rose the Ottoman Empire, bringing Ottoman Turkish into the mix. The variety I refer to as Lebanese absorbed many words from Turkish over the course of some 300 years, and then with the fall of the Ottoman Empire during World War I, Lebanon was taken over by France. In the interim, however, and as of the late 1800s, French and American missions had introduced French and English (Zakharia, 2008) as languages of education.

The French Mandate installed a French-based educational system in Lebanon, in which French was mandated as the language of education for everything from the sciences to the social studies (Shaaban & Ghaith, 1999), and which, even years after the end of the French mandate, still holds ground today. French was also required for entry into the civil service (Shaaban & Ghaith, 1999).

French, Catholic, missions, established schools in Lebanon, which were needed to carry the educational system. Naturally, the majority of these schools' students were Christian, and, understandably, the Muslim populations of Lebanon began to consider that

‘the French were creating a Christian political and economic elite well-versed in French with no allegiance to Arabic’ (Shaaban & Ghaith, 1999). This made Christian communities partial to French schools, and Muslim communities to English-language ones (Sakr, 2017).

Nationalist movements began to develop and revolt against the French, leading up to Lebanese independence in 1943.

Shaaban and Ghaith (1999) elaborates on how, until 1975, efforts were made to replace French (and to a lesser degree English) with Arabic. In particular, the Constitution of 1926, which made French an official language, was amended in 1946 to make Arabic the only official language of the Republic of Lebanon. In 1975, a civil war erupted, and people started to consider the importance of ‘foreign’ (read: European) languages as a way to find employment outside the region, such that students and their parents went back to wanting to learn them. Private schools then began to stress ‘foreign-language standards’ (Shaaban & Ghaith, 1999) as their primary selling points, and public schools lost grounds to them.

The war finally ended in 1990, after the surviving parliament members signed the Ta’if Agreement in Saudi Arabia which ‘officially [asserted] the Arab nature of Lebanon’ (Zakharia, 2008).

It is important to point out that the variety of Arabic that is the official language of Lebanon is Modern Standard Arabic (MSA). Modern Standard Arabic is the name given to the descendent of Classical Arabic in the form it took around the start of the 19th century CE; it is a literary language in that people write and read it, but it is only if ever spoken in official settings and on the news.

2.1 Lebanese

2.1.1 Sociolinguistic Setting

There are varieties of Lebanese regarded as more standard than others, and varieties regarded as more educated than others, with three main overarching dialect regions roughly equivalent to a vertical division of the country into thirds: north (the governorates of North Lebanon, Akkar, and Baalbek-Hermel), centre (the governorates of Beirut, Mount Lebanon and Beqaa) and south (the governorates of Nabatiyeh and South Lebanon).

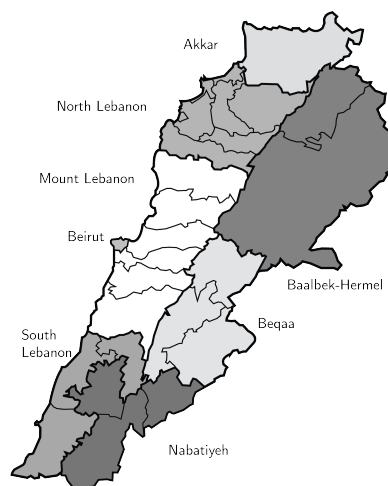


Figure 2.1: The Governorates of Lebanon (Localiban, 2016)

Since the sciences and mathematics are taught exclusively in either French or in English, and the social studies are taught exclusively in Arabic (Sakr, 2017; Bacha & Bahous, 2011; Shaaban & Ghaith, 1999) — that is, in practice, people speak Lebanese, then write papers and use books written in Modern Standard Arabic — all educated¹ speakers of Lebanese are at least bilingual; it therefore follows that monolingual Lebanese speakers tend to be the least educated.

Central Mount Lebanon Lebanese (CMLL)

I have mentioned earlier that Lebanese is spoken rather than written. This means that to speak of Lebanese is to speak of an accent continuum, in which the features will differ to varying degrees between households and even, at times, between speakers (see example (1)). This poses the problem of which variety of each feature to look at.

- (1) I have heard <tab> ‘*alright*’, equivalent to MSA طَيِّب /tʕaj.jib/ ‘*good, tasty*’, variously pronounced as [tʕab], [tæb], [te:b], [tʕejb] or [tʌb], sometimes by the same person, even though there are social groups more likely than others to use one or

¹What I mean by educated here is that the person will have at least attended primary school.

another of these possible variations.

However, with the advent of text messaging, Lebanese people are increasingly using a transliteration scheme that combines Latin letters and Arabic numerals to cover the extent of sounds the language uses, and people's accents are generally reflected in the way they transcribe things (see example (2)). It is therefore possible to group accents of Lebanese on the basis of the orthography their speakers use, in the same way that British and North American varieties of English can be defined as separate groups on the basis of their spelling systems (in fact, the existence of 'standard' varieties of English is linked to the appearance of written references, i.e. dictionaries).

- (2) a. <tab> 'alright' is transcribed as <tab>, <teb> or <tayeb>.
- b. <shi> 'something' is transcribed as <shi>, <she> or <eshi>.

This standardisation scheme allows me to speak of Central Mount Lebanon Lebanese (CMLL), which would be the variety spoken in the Beirut and Mount Lebanon Governorates. The closer one gets to what I would call *the epicentre* of this variety, which I define as more particularly the Beirut Governorate, the Metn District and Baabda District, the closer the abstraction I am referring to as CMLL is to people's actual speech. All examples of Lebanese in this paper belong to this variety.

It is worth noting that, as is the case with most transliteration systems, this one is not perfect and often merges often quite distinct sounds (all of [a], [ɑ] and [æ] end up transcribed as <a>), often merging words which can then only be told apart from their respective contexts.

- (3) a. <tab> /tʰab/ 'he bent over'
- b. <tab> /tæb/ 'alright'

Conveniently, in the event where one of two words is a loan from French (and has kept a close enough pronunciation), it will generally be transcribed in Lebanese as it is spelt in French. Orally, [sʰak] ‘*deed*’ and [sak] ‘*handbag*’ are most importantly distinguishable by the pharyngealisation of the initial consonant (because the appearance of this low vowel is sometimes conditioned by the pharyngealisation and because word-final gemination often disappears in the phonetic realisation of CMLL). In writing, these two forms are only distinguishable by the final consonant, since the latter comes from French *sac*, and kept the associated orthography (the other word is most often spelt <sakk> as the final consonant is underlyingly geminated). It is important to note that, unlike theorised in Muhaydli (1996) who argues that it comes from the English *cheque*, the other word is related to the MSA صَكّ /sʰak:/ ‘*deed*’.

2.1.2 Basic Phonology of Central Mount Lebanon Lebanese

Many studies of the phonemic inventory been done on Lebanese (Muhaydli, 1996; Haddad, 1984; Abdul-Karim, 1980; Obégi, 1971; Nasr, 1955), some in passing and some more detailed, some even referencing others, but none specifically on CMLL.

The varieties described in previous literature vary widely among themselves, a fact which ties back in with the importance of specifying the variety being described. On the other hand, with the introduction of loanwords and with the varied educational systems in the country interacting, the varieties of the language itself will have had wide opportunities to change since the latest phonological analysis of the native phonemic inventory in 1984 (Muhaydli 1996 does not bring in one of her own, preferring instead to use Abdul-Karim’s 1980 analysis).

The data for this study had to be filtered for loanwords from a set of sources, which includes broadcast media as detailed in section 4.1.2. The words identified were then transcribed and these transcriptions surveyed to identify the following phonological categories of phonemes.

I only identified the phonemes in gray in loanwords; this is in line with Obégi (1971) in that he cites them as belonging to loans along with phonemes that do not appear in

French, i.e. /q/, /θ/ and /ð/. Notably, Naïm (1998) argues that /g/ is now ‘part of the [phonemic] system’ but only as a phoneme loaned particularly from Turkish, and cites as arguments ‘fluctuations [variation] between /g/ and /k/ in part of the vocabulary’ as well as ‘hypercorrections [as in the word /grava:t/ [sic.] ‘tie’, from French] which stand witness to the non-native status of this phoneme’ (Naïm, 1998, p. 92).

2.1.2.1 Consonants

There seems to be overall consensus (Muhaydli, 1996; Obégi, 1971; Nasr, 1955)² as to the consonant system of Lebanese, which can be summarised as follows:

	Bilabial	Labial	Alveolar	Emphatic	Pal.alv.	Palatal	Velar	Pharyn.	Glottal
Plosive	p b		t d	t ^ʕ d ^ʕ			k ɡ		ʔ
Nasal	m		n						
Tap			r						
Fricative		f v	s z	s ^ʕ z ^ʕ	ʃ ʒ		x ɣ	ħ ʕ	h
Lat. appr.			l						

The CMLL consonantal inventory also includes the approximants /j/ (palatal) and /w/ (labial-velar), and Nasr (1955) also includes the nasal velar stop /ŋ/³.

CMLL has one rhotic, which is usually an alveolar flap or tap (the possible phonetic distinction discussed by Ladefoged as of 1968 is not worth making here). When geminated, however, the tap is realised as a trill /r/, as is the case for some varieties of Arabic, Afar and Shilluk (Ladefoged, 2008, p. 237) and this distinction is why I have chosen the symbol <r> for the phoneme.

It is also worth noting that the fricative /x/ can be realised as [χ] in the context of low-back vowels.

²Muhaydli (1996) adds velarized /l/ as /l̤/, Obégi (1971) adds velarized /r/ and /l/ as /R/ and /Ĺ/, and Obégi (1971) analyses emphasis as a long component which, instead of applying to a single segment, applies to the word as a whole.

³I am not including the nasal velar stop in the chart because I could not find any minimal pairs to split the occurrences of [ŋ] and [n] into separate phonemes.

Emphatics

In the above chart is a separate category of consonants referred to as ‘emphatics’ and given as a separate place of articulation. These sounds are essentially pharyngealised coronals, such that the feature is contrastive (Watson, 1999).

Watson (2002) however explains that emphasis is ‘described phonologically as pharyngealisation, [... but involves] a number of phonetic phenomena [creating] the auditory impression of ‘darkening’ (Watson, 2002, p. 269); (Naïm, 1998), though referring to it somewhat problematically (see below) accurately summarises the phenomenon as ‘a movement of the articulator⁴ towards the back of the tongue root, which curves and thus increases the volume of the oral ⁵ cavity. The acoustic impression resulting from this tension of the organs is generally described as ‘thick’ or ‘heavy’.’ (Naïm, 1998, p. 93); and Davis (1995) points out that emphasis spreads to neighbouring sounds.

The nature of emphasis in Lebanese is debated, with some sources (Nasr, 1959, 1955) referring to it as *velarisation* and others (Davis, 1995; Obégi, 1971) calling it *pharyngealisation*. Others yet, such as Naïm (1998), treat pharyngealisation and velarisation interchangeably and refer to the phenomenon as both, again interchangeably⁶. I will refrain from siding with any approach, as this is beyond the scope of this study; and will stick to employing the more frequently utilised analysis as pharyngealisation, mostly for its IPA notation <ʕ>, and referring to the phenomenon as emphasis, and the consonants as emphatics.

There also exist different possible and valid analyses of the phenomenon, going from those which declare it a secondary feature with articulatory and acoustic effects on following vowels (Zellou, 2011; Davis, 1995) to those who consider it ‘a long component’ in that it ‘extends through a whole word’ (Obégi, 1971), even having considered alternative analyses. Charles Ferguson considers emphasis in Arabic a ‘suprasegmental phoneme’ whose scope includes most consonants and all vowels (Ferguson, 1956). According to

⁴She says ‘appareil phonateur’ which could be translated to ‘speech apparatus’ but can only be interpreted as ‘articulator’ in this context.

⁵She uses ‘buccale’ ‘*buccal*’.

⁶‘On entend par la pharyngealisation ou vélarisation une articulation complexe [...]’ (Naïm, 1998, p. 93)

Naïm (1998, p. 94) this approach is ‘uneconomic’ and ‘insufficient’; she prefers to call this process an *expansion* of the velarisation applied to a single consonant. Here, again, the exact nature of emphasis lies beyond the scope of this paper. And while phonetically, it is possible to hear pharygealisation (Obégi, 1971) on each of /t/, /d/, /s/, /z/, /b/, /m/, /n/, /l/ and /r/, only /t/, /d/, /s/ present minimal pairs (4) with /t/, /d/, /s/ and /z/, at least in the data that I obtained for CMLL. Naïm (1998)’s analysis of emphasis in loanwords, which does not seem to separate phonemically distinct emphatics from phonetically distinct emphatics, suffers as a result (more on this in section 5.4).

- (4) a. /ton/ ‘tuna’ vs /tʰon/ ‘ton’
 b. /dhur/ ‘eternities’ vs /dʰhur/ ‘backs’
 c. /zhur/ ‘flowers’ vs /zʰhur/ ‘apparition’
 d. /sin/ ‘the letter s’ vs /sʰin/ ‘China’

Note that emphasis drags all low vowels to the back (see example (5)), thus making phonetically perfect minimal pairs with /æ/ impossible. There is lowering of the second formant in adjacent vowels in Palestinian Arabic, one of the closest linguistic varieties to CMLL, which ‘follows from the backing of the tongue root which [causes] adjacent vowel articulations to be produced further back in the mouth than [canonical vowels]’ (Zellou, 2011, p. 97).

- (5) [ʔædib] ‘male first name’ vs [ʔadʰib] ‘stick’

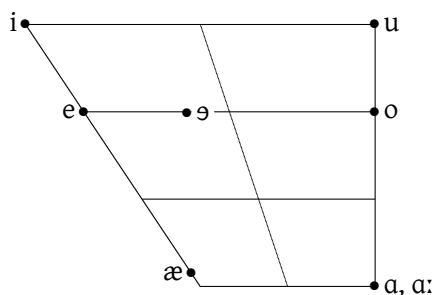
Finally, it is worth noting that some socially conditioned varieties of CMLL do not distinguish emphatic consonants from plain ones, leaving such minimal pairs as in (4) to be distinguished by the context. Since these varieties are only ever used by educated speakers, who will thus not be monolingual (as detailed in section 2.1.1), extra care was taken to only allow data into the set from speakers who did make the distinction between emphatic and plain consonants.

2.1.2.2 Vowels

The state of the current literature with regards to the Lebanese vowel system is embarrassingly divergent, with Muhaydli (1996) identifying 18 vowel phonemes (9×2 differentiated by length), Nasr (1955) identifying 16 (14 phonemes differentiated by vowel quality, plus 2 phonemically differentiated by length), and Obégi (1971) identifying 8 (5 long phonemes differentiated by vowel quality and 3 phonemically differentiated by length from longer counterparts).

Given that Muhaydli (1996) is working on ‘the metropolitan area of Greater Beirut’ (Muhaydli, 1996, p. 37), an area encompassed in what I defined as Central Mount Lebanon, and given that she has identified the largest set of phonemes, if it is possible to reclassify the minimal pairs she sets out to exemplify them into a smaller set of phonemes (I present my reanalysis in Appendix A), it should be possible to build a fairly solid vowel system for CMLL — until such a time as there can be a more rigorous analysis dedicated to do so from scratch.

My reanalysis allows me to set forth the following quadrilateral, with the caveat that the placement of phonemes is approximate, again until a more rigorous analysis can be done.



The vowels in this quadrilateral are placed at the cardinal positions because it would be beyond the scope of this paper to quantify the exact height and fronting of each of the phonologically separate vowels in CMLL.

Two exceptions: one is /ə/, which is placed at the geometric middle of the distance between the positions of cardinal /ɪ/ and /ə/ (rather than at the cardinal position of /ə/), and represents an array of allophones in free variation, within the speech of a same speaker, of a range of sounds between cardinal [ɪ] and [ə]. The other, whose allophones

exist on a scale from [a] to [æ], is on the chart as /æ/ at the midpoint between the positions of cardinal /a/ and cardinal /æ/.

It is important to point out that [a] is an allophonic realisation of /æ/ before or after emphatic consonants, as shown in (6-a)-(6-b), but also that /a/ is a phoneme with phonemic length, as shown in (6-b)-(6-c).

- (6) a. /bæɾ/ ‘land’
 b. /baɾ/ ‘bar’
 c. /ba:ɾ/ ‘innocent’

2.1.2.3 Closing notes on CMLL Phonology

In CMLL, consonants can be geminated, but the gemination is usually ignored word-finally and will in that case only be identifiable due to concatenative morphology, as in (7).

- (7) /bæj/ ‘father’ + /e/ ‘1s.poss’ = [bæj.je] or [bæj:e] ‘my father’

The suprasegmental phonology of CMLL would be interesting to look at, but will not be elaborated on here, as it is irrelevant to this study.

2.2 French

The French-based educational system in Lebanon (which I have discussed in the introduction to this chapter) ensured that French was cemented as a status symbol and prestige language. Today, the language of education can be one of French or English; but it remains the case that any Lebanese person who does not speak French either is related to someone who does, or knows someone who does.

2.2.1 Basic Phonology of French

When what would later become the International Phonetic Association started out, it began in Paris (*International Phonetic Association*, 2018); it should therefore come as no surprise to anyone that Parisian French is one of the most extensively studied varieties

and that good sources that discuss it abound⁷ when it comes to phonology.

2.2.1.1 Consonants

The following chart is from the Handbook of the International Phonetic Association, which exemplifies French based on a ‘young Parisian female speaker’ (Fougeron & Smith, 1999, p. 78):

	Bilabial	Labiodental	Alveolar	Pal.alv.	Palatal	Velar	Uvular
Plosive	p b		t d			k g	
Nasal	m		n		ɲ	ŋ	
Fricative		f v	s z	ʃ ʒ			ʁ
Lat. appr.			l				

The Parisian French consonantal inventory also includes the central approximants /j/ (palatal), /ɥ/ (labial-palatal) and w (labial-velar).

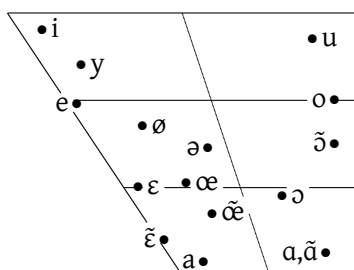
It may be obvious, but is certainly worth pointing out, that French does not have emphatics in the definition I have given them in section 2.1.2.1. It is also worth pointing out that the velar nasal exclusively occurs in loanwords (Wells, 1989, p. 44) and that the only rhotic sound in French, which is most often a uvular fricative (ʁ), widely varies in production ([ʁ ~ ʁ̥ ~ χ ~ ʀ ~ r]; Fougeron & Smith, 1999, p. 80).

2.2.1.2 Vowels

The French vowels are all monophthongs. They are presented in the vowel chart from Collins & Mees, 2013, p. 225–226 here, including all possible contrasts⁸.

⁷For this paper, I principally used the analyses in Ladefoged, 2008, Fagyal, 2006, Fougeron & Smith, 1999, p. 78-81, Wells, 1989, p. 43-46, and Walter, 1977.

⁸Fougeron and Smith (1999) point out that the main differences between varieties of French are in the ‘maintenance or loss of certain contrasts’.



Nasal Vowels

French traditionally has four nasal vowels: /ɔ̃/, /ɑ̃/, /ɛ̃/ and /œ̃/. They are all spelt with a digraph consisting of an orthographic vowel (typically but not always, in order, <o>, <a>, <i> and <u>) and a nasal consonant (an <m> if they precede a bilabial plosive, an <n> otherwise). It is worth pointing out that there is, increasingly, loss of contrast between /ɛ̃/ and /œ̃/ in a majority of modern dialects of French, and that speakers who do differentiate the two basically contrast them by making the latter a more rounded version of the first (Fagyal, 2006). Orthography still differentiates them however.

It is worth noting that, since Lebanese speakers of French typically learn to write the language as they learn to speak it, orthography is likely to have played (and to still be playing) a major role in the adaptation of loans from French into Lebanese.

E Muet

There exists, in French, a vowel (or more accurately a category of vowels) referred to as ‘e muet’ ‘*muted e*’, which, beyond being represented in the orthography as <e>, is characterised by a wide variety of possible realisations (Walter, 1977, p. 49).

Walter (1977) says this sound is generally a vowel which does not always have to be pronounced, but which sometimes is essential as it can differentiate between minimal pairs (as in example (8), which I took from Walter, 1977, p. 49 but transcribed into IPA and glossed myself).

- (8) a. /plaʒ/ ‘*beach*’ vs /pə.laʒ/ ‘*fur*’

- b. /lə ɛʁ/ ‘the beech tree’ vs /l ɛʁ/ ‘the being’
- c. /də.ɔʁ/ ‘outside’ vs /dɔʁ/ ‘sleep’

This same so-called ‘e muet’ is never pronounced word-initially or word-finally in [Parisian] French, and this fact sets it apart from all other French vowels — which can appear anywhere. Meridional varieties of French, however, always pronounce the so-called ‘muted e’, ‘particularly in positions whence it is excluded in [Parisian] French, particularly word-finally’ (my translation of Walter, 1977, p. 51).

Chapter 3

Basics of Loanword Phonology

3.1 Introduction

Given what I have already said about the colonial history and educational system of Lebanon, it should come as no surprise that French has given Lebanese a lot of words to refer to things and concepts.

After all, speakers have a clear tendency to borrow words from other languages to fill gaps in their own lexical inventory. This does not only happen in the case of cultural innovations whereby the word referring to an invention could be borrowed from the inventor's language into others, but also if a same speakers considers a language more prestigious than another, if a speaker needs to refer to a city, an institution or a political figure whose name belongs to another language, or simply for fun (Calabrese & Wetzels, 2009).

Since the speakers who introduce the word into the recipient language should theoretically be speakers of the donor language, they would most likely produce it unadapted and this borrowing is likely to be an example of code-switching, rather than a loanword.

3.2 Code-switch or loanword?

Uffmann (2015, p. 662) points out that telling a code-switch and a loanword apart is heavily debated. However, code-switching typically does not occur in the speech of

monolinguals and knowledge of this fact allows me to draw the distinction I need.

Code-switching ‘is the use of two language varieties in the same conversation’ (Myers-Scotton, 2006); the varieties are distinct before, during, and after the switch, such that if one were to divide a sentence into words one would be able to indicate what language each word comes from. Loanwords are essentially words that come from a donor language (DL or L2), but that essentially already exist in the recipient language (RL or L1) by the time a speaker, bilingual or not, learns and begins to use the so-called loan. If, repeating the previous experiment, an uninformed monolingual speaker were to attempt to point out which words come from their language and which are foreign, they would have to say they all came from theirs, regardless of whether the word has been adopted into, or adapted to fit, the recipient language’s phonology.

As far as structure is concerned, a loanword has become part of the language it is being used in, whereas a code-switch is by definition a change of varieties. The easiest way to distinguish between the two is the knowledge that borrowed words get integrated phonologically and morphologically into the language that receives them, whereas code-switches do not get integrated thus (Gatt, Grech, & Dodd, 2016).

3.3 Adaptation or Nativization Models

When a foreign word is integrated into a language, it is typically adapted to the new phonological system, both in terms of segments and in terms of phonotactics and stress systems, even though non-adaptations also occur (Uffmann, 2015). This process, which can be referred to as ‘nativization’ or more simply as ‘adaptation,’ is also hotly debated in the literature.

3.3.1 Perceptual Stance Model or Nativization Through Perception

The Perceptual Stance Model holds that when a monolingual speaker learns the word in a language they speak poorly or not at all, as soon as they utter it, whether publicly or to themselves, the word displays adaptations (Calabrese & Wetzels, 2009). Uffmann (2015) additionally explains that, for the proponents of this approach, borrowers want

to sound as close to the original as possible, and the adaptation either occurs as they hear the word — which is to say they don't perceive any difference between the adapted form and the original (a view termed 'selective deafness') — or as they are storing it in their lexicon — such that the perceived sounds are accurately heard, but then are recategorised into the closest native phonemes (a view termed 'perceptual similarity'). Uffmann points out in particular that 'perceptual similarity [is] an active choice rather than selective deafness' (Uffmann, 2015).

3.3.2 Phonological Stance Model or Nativization Through Production

For the proponents of the Phonological Stance Model, loanwords appear when bilingual speakers fill a gap in the recipient language by retrieving the underlying representation for a word in the donor language and either (1) generating a surface representation as per the recipient language's grammar and phonology or (2) generating a surface representation as per the donor language's grammar and phonology, in which case the word sounds identical to its original shape (Calabrese & Wetzels, 2009). Donor phonemes are identified and matched with recipient phonemes analysed as equivalent (Uffmann, 2015) in terms of how similar or dissimilar phonemes are in the donor and the recipient languages (for the sake of preserving contrast between the donor language's phonological categories).

3.3.3 Summary

	Phonological Stance Model	Perceptual Stance Model
nativization occurs through...	Production	Perception
input of nativization process	abstract long-term memory representation	acoustic signal produced by the surface phonetic representation of the word
nature of nativization process	absolutely phonological (surface representation of loanword generated by phonology of recipient language)	can be both phonetic and phonological

Chapter 4

Data

Since monolingual Lebanese speakers are (by definition) non-bilingual, the varieties they speak — and thus the data they produce — are the most immediately relevant to this study, since words are only loans when produced by monolinguals. This made obtaining data difficult from Edinburgh. Informal casual speech collection therefore not being an option, I had to obtain my data in other ways.

4.1 Sources

4.1.1 Anecdotal Data from Informants

Even the least educated speakers need to interact with the most educated, i.e. people working in the services industry such as medical staff and lawyers. I was put in contact with four of the latter sort of people (two medical doctors, one lawyer and one bank HR manager), who reported the way they heard the former sort of people speak. This first source is therefore anecdotal, and yielded the most data points. I then cross-referenced this data and eliminated any data points that were only reported by one informant, at the risk of losing valuable data, for the purpose of only using data verified by at least one other informant or source.

The 73 data points thus obtained or verified are marked as ‘AD’ (for Anecdotal Data) in the set presented in Appendix B.

4.1.2 Broadcast Media via Television Websites

Lebanese television channels cast the news in Modern Standard Arabic. This being the case, people interviewed on the news, as well as most television shows and Lebanese films, are shot and broadcast in a standardised¹, educated form of Lebanese, in which words are typically borrowed from French or English.

While it is very likely that this is where many monolingual speakers of Lebanese get their loanwords, it is also the case that hosts will attempt to avoid using new borrowings (in fact they'll avoid pronouncing words with a French or English accent), and prefer to pronounce words that have been assimilated into Lebanese as loanwords, in their assimilated form (for instance, they will refer to a 'beef steak' as a /bəf.tek/ (LB) rather than a /bif.tɛk/ (FR) whenever possible), simply to make their shows more accessible and thus appealing to wider audiences. I watched such comedy films ('*w halla2 lawen*', '*sekkar banet*'), television shows ('*min 2al*', '*hella w7talla*') and newscasts (from the LBC and the MTV channels), and took note of any loanwords I could identify.

The 36 data points thus obtained or verified are marked as 'BM' (for Broadcast Media) in the set presented in Appendix B.

4.1.3 Literature Review

As part of the process of reviewing the literature on loanword phonology, I came across a Masters thesis (Muhaydli, 1996) which deals with English loanwords in Lebanese, and an article, (Naïm, 1998), which discusses emphasis in French loanwords into Lebanese. Myself a speaker of English, French and Lebanese, with good working knowledge of Modern Standard Arabic, I disagreed with some of the examples mentioned in the thesis as coming from English, on the grounds of phonological similarity and on the grounds of historical and cultural contexts.

For instance, it is more likely for the word /ʃans^s/ 'chance' to have come from the far more phonologically similar French /ʃãs/ than, as Muhaydli (1996) would have it, from the English /ʃæns/. Likewise, it is unlikely, again as Muhaydli (1996) would have it, that /azot^s/ came from the obsolete English form /æzət/ 'azote' when the name of this chemical compound is taught as /naɪtɹədʒən/ 'nitrogen' in English and /a.zət/ 'azote' in

¹Not that there exists a standard. I'm using the word here with the sociolinguistic intension of 'prestige form' — people try to produce what they perceive as the cleanest, most fancy way of speaking, and no two such forms are the same.

French.

I also verified Naïm (1998)'s data with the anecdotal data's informants — being speakers of CMLL and given that 'Lebanese' is a more general variety than CMLL — then only included words that I could abstract a phonological representation for, even if at times the CMLL version was different than that presented in Naim's Lebanese data.

It may be important to highlight that both of these references are about two decades old, and that in the context of loanword adaptation this can be a long time.

It is worth pointing out that in some cases, words may have been independently loaned from French and English, and the resulting loans will have been merged. Since determining the exact origin of a word is beyond the scope of this study, only words that could be argued to have come from French into Lebanese (see section 4.3) were analysed.

The 29 data points thus obtained or verified are marked as 'LR' (for Literature Review) in the set presented in Appendix B.

4.2 The Data

It is important to note that I don't have enough data to accurately separate the underlying phonemes /a/ and /æ/ in the CMLL data, especially considering the fact that emphatic consonants backed all /æ/ to [a] in realisation.

On one hand, I could choose to use the original phoneme (from French). A problem with this strategy comes in the form of words such as /pɛs → bæn.sæ/ in which the original phoneme is neither of the two (/ɛ → æn/), or doesn't exist (/ø → æ/). On the other hand, I could choose to transcribe both as the same phoneme, some abstraction /A/ of both /a/ and /æ/. The problem here comes in the form of words such as (/ʃa.si → ʃæs.si/), in which the original phoneme (/a/), when borrowed, must be realised as [æ] and cannot be realised as [a] (French /ʃa.si/ became CMLL /ʃæs.si/, which it would be ungrammatical to pronounce as *[ʃas.si] for instance).

The compromise in notation, until such a time as more analysis can yield a more accurate idea of what the underlying phoneme is in each case, was to default to the phoneme that is generally realised with the production by the anecdotal data's informants (so phones produced as [a] were classified as /a/ and phones produced as [æ] were classified as /æ/). As for the dataset, it is presented in Appendix B.

4.3 Critical Selectivity

Out of the 91 words that make up my dataset, 50 words are from only one source, 35 words from two, and 6 words show up in all three sources. The source put aside, it is possible to list the words of the set in terms of ease of justification.

4.3.1 Easy to justify

The easiest words to demonstrate as being loanwords from French in Lebanese are ones that occur in both French and Lebanese, but not in other languages. English, Turkish and Classical Arabic being the most likely lexifiers if not French, if a word does not exist in a similar enough form in either English, Turkish or pre-1516 Arabic it is most likely to have come from French (hence: ‘it could simply be argued to have come from French’) and is thus valid for use in this study. If a word shows cultural links to other languages, the word is studied in terms of proximity to the original. If an intermediate form exists in French, the word is considered loaned from French into Lebanese, otherwise the word cannot fit into this category and is tested for appartenance to other categories of justifiability.

4.3.1.1 Example: *mécanicien*

Say we’re looking at the Lebanese word /mə.ka.nəs.jen/.

The MSA form ميكانيكي /*mikaniki*/ and the Turkish form *mekanik* are both more likely related to the English *mechanic* than to the French form. The word /mə.ka.nəs.jen/ therefore comes from the French word **mécanicien** ‘*mechanic*’, which is, itself, etymologically French — built from *mécanique* by analogy with *mathématicien* in 1696 (Robert, 2001, Vol. IV p. 1284).

4.3.2 Tougher to justify

Unfortunately, not all the words are this easy to explain. The process exemplified below was repeated for each individual word such that — to the best of my knowledge at the time of printing — this paper includes only words that, again, ‘could simply be argued to have come from French.’

4.3.2.1 Example: lampe

Since all of my sources make use of the word /lam.ba/, I decided to investigate its etymology beyond simply accepting Muhyadli (1996)'s use of the term, quite inaccurately as it turns out, as an English loan into Lebanese.

The French word **lampe** ‘*lightbulb*’ exists in English (from French, according to the Oxford English Dictionary) as *lamp*. My initial intuition was that, given that the French word ends in a vowel, and the English word does not, the etymology is most likely to be the French form, especially considering that the latter comes from the first. The MSA word for *lamp* is مصباح /misʕbaħ/ ‘*lamp*’ and the MSA word for *lightbulb* is مصباح كهربائي /misʕbaħ kahɾɒba:ʔij/ ‘*electric lamp*’, so clearly the Lebanese form doesn’t come from MSA.

Since the electric lightbulb would have become widely used in Lebanon since around the early 20th century, three possibilities for the innovation therefore exist: English or French — introduced to the country by Catholic and Anglican missions in the late 1800s (Zakharia, 2008) — or Turkish — the language of the Ottoman Empire, which fell in the early 1920s.

I’ve already argued that, out of French or English, the word is far more likely to have come from French; the remaining difficulty is in demonstrating that the Turkish *lamba* /lamba/ (which does etymologically come from French) is not where Lebanese took its — phonologically identical — form.

An argument could be that French allows ‘*lightbulb*’ as a gloss for *lampe*, whereas Turkish would need /lamba/ to mean ‘*lamp*’ (such that *ampoule* (FR) > *ampul* (TR) is a better translation of ‘*lightbulb*’ for both languages). I could find no such distinction anywhere; and it is, of course, completely impossible to state authoritatively that no variety of Turkish uses *lamba* to mean ‘*lightbulb*’. To go further than that is unfortunately impossible with the data I have at my disposal. I can however comfortably work from the perspective that the word is a little more likely to have come from French than from Turkish, on account of its having greater semantic similarity to the French than to the Turkish form.

4.3.2.2 Example: smoking

Muhaydli (1996) uses the Lebanese form /smə.kiŋ/ as originating from the English word *smoking*. In a way, she's not wrong — the ultimate etymology is, indeed, English — but there is a semantic drift involved which should not be ignored, as it is fairly informative.

I argue that the Lebanese form /smo.kən/ comes from English *via* French, and is therefore a valid French loanword into Lebanese, because the Lebanese word means 'tuxedo'.

The English word **smoking** /sməʊ.kiŋ/ is both the gerund and the present participle of the verb *smoke* 'to produce or give forth smoke' (*Oxford English dictionary*, 2018). It was borrowed (from *smoking-jacket*) into French in 1890 as just *smoking* /smə.kiŋ/ 'tuxedo' (Robert, 2001, Vol. VI p. 492), a use of the word which is ungrammatical in English.

MSA uses بذلة السهرة /ba.ða.lat as.sah.ra(h)/ 'evening suit', and since tuxedos originated at the tail end of the 19th century, the Turkish form *smokin*, clearly borrowed from French, is highly unlikely to have been used in Lebanon long enough (or as frequently as, say, *lamba*) to have been adopted from Turkish.

It therefore follows that the Lebanese form is most likely to have come from the French form.

Chapter 5

Analysis of Selected Phenomena

5.1 Rhotics

5.1.1 Relevant Data

The relevant data is given in Appendix B.1.

5.1.2 Observations and Analysis

It is immediately obvious that all instances of /ʁ/ in the source or donor language (French) turned into /r/ in the target or recipient language (CMLL).

The issues with this regular change are that Lebanese has the velar fricative /ɣ/, which is more phonetically similar to /ʁ/ than /r/ is, and that Parisian French allows [χ] (which exists in CMLL as a realisation of /x/) as a phonetic realisation of /ʁ/.

5.1.2.1 The Orthographic Argument, or In Favor of the Phonological Stance Model

If the Lebanese /r/ and the French /ʁ/ can both be classified as so-called *rhotics* (see below), maybe the explanation for this adaptation comes from what defines a rhotic?

On the issue of the unity of rhotics, Ladefoged (2008) concludes that the ‘unity of the group seems to rest mostly on the historical connections between [the subgroups of

sounds included in the rhotic class], and on the choice of the letter ‘r’ to represent them all’ (Ladefoged, 2008, p. 245). An obvious explanation is therefore that French would have been initially introduced as an educated variety to Lebanon, given the sociopolitical context during the mandate. As previously noted, only educated people would have spoken French, which they or their children would have been taught in schools both orally and in writing. Due to this, it is possible to consider that French was essentially introduced in writing, and this would have caused the orthography to have had a lot of impact in the adaptation of rhotics.

The problem is in explaining how the orthography would have allowed that. Since the average Lebanese student of French will have learnt to write the French phoneme /ʁ/ as <r>, and since today people transcribe (see 2.1.1) the CMLL phoneme /r/ as <r> (thus cementing the fact that the label ‘rhotic’ can, in fact, be applied to CMLL /r/), when did this start, given that the typical analysis of Lebanese (and thus CMLL) is that it is a dialect of Arabic, in which the phoneme is written as <ر>? Would it be necessary to widen the definition of a rhotic in Ladefoged (2008, p. 215) to encompass all sounds represented with characters in orthographic systems derived from the Phenician letter *rēš* <ʕ>, its Greek counterpart *rho* <ρ>, and its Latin counterpart *er* <r>? Or do we presume that the orthography had its influence on Turkish adaptation of the French /ʁ/, leading to the Turkish tap /r/’s transcription as <r> somehow influencing the Lebanese perception of French rhotics — by spreading from a few words to all the rest?

5.1.2.2 Case Against the Perceptual Stance Model

Since it is possible to classify both Parisian French /ʁ/ and CMLL /r/ as rhotics, and given the fact that rhotics seem not to have any articulatory (Ladefoged, 2008, p. 244), acoustic¹ (Lindau, 1980), or perceptual commonalities, it becomes impossible to say that the speakers of CMLL would have adapted the French rhotic into the Lebanese rhotic on perceptual grounds. This is supported by the fact that CMLL did not choose the more perceptually similar sound [ɣ] (LB) (to the stereotypical realisation [ɣ] of [ʁ] (FR)) or /χ/ (to the possible realisation [χ] of [ʁ] (FR)).

¹Although the fact that rhotics seem not to have any acoustic commonalities is now being disputed.

As far as the loaning of rhotics from French to CMLL (and more generally Lebanese) is concerned, the adaptation is not perceptual.

5.1.2.3 Adaptation of the French Rhotic

There is a wide range of possible adaptations of the French Rhotic /ʁ/ when it is loaned into other languages or varieties.

It is adapted as a voiced velar fricative /ɣ/ in Haitian Creole, with phonetic variation covering [ɣ ~ w ~ Ø] (Storme, 2016); as well as an apico-alveolar tap /ɾ/ or trill /r/ in Louisiana Creole (Klingler & Neumann-Holzschuh, 2013).

In French loanwords borrowed into Algerian Arabic, /ʁ/ is adapted to /r/ (Kheder, 2011, p. 82). In French loanwords borrowed into Moroccan Arabic, it is systematically interpreted as a coronal sonorant /r/, not as a uvular /ʁ/ (Paradis & LaCharité, 2001, p. 272). According to Alzaaq (2017, p. 9), this provides some indication that Moroccan borrowers, who must be bilinguals and who access the underlying form of the source language, perceive the sounds but fit them into the constraints of Moroccan rather than approximating the closest phoneme, in order to preserve the segmental information of French.

Speakers in Lebanon, Morocco, and Algeria were more likely to receive a formal education in French and base their pronunciation off of the written form (whence /r ~ ʁ/); whereas Haitian Creole speakers (who use /ɣ/) received little to no education as the language arose due to slave-plantation owner contact and thus pronunciation would have been based solely off of their perception. Evidence that seems to contradict this in Louisiana Creole (which uses /r/) can be explained by the origin of the French-speaking slave-owning class in the regions, i.e. areas of Acadia (ultimately from Normandy) where alveolar pronunciations (an /r/ phoneme) persisted from older forms of French.

At the end of the day, the precise explanation of why the /ʁ > r/ transition is happening to the phoneme in the course of its transition from French to CMLL is of secondary interest in this context, since there will have been influence from the various realisations of many individual speakers when the adaptation happened. After all,

[...] [ʁ] is only one of several different phonetic realisations of [the phoneme /ʁ/]² that occur in French. The French rhotic can be pronounced as an apico-alveolar trill, [r], referred to as the *rolled r* (typical of many regions in both Quebec and France), as a rolled uvular, [ʀ], commonly called *r grasseyée*, or as a uvular fricative, [ʁ]. The French rhotic can even be pronounced in the pharyngeal region, which Francophones themselves do not hear but which Arabic speakers perceive very well (Pierre Martin, personal communication). (Paradis & LaCharité, 2001, p. 271)

What is certain, however, is that the phoneme was adapted independently from its perception (in the various phonetic realisations it is given in French), but rather in phoneme form, under the influence of people's conception of /ʁ/ (FR) as a category of sounds distinct from /ɣ/ (LB) but somehow related to /r/ (LB) (most likely through the common possible phonetic realisation [r] in both French and Lebanese/CMLL).

5.2 Vowel Denasalisation

5.2.1 Statement of the problem

French uses nasal vowels phonemically, in the sense that minimal pairs can be found between each nasal vowel and a corresponding oral vowel, as shown in example (1), and in the sense that nasal vowels are distinct from one another, as shown in example (2).

- (1) a. *fait* /fɛ̃/ 'done' vs *faim* /fɛ̃̃/ 'hunger'
 b. *à* /ɑ̃/ 'at' vs *an* /ɑ̃̃/ 'year'
 c. *nos/nɔ̃/* 'our (pl.)' vs *non/nɔ̃̃/* 'no'
 d. *œufs* /œ̃/ 'eggs' vs *un* /œ̃̃/ 'a (indef. article)'
- (2) *lent* /lɑ̃/ 'slow'
 vs *long* /lɔ̃/ 'long'

²Paradis and LaCharité (2001) use 'the phoneme /r/' to refer to the phoneme I refer to as /ʁ/ because the variety of French I am referring to defaults to [ʁ] in realisation.

vs *lin* /lɛ̃/ ‘*linen*’
 vs *l’un* /lœ̃/ ‘*some one*’

Meanwhile, Lebanese only nasalises vowels phonetically, specifically in pre-nasal environments (such that it is anticipatory spreading or pre-assimilation rather than phonemic). Even then, the amount of nasalisation is hardly, if at all, noticeable.

5.2.2 Relevant Data

The relevant data is given in Appendix B.2.

5.2.3 Observations and Analysis

It is immediately noticeable that none of the words in the (admittedly non-exhaustive) dataset come from French words with /œ̃/. The most frequent nasal vowel in the list of original words (14 of 24 occurrences) is /ã/, the second most frequent (7 of 24) is /ɔ̃/, and the rarest (3 of 24) is /ɛ̃/. It is also immediately visible from the dataset that nasal vowels \tilde{V} are not adopted into the phonology of Lebanese, but rather that they are adapted into a diphone³ consisting of an oral vowel V and a nasal consonant N as per the Denasalisation Equation: $\tilde{V} \rightarrow V + N$.

The Oral Vowel

In most of the instances where \tilde{V} is /ã/ (12 of 14), the resulting V is /a/. In all instances (7) where the original nasal vowel \tilde{V} is /ɔ̃/, the resulting oral vowel V is /o/. In two of three instances where the original nasal vowel \tilde{V} is /ɛ̃/, the resulting oral vowel V is /e/.

This leaves three exceptions: one case where $\tilde{V} = \tilde{\epsilon} \Rightarrow V = \text{æ}$ (/pɛ̃s/ > /bæn.sæ/) and two cases where $\tilde{V} = \tilde{\alpha} \Rightarrow V = \text{æ}$ (/kle.mã.tin/ > /kæ.læ.mæn.tin/ and /fɛ̃s/ > /fræn.sæ/).

³A diphone is just a series of two phones. I’m using the term here to point out that the shift occurred from one to two segments, but that they are essentially one phonological object within the context of loanword phonology: a nasal vowel in the donor language which regularly becomes an oral vowel plus a nasal consonant in the recipient language.

Given that the range of Lebanese sounds I am representing with /o/ covers the height and frontness of the French sounds represented with /ɔ̃/⁴, and that the range of Lebanese sounds I am representing with /e/ covers the height and frontness of the French sounds represented with /ɛ̃/⁵, it is fair to say that the quality of V is generally expected to be roughly equivalent to, if not the same, as the quality of \tilde{V} , minus nasal release. That is to say, $\tilde{V} = \tilde{A} \Rightarrow V = A$, $\tilde{V} = \tilde{O} \Rightarrow V = O$ and $\tilde{V} = \tilde{E} \Rightarrow V = E$, such that A, O and E stand for “unrounded low-back” vowel, “rounded mid-back” vowel, and “unrounded mid-front vowel”, respectively.

Lowering denasalisation from $\tilde{\epsilon}$ to æ

Considering that Walter (1977, p. 53)’s analysis found that most of her informants realised / $\tilde{\epsilon}$ / as [æ], it is surprising that $\tilde{V} = \tilde{\epsilon}$ does not link up with $V = \text{æ}$ more often — but then again, one occurrence out of three is not too rare, and it would be interesting to get more data with $\tilde{V} = \tilde{\epsilon}$ to see where it would go. After all, studies show that “nasalisation affects perceived vowel height [when it is phonetically (insufficient or excessive nasal coupling) or phonologically (no conditioning environment in a language without distinctive nasal vowels)] inappropriate” (Beddor, Krakow, & Goldstein, 1986).

Fronting denasalisation from \tilde{a} to æ

It can be tempting to look at the fronting of / \tilde{a} / in the two cases where this phoneme is denasalised to / æ / as interpretations of realisations as a different phoneme (since [æ] might be a valid realisation of / a / in CMLL, especially outside of the context of emphatic consonants, see example (5) in section 2.1.2.1). There are however two possible explanations for these exceptions, which are not likely to be a random occurrence since there are more than one (2 out of 14) but are also not numerous enough to be allophonic with / a / (such that there would be need to introduce a new phoneme in Lebanese Loanword Phonology defined as ‘the group of low vowels resulting from the denasalisation of French / \tilde{a} /’ for instance).

⁴The chart in section 2.2.1.2 puts / \tilde{o} / between French /o/ and /ɔ/.

⁵Even though the chart in section 2.2.1.2 puts / $\tilde{\epsilon}$ / lower than both French /e/ and /ɛ/.

Explanation 1: the two Arabic forms كلمنتين /ka.li.man.tin/ ‘*clementine*’ and فرنسا /fa.ran.sa/ ‘*France*’ probably influenced the Lebanese forms /kæ.læ.mæn.tin/ and /fræn.sæ/ respectively, which came from the French forms /kle.mã.tin/ and /frãs/, respectively. This is because MSA contrasts /ɑ/ and /a/ the way Lebanese contrasts /ɑ/ and /æ/.

Explanation 2: there exists an older layer of lexical borrowing from French into Lebanese, which considering the history of contact between speakers of these two languages would be unsurprising. The earlier layer would have been influenced by Arabic contrasts a lot more than the newer phaser, which would have been influenced by French contrasts. Older loans would have made /æ/ their V, whereas newer loans (and possibly re-loans⁶) would have made /ɑ/ their V. This explanation would be even more likely if it could be demonstrated that /ɑ/ is not a native phoneme of CMLL, and that it was introduced through loanword adaptation instead; but this would require more data than I currently have available.

In closing, it is interesting to note that explanations 1 and 2 are not entirely incompatible with one another. It is perfectly imaginable that an older stratum of borrowings from French into Lebanese would have permeated Arabic, and then later Lebanese speakers would have been influenced by the *surprisingly similar* Arabic forms when they would have borrowed the initial French forms again.

Here again, more data would be useful to draw better generalisations for this apparent exception.

The Nasal Consonant

There is overwhelming evidence that N will usually be the alveolar nasal /n/, which occurs in 19 of 24 cases, and if not, the bilabial nasal /m/, which occurs in 4 out of 24 cases — 3 of which (/ʃam.bər.jer/, /zɑm.bon/, /lam.ba/) in pre-bilabial environments. This is due to anticipatory spreading or assimilation (the labialisation spreads to the

⁶What I mean by re-loan should not be equated with re-borrowing: a re-borrowing is a term that is first borrowed from language A to language B, then from language B to language A again; a re-loan would be a word loaned from language A into language B, then a few generations later loaned from language A into language B again, independently from the earlier loan.

nasal consonant). A generalisation can therefore be made as follows:

$$\tilde{V} \rightarrow \begin{cases} V_m / & - [+ \text{ bilabial }] \\ V_n / & \textit{elsewhere} \end{cases}$$

This does however leaves two special cases: the case where N is nonexistent or null (ie. $N = \emptyset$; the word is /a.naɾ.jeɾ/), and the case in which N is the bilabial nasal /m/ without there being a bilabial after it (the word is /frem/).

Non-Anticipatory Bilabial Nasal Consonant

The case of $\tilde{\epsilon} > em$ in /fɛ̃/ > /frem/ is interesting because it presents an exception to the above generalisation, according to which the nasal consonant is only bilabial when the original nasal vowel precedes a bilabial consonant. In this case, a bilabial nasal appears word-finally instead.

This is clearly not due to the vowel quality, which despite being word-final in /me.ka.ni.sjɛ̃/ wound up producing /n/ as its nasal consonant (/me.ka.ni.sjɛ̃/ > /mə.kæ.nəs.jen/). The very existence of the loanword /mə.kæ.nəs.jen/ also acts as additional proof (just in case it was needed) that word-final alveolar nasals are possible in Lebanese.

It would appear that the Lebanese word /frem/ is not simply a phonological adaptation of a French word.

It can be theorised that the word /frem/ would have begun as a borrowing from the French /fɛ̃/ around monolingual speakers of Lebanese, who would not have been literate in French, and who would have probably been familiar with the French term *châssis* /ʃa.si/ for ‘vehicle frame’ when they would have come into contact with the car-related English word (*vehicle*) *frame* /fɹeɪm/. Given the fact of the phonetic similarity between /fɹeɪm/ (EN) and /fɛ̃/ (FR), it is possible that the earliest users of what is now /frem/ (LB) may have been influenced by the former when adapting the latter; a possibility rendered all the more likely by the fact that Lebanese already had a word for *frame* in the context of cars.

5.3 Voicing of Bilabial Plosives

Muhaydli (1996, p. 49) finds that /p/ becomes /b/ in all environments unless it occurs before /t/, in which case it remains /p/. Given the fact that /p/ only occurs in the phonology of Lebanese through loans, it could be interpreted as an allophone of /b/ such that:

$$p \rightarrow \begin{cases} \text{b} / _t \\ \text{b} / \textit{elsewhere} \end{cases}$$

The data presented here, however, opposes Muhaydli (1996)'s findings.

5.3.1 Relevant Data

The relevant data is given in Appendix B.3.

5.3.2 Observations and Analysis

Exception

Before discussing the rest of the dataset, I will be talking about /e.ʃap.mã > æ.ʃək.man/ as it presents a change very different than the one presented by other words in the set.

In coda position, voiceless stops are not always easy to tell apart, particularly if one of the two does not exist in a speaker's phonological inventory (section 2.1.2.1 mentions that /p/ only exists in loanwords in CMLL). The word /e.ʃap.mã/ 'exhaust pipe' would have come into CMLL with the introduction of cars, and been particularly used in the speech of car mechanics (a subset of the monolingual population of Lebanon) at a time when more educated, 'higher-class' people would have had little need to discuss exhaust pipes. This is the most obvious possibility as to why /p > k/ in this word.

If it is correct, this explanation would be an argument for the Perceptual Stance Model since the only way this explanation can hold is if people adapted this word by approximating what they perceived rather than by applying knowledge of the phonology.

This point having been made, I will be setting this case aside for the rest of my analysis of voicing change in bilabial plosives.

General Rules

It is immediately obvious that there are more /p/ (LB) than there are /b/ (LB) as output of /p/ (FR), and that except in /te.les.kop > tæ.ləs.kop/, /p > p/ only ever occurs syllable-initially. It is however worth noting that, except in the case of /ɛs.pa.dɔij > sbəd.rin/ and /kap.syl > kæb.su.le/, /p > b/ also occurs syllable-initially. The differentiation of whether /p/ goes to /p/ or /b/ therefore seems to happen regardless of phonological environments — the voicing of surrounding consonants seems unlinked to whether we get a voiced or voiceless bilabial plosive.

I classified the words in function of which change took place in them, then looked at the closest translations (if there was some semantic shift, I chose the closer form rather than the better translation) I could find in each of MSA, Turkish and English. Here are my findings, with words that seem related to the Lebanese (and French) form(s) highlighted.

Words in which /p → b/ in CMLL

Lebanese	MSA	Turkish	English
/kæb.su.le/	كبسولة /kab.su:.la/	kapsül	capsule
/sbəd.rin/	قماشية /qʊ.ma.ʃij.ja/	sandal	espadrille
/lam.ba/	مصباح /misʕ.ba:h/	lamba	lamp
/ban.tʰa.lon/	بنطال /bm.tʰa:l/	pantolon	pants
/be.riz/	باريس /ba:.ri:s/	Paris	Paris
/bæn.sæ/	كماشة /kam.ma:.ʃa/	kerpeten	pliers

Words in which /p → p/ in CMLL

Lebanese	MSA	Turkish	English
/pas ^s .por/	جواز سفر /ʒa.wa:z sa.far/	pasaport	passport
/pət.rol/	نفت /nift ^s /	yağ	petrol
/plæs.tik/	بلاستيك /blas.ti:k/	plastik	plastic
/por.no/	فيلم إباحي /fi:lm ʔi.ba:ħij:/	porno	porno
/por/	ميناء /mi:na:ʔ/	liman	harbor
/prog.ram/	برنامج /bar.na:maʒ/	program	program
/tæ.ləs.kop/	تلسكوب /ta.las.ku:b/	teleskop	telescope

It becomes evident that there is no obvious link between what happens to /p/ (FR) in the most likely related forms and what happens to it in the Lebanese form. Considering French as the source for the sake of argument⁷, all MSA forms undergo /p > b/; some Turkish forms undergo /p > p/ and /p > b/ where the Lebanese forms undergo /p > b/ (compare /kæb.su.le/ (LB) vs kapsül (TR) and /lam.ba/ (LB) vs lamba (TR)); and all English forms undergo /p > p/. If one is to work under the assumption that all of these loans come directly from French into CMLL, which I am as of section 4.3, the fact that there is no regular correspondence between the Lebanese change and the Turkish change (since it is the only language where there seems to be an irregular change from a French /p/ to a Turkish /b/) further strengthens the conclusion that there is nothing inherent to the phonological contexts that could act as a predictor of whether change should or should not occur.

⁷For simplicity of explanations, this passage considers French the source language and the other languages it is being compared to the target language. This is purely notational and should not be taken as a claim that, for instance, all French /p/ correspond to English /p/. Though this may be the case, this is not the claim I am making here.

One last possibility that should be discussed is that there would be two distinct strata of loaning; one in which a rule (or constraint) would have forced (or allowed) /p > b/ and one in which such a rule would not have existed (or such a constraint would have lost grounds to higher priority constraints) — because it is easier for there *not* to be change than for there to be.

According to this theory, French words which would have undergone /p > b/ in their transition to Lebanese (i.e. words like *capsule*, *espadrille*, *lampe*, *pantalon*, *Paris*, and *pince*) would have been loaned into Lebanese at around the same time, and French words which would not have undergone /p > b/ in their transition to Lebanese (i.e. words like *passport*, *pétrole*, *plastique*, *porno*, *port*, *programme*, and *télescope*) would have been loaned at another time.

Since exposure to Parisian French is more recently likely to be more prevalent to speakers of Lebanese, given the facts of globalisation and increasing exposure to French media via cable television and the Internet, it can be theorised that words that did *not* undergo /p > b/ entered into Lebanese more recently.

If such is the case, monolingual speakers of CMLL would have acquired a phoneme /p/ as a result of their repeated exposure to French; which would have slowly impacted their perception of the phoneme (given that they would have been exposed to more and more /p/ and /b/ as separate sounds), and ultimately the case of bilabial plosives in CMLL Loanword Phonology is therefore an argument in favor of the Perceptual Stance Model.

5.3.3 Significance

The last theory I elaborated in section 5.3.2, combined with the notation I introduced at the start of section 5.3 — in the case of the latter, by implying that [p] would be a realisation ([b̥] of /b/) — indicate the possibility that /p/ would have started as a realisation of /b/ in CMLL then undergone a phonemicization at a later stage, before the set of words which did not undergo /p > b/ came into CMLL. The phonemicization itself would most likely have been a result of the growing bilingualism (and indeed trilingualism, when one considers French and English) in the population of the area.

5.4 Pharyngealisation

Pharyngealisation (a process whereby a plain consonant becomes phonologically pharyngealised), Naïm (1998) says, applies particularly to loanwords from Romance languages and, to a lesser extent, from English (Naïm, 1998, p. 91).

Naïm (1998)'s analysis, which she runs on Lebanese (rather than CMLL) loanwords from French and bases on analyses (which she bases on etymological data from Cantineau, 1934 and Barthélemy, 1935) of loanwords from Italian into Syrian dialects⁸, finds that pharyngealisation happens *due to the backness⁹ of the vowels around the consonant being [pharyngealised]*¹⁰ (Naïm, 1998, p. 97). It is unclear from her paper whether she means that both vowels around a consonant need to be back vowels, or if just one needs to be¹¹.

If it is possible to analyse the pharyngealisation of non-native coronals as a [-front] or [+back] feature applied to coronals, such that vowels with this feature can cause it to appear in neighbouring consonants as a backness spreading, the problem of explaining the pharyngealisation of plain coronals (which I will term *emphatisation* for short, and distinguish with native CMLL *emphatic consonants*) comes down to explaining why certain vowels were dragged backwards in the transition from French to CMLL. The problem with this approach is that data does not agree with it. Naïm (1998)'s data sometimes show cases where the vowels adjacent to an emphatisation are fronted (see the below table for some of her data, especially the last row), and my data also puts coronals undergoing pharyngealisation between a front and a back vowel (eg. /æ.si.tʰon/), a vowel and a liquid (eg. /atʰ.lasʰ/), a vowel and a plosive (eg. /pasʰ.por/), a rhotic and a vowel (eg. /gar.sʰon/), and between a vowel and a word boundary (eg. /tʰa.se/, /me.zutʰ/).

In this table, generated from Naïm's paper, I used Naïm's typographical convention

⁸Lebanon is sometimes referred to as being part of Syria. The loanwords she is referring to are present in Lebanese and more particularly in CMLL.

⁹The term she uses is *postériorisées* ('backed') (Naïm, 1998, p. 97:32).

¹⁰She uses *pharyngalisation* ('pharyngealisation') (Naïm, 1998, p. 93:31) and *vélarisation* ('velarization') (Naïm, 1998, p. 93:31) interchangeably to refer to emphasis.

¹¹She does say 'la voyelle postérieure [a:] a transmis la vélarisation à la consonne mitoyenne' ('the back vowel [a:] has transmitted velarisation to the adjoining consonant'), but gives examples of emphatics with one, two or no, preceding and following back vowel(s).

for emphasis, i.e. the dot below. I have indicated cases where a pharyngeal is not encased between two (or at times even just one) back vowel with an asterisk.

Naim's example	Gloss	Context(s)
[lamuṇa:ða]* ¹²	'lemonade'	B_B B_F*
[ʃa:la]*	'room or hall'	#_B* B_B
[ḥo:ʃa]	'post'	#_B B_tB Bs_B
[ḥo:l]*	'urine'	#_B*
[ṭo:n]*	'tuna'	#_B*
[ʃaḷo:n]*	'salon'	#_B* B_B
[ḥanṭaḷo:n]*	'pants'	#_B* Bn_B B_B
[ʃaḷuṃo:n]*	'straw'	F_B* B_B
[ʔaʃkṃa:n]*	'exhaust pipe'	Fʃk_B*
[ḥaṭṭa:rijje]*	'battery'	#_B* B_F*
[bərnajṭa]*	'hat'	Fj_B*
[tælifo:n]*	'telephone'	F_B*
[bu:dṛa]*	'powder'	Bdr_F*
[ʃiʃa:ba:t]*	'gangs' ¹³	F_B*
[xaḏra] ¹⁴	'green (f.)'	B_rB
[ḥo:ṃo:r]	'(car gear on) neutral'	#_B* B_B
[kleṃanʃo:]*	'The name Clémenceau'	F_B* Bn_B
[ḥaʃʃaḥo:r]*	'passport'	#_F* F_F* F_B*

F = Front; C = Central; B = Back.

Even if these counterexamples were to be dismissed as exceptions; or the idea of allowing a coronal to be [-front] or [+back] generalised to all consonants such that the acoustic realisation of this feature is only observable on coronals (so /t/ [+back] = [tʰ] but /p/ [+back] = [p] and a theoretical empty consonant and an empty vowel /∅/ [+back] = [∅] to account for word boundaries), which would allow these 'underlying emphatics' — or as Naim (1998) calls them, 'vehicles for pharyngealisation' (Naim, 1998, p. 94) — to carry emphasis to other vowels and thus to their neighbouring coronals (as in example (3)); this does not account for words like /æ.si.tʰon/ where t > tʰ / i_o (since /i/ [+back] = [u] and [u] is not a possible phonetic realisation of /i/).

¹²My informants reject this translation of 'lemonade'. As far as they're concerned, in Lebanon, the word is [ləjmuṇa:ða], comes from [ləjmun] 'lemon' under influence from Italian *limonata* and/or French *limonade* (both meaning 'lemonade').

¹³I had an informant translate this word for me; they could not agree with her gloss of it, 'coiffes,' French for 'headdresses'.

¹⁴None of the phonemic inventories of Lebanese that I reviewed identified /ḏ/ or /ḏʰ/. My informants indicate that a very dialectal variety of Lebanese, spoken mainly by the Druze, uses /ḏ/ and /ḏʰ/, as well as /q/, all sounds that are non-standard in most (if not all) other varieties of Lebanese, where an MSA cognate uses them. The Lebanese word for 'green (f.)' is /xadʳa/ and is related to the MSA /xadʳaʔ/.

- (3) /pas.pək/ (FR) > /paʃ.pɔr/ (LB) and /paʃ.pɔr/ is realised as [pasʕ.pɔr]. The dot symbolises an underlying emphasis, which can as per Naïm’s theory be carried by non-coronals (i.e. ‘underlying emphatics’); I use the raised pharyngeal on emphasised sounds which can be empirically heard to carry emphasis in the form of pharyngealisation (so exclusively emphatic coronals).

As far as CMLL is concerned, at least, I am forced to reject Naïm’s theory of pharyngealisation, at least in the form she presents it in.

Along similar lines, Alzaaq (2017) hypothesizes that pharyngealisation in loanwords is due to ‘the presence of the back vowel that accompanies the emphatic pharyngealized consonants in Arabic’ (Alzaaq, 2017, p. 26).

He then proceeds to say that ‘the English phone /ɑ/ exists in Arabic¹⁵ only in the presence of an emphatic pharyngealized consonant’ (Alzaaq, 2017, p. 26) (which I would disagree with on the grounds that the phrases رَبُّ الْأَوْلَادِ /rab.ba.l.ʔaw.la:d/ ‘the lord of the children’ and رَبَّى الْأَوْلَادِ /rab.ba.l.ʔaw.la:d/ ‘he raised the children’, for example, present the two sounds as minimal pairs).

If this back vowel only appeared in the context of pharyngeals, Alzaaq’s reasoning might be right to assume that the people borrowing the words into Arabic would have kept the underlying segments /t/ and /s/ (the only two emphatic segments he discusses) in loanwords *except in the context of pharyngeals*, where they would have perceptually approximated a pharyngeal to allow for the use of back vowels within their native phonology. Since, as per the minimal pairs in example (6) (section 2.1.2.2), Lebanese distinguishes /æ/ and /ɑ/, the theory behind Alzaaq (2017) cannot be used to explain pharyngealisation in CMLL loanwords.

5.4.1 Relevant Data

The relevant data is given in Appendix B.4.

¹⁵Whether or not one considers Lebanese a dialect of Arabic, it is undeniable that the varieties are related and therefore it should be possible to follow a reasoning that applies to a phenomenon in one in the discussion of the same phenomenon in the other.

5.4.2 Method and Observations

The word /fær.mæ.ʃi.jæ/, which comes from the French *pharmacie* /faʁ.ma.si/ ‘*pharmacy*’, will be excluded from my analysis, despite containing an /s/ in the original, because this sound underwent a change of place of articulation rather than remaining the same or undergoing pharyngealisation.

Going off of both Naïm’s and Alzaaq’s ideas involving vowel frontness, I started out by abstracting the vowel qualities around the sounds which might undergo pharyngealisation (/s/, /sʰ/, /t/ and /tʰ/ in the loaned forms; I refer to them as SWMUP in this text, for reasons of space). With consideration to the Naïm-inspired idea of underlying emphatics, I ignored any consonants between the closest vowels and the SWMUP to begin with, such that a theoretical FK...K_K...KB¹⁶ would still have been abstracted as F_B. Then I noted all the consonants that occurred (in the data) between the pre-SWUMP and post-SWUMP vowels — and word boundaries — for each context. The results of this abstraction are presented in the below table.

Abstraction	Plain SWMUP Contexts	Pharyngealised Contexts
#_B	#_mB	#_B
#_C	#_bC, #_C	
#_F	#_F	
B_#	B _r _#	B_#, B _n _#
B_B	B_rB	B_B, B_pB, B_lB, B _r _B, B _n _B
B_F	B_F	B _n _F
C_#	C_r#	
C_B	C_kB, C_B ¹⁷ , C_rB, Ck_B	
C_C	C_C	

¹⁶F for Front, B for Back, and K for consonant, to leave C for Central.

Abstraction	Plain SWMUP Contexts	Pharyngealised Contexts
C_F	C_jF, Cf_F	
F_#	F_#, F_k#, Fr_#	
F_B	Fb_B	F_B
F_F	F__F ¹⁷ , Fk_F, F_tF, Fn_F, Fs_F	

F = Front, in CMLL {i, e, æ}; C = Central, in CMLL {ə}; B = Back, in CMLL {u, o, a}.

The most obvious observations to make would be that pharyngealisation occurs in less contexts than ones in which it does not, making it a marked phenomenon in CMLL Loanword Phonology — the norm is that pharyngealisation does not occur.

The second observation to be made is that pharyngealisation only ever occurs in the context of back vowels, which is to say that the last vowel before, and/or the first vowel after, a consonant that undergoes pharyngealisation, *has to be* a back vowel. The converse of this observation, however, is not accurate — the presence of a back vowel does not force the occurrence of pharyngealisation, as in the case of C_B — and this works against Naïm’s (for Lebanese) and Alzaaq’s (for Arabic dialects) statements reported earlier.

For the contexts of #_B, B_#, B_B, B_F, and F_B, pharyngealisation only occurs in some cases. There is no overlap in the exact contexts, however, in which pharyngealisation does and in which it does not occur. A bilabial (/m/, /b/, /p/), a nasal (/m/, /n/), or a liquid (/l/ or /r/) seem to make a difference between the phenomenon occurring or not.

It could be theorised that this is because CMLL doesn’t natively allow pharyngeals in the contexts where loans use plain consonants. However, it does (see the examples in (4)).

- (4) a. #_mB: /tʰmaʃ/ ‘be greedy’
 b. Br_#: /ʔartʰ/ ‘thieving, screwing, fucking (vulg.)’
 c. B_rB: /ʔatʰraf/ ‘sides, (political) parties’
 d. B_F: /ʔasʰir/ ‘short (m.)’

¹⁷This treats geminated consonants as two of the same, hence C_B was used for /rəs.sor/ and F_F was used for /ʃæs.si/.

5.4.3 Discussion

There is unfortunately very little that can be said about the phenomenon, whether one calls it Emphatisation, Pharyngealisation or Velarisation, at least in the shift from French to CMLL. Even the most basic claim defended by other studies, which says that back vowels cause the process to occur, is rejected by data made available to me both by my own research and by the authors of the previous studies referenced. As far as phonology is concerned, I am therefore forced to declare whether a word undergoes emphasis largely unpredictable.

There seems to be no direct link between the occurrence of a pharyngealisation in a CMLL loan and the phonology of its original French counterpart. Considering emphasis phonological in Lebanese, which there are no reasons not to, this is clearly an argument against the phonological stance model. However, there isn't enough to justify the application of a perceptual stance model, since the phonology of CMLL does not require plain consonants in the contexts where pharyngealisation is not taking place. This being said, emphasatisation/pharyngealisation is therefore an argument in favour of neither of the discussed (in chapter 3) approaches to loanword phonology.

Chapter 6

Conclusion

Lebanon, because of its geographic position and political history, provides a fertile breeding ground for cross-linguistic interaction. One such interaction is the loaning of French words into Lebanese (more particularly Central Mount Lebanon Lebanese), which I have given some phonological analysis in this paper. This paper is a threefold attempt to identify phonological phenomena occurring in the mentioned interaction, to understand the specifics of how they take place, and to frame them within the two leading theories of loanword phonology in hopes of providing experimental support to the one or the other, as best fits the data.

My analysis of the Rhotic shift from /ʁ/ to /r/ pushes in favour of the Phonological Stance Model of loanword phonology, on the grounds that rhotics don't seem to have any articulatory, acoustic, or perceptual commonalities, such that the French rhotic cannot be shown to have been adapted into the Lebanese rhotic on perceptual grounds — because /ʁ/ became /r/ instead of the more perceptually similar /ɣ/, a native sound in CMLL. My analysis of denasalisation, by the fact that its culmination can be formalised into a set of equations or rules with phonological bases, pushes in favour of the Phonological Stance Model.

Since the original phoneme /p/ is loaned alternatively as /p/ and /b/ in CMLL, with no set, synchronic, phonological rules regulating the adaptation, the Phonetic Stance Model cannot be considered here; and since the most likely explanation for this alternation is lexical stratification, it is repeated perception of the French [p], by recombination

of native features (CMLL has the bilabial/other places distinction — [b] as opposed to [d] — the plosive/other manners distinction — /b/ as opposed to /m/ — and the voiceless/voiced distinction — /t/ as opposed to /d/), which is the most likely culprit for the introduction of /p/ to the phonology of CMLL. My study of bilabials thus pushes in favour of the Perceptual Stance Model, because the introduction of /p/ would be due to repeated perception, rather than phonological differentiation, at least in the initial stages of this introduction. The Perceptual Stance Model is also advocated for by the fact that /p/ became /k/ in one case where they would have been perceptually similar for speakers whose native phonological inventory lacked the voiceless bilabial plosive.

Finally, one of the more interesting aspects of French-to-Lebanese loanword phonology, that is, Pharyngealisation or Emphatisation, because of how irregular it is, cannot be described with hard rules (although there does seem to be a preference for lower vowels to appear around emphasised consonants), and cannot be explained on perceptual grounds as the premise of the rules that would be used were the solution phonological is the backness of vowels, which carry the perceptual qualities needed to explain the phenomenon on perceptual grounds (and as explained, the data neither allows this on perceptual grounds, nor on phonological grounds). It therefore stands in favour neither of the Phonological, nor of the Perceptual, Stance Models.

The score stands at 2:1 for Phonological Stance Model, for the analysed phenomena within French-to-Lebanese Loanword Phonology. There are many more phenomena that could still be analysed, and given more data there might even be an answer to the question of Emphatisation; but as it stands today, this study pushes for the Phonological Stance Model even though it requires the application of the Perceptual Stance Model to answer some of the questions it raises. Both models therefore hold sway and neither should be set aside when analysing the processes that words undergo on — as Samia Naïm puts it — their ‘voyage from elsewhere’.

Appendix A

Reclassification of Muhaydli's CMLL Vowels

Source word	Source gloss	CMLL Realisation	Reanalysis
/ṭūl/	'length'	[tʰu:l]	/tʰul/
/ṭul/	'come out'	[tʰol:]	/tʰol/
/zīr nisa/	'playboy'	[zir nəsa]	/zir nəsa/
/zir/	'a button'	[zər:]	/zər/
/bāṛ/	'bar'	[ba:r]	/ba:r/
/bar/	'land'	[bær:]	/bær/
/mīn hōn/	'who is here?'	[mi:n ho:n]	/min hon/
/min hōn/	'this way'	[mən hon]	/mən hon/
/xāl/	'uncle'	[xa:l]	/xa:l/
/xal/	'vinegar'	[xæl:]	/xæl/
/ṣāb/	'he hit something'	[sʰa:b]	/sʰa:b/
/ṣab/	'he poured'	[sʰab:]	/sʰab/
/žār/	'neighbor'	[ʒa:r]	/ʒa:r/
/žar/	'he pulled'	[ʒær:]	/ʒær/
/kār/	'profession'	[ka:r]	/ka:r/
/kar/	'he rolled'	[kær:]	/kær/
/fil/	'elephant'	[fi:l]	/fil/
/fil/	'go away'	[fəl:]	/fəl/

Appendix B

Data

Original	French	Lebanese	Source
abat-jour	/a.ba.ʒuʁ/ ‘ <i>lampshade</i> ’	/a.ba.ʒur/ ‘ <i>lampshade</i> ’	AD
acétone	/a.se.tən/ ‘ <i>acetone</i> ’	/æ.si.tʰon/ ‘ <i>acetone</i> ’	AD
aluminium	/a.ly.mi.njɔm/ ‘ <i>aluminium</i> ’	/æ.læ.min.jom/ ‘ <i>aluminium</i> ’	LR
antenne	/ɑ̃.tən/ ‘ <i>antenna</i> ’	/an.tʰen/ ‘ <i>antenna</i> ’	AD, BM, LR
atlas	/a.tlas/ ‘ <i>atlas</i> ’	/atʰ.lasʰ/ ‘ <i>atlas</i> ’	AD, BM
autobus	/o.to.bys/ ‘ <i>bus</i> ’	/o.tʰo.bis/ ‘ <i>bus</i> ’	AD
automobile	/o.to.mo.bil/ ‘ <i>automotive</i> ’	/o.tʰom.bil/ ‘ <i>car</i> ’	AD
autostrade	/o.tɔs.tʁad/ ‘ <i>highway</i> (<i>obsolete</i>)’	/o.tʰos.trad/ ‘ <i>highway</i> ’	BM
azote	/a.zɔt/ ‘ <i>nitrogen</i> ’	/a.zotʰ/ ‘ <i>nitrogen</i> ’	LR
baffle	/bafl/ ‘ <i>speaker</i> ’	/bafl/ ‘ <i>speaker</i> ’	AD, LR
balcon	/bal.kɔ̃/ ‘ <i>balcony</i> ’	/bæl.kon/ ‘ <i>balcony</i> ’	BM
bidet	/bi.dɛ/ ‘ <i>bidet</i> ’	/bi.de/ ‘ <i>bidet</i> ’	AD, BM
bifteck	/bif.tɛk/ ‘ <i>older form</i> <i>of beefsteak</i> ’	/bɛf.tɛk/ ‘ <i>steak</i> ’	AD
biscotte	/bis.kɔt/ ‘ <i>biscuit</i> ’	/bɛs.ko.te/ ‘ <i>cookie</i> ’	AD
bonjour	/bɔ̃.ʒuʁ/ ‘ <i>good</i> <i>morning</i> ’	/bon.ʒur/ ‘ <i>good</i> <i>morning</i> ’	AD, BM
botte	/bɔt/ ‘ <i>boot</i> ’	/botʰ/ ‘ <i>shoe</i> ’	AD, BM

Original	French	Lebanese	Source
boucle	/bukl/ ‘ <i>buckle</i> ’	/bək.le/ ‘ <i>buckle</i> ’	AD, BM
cabinet	/ka.bi.nɛ/ ‘ <i>toilet room</i> ’	/kæb.bi.ne/ ‘ <i>toilet seat</i> ’	AD, LR
camp	/kɑ̃/ ‘ <i>camp</i> ’	/kan/ ‘ <i>camp</i> ’	AD, LR
capsule	/kap.syl/ ‘ <i>capsule</i> ’	/kæb.su.le/ ‘ <i>capsule</i> ’	LR
carbone	/kaʁ.bən/ ‘ <i>carbon</i> ’	/kær.bon/ ‘ <i>carbon</i> ’	AD, LR
carte	/kɑʁt/ ‘ <i>card</i> ’	/kært/ ‘ <i>card</i> ’	AD
cassette	/ka.sɛt/ ‘ <i>cassette</i> ’	/kæ.set/ ‘ <i>cassette</i> ’	BM, LR
catalogue	/ka.ta.lɔg/ ‘ <i>catalogue</i> ’	/kæ.tæ.log/ ‘ <i>catalogue</i> ’	LR
chalumeau	/ʃa.ly.mo/ ‘ <i>drinking straw (obsolete)</i> ’	/ʃæ.li.mo.ne/ ‘ <i>drinking straw</i> ’	AD
chambre à air	/ʃɑ̃brɑ̃s/ ‘ <i>inner tube</i> ’	/ʃam.bər.jer/ ‘ <i>inner tube</i> ’	AD
chance	/ʃɑ̃s/ ‘ <i>chance</i> ’	/ʃansˤ/ ‘ <i>chance</i> ’	BM, LR
châssis	/ʃa.si/ ‘ <i>vehicle frame</i> ’	/ʃæs.si/ ‘ <i>vehicle frame</i> ’	AD
chauffage	/ʃo.fɑʒ/ ‘ <i>heater</i> ’	/ʃu.fɑʒ/ ‘ <i>heater</i> ’	AD
chauffeur	/ʃo.fœʁ/ ‘ <i>driver</i> ’	/ʃu.fer/ ‘ <i>driver</i> ’	AD
cheminée	/ʃə.mi.ne/ ‘ <i>chimney</i> ’	/ʃə.mi.ne/ ‘ <i>chimney</i> ’	AD
chorale	/kɔ.ʁal/ ‘ <i>choir</i> ’	/ko.ræl/ ‘ <i>choir</i> ’	AD, BM, LR
cigarette	/si.ga.ʁɛt/ ‘ <i>cigarette</i> ’	/si.gæ.ræ/ ‘ <i>cigarette</i> ’	AD, LR
clémentine	/kle.mɑ̃.tin/ ‘ <i>clementine</i> ’	/kæ.læ.mæn.tin/ ‘ <i>clementine</i> ’	AD
cravate	/kʁa.vat/ ‘ <i>necktie</i> ’	/græ.vatˤ/ ‘ <i>necktie</i> ’	AD
culotte	/ky.lɔt/ ‘ <i>panties</i> ’	/ki.lotˤ/ ‘ <i>panties</i> ’	AD
débrayage	/de.bʁɛ.jaːʒ/ ‘ <i>to de clutch</i> ’	/də.bər.jeʒ/ ‘ <i>clutch</i> ’	AD
disque	/disk/ ‘ <i>disk</i> ’	/disk/ ‘ <i>disk</i> ’	AD, BM
docteur	/dɔk.tœʁ/ ‘ <i>doctor</i> ’	/dək.tor/ ‘ <i>doctor</i> ’	AD, BM, LR
douche	/duʃ/ ‘ <i>shower</i> ’	/duʃ/ ‘ <i>shower</i> ’	AD, BM

Original	French	Lebanese	Source
échappement	/e.ʃap.mã/ ‘ <i>exhaust pipe</i> ’	/æ.ʃək.man/ ‘ <i>exhaust pipe</i> ’	AD
en arrière	/ã.naʁ.jɛʁ/ ‘ <i>to the back</i> ’	/a.naʁ.jer/ ‘ <i>to drive in reverse</i> ’	AD
espadrille	/ɛs.pa.dɔʁij/ ‘ <i>espadrille</i> ’	/sbəd.rin/ ‘ <i>espadrille</i> ’	AD
fabrique	/fa.bʁik/ ‘ <i>factory</i> ’	/fæb.ræ.ke/ ‘ <i>factory</i> ’	AD
fioul	/fju/ ‘ <i>fuel oil</i> ’	/fju/ ‘ <i>fuel oil</i> ’	AD, BM
France	/fʁãs/ ‘ <i>France</i> ’	/fræn.sæ/ ‘ <i>France</i> ’	AD, BM
frein	/fʁɛ̃/ ‘ <i>brake</i> ’	/frem/ ‘ <i>brake</i> ’	AD, BM
gabardine	/ga.baʁ.din/ ‘ <i>gaberdine</i> ’	/gæ.bær.din/ ‘ <i>gaberdine</i> ’	LR
garage	/ga.ʁaʒ/ ‘ <i>parking lot</i> ’	/gæ.ræʒ/ ‘ <i>parking lot</i> ’	AD, LR
garçon	/gaʁ.sɔ̃/ ‘ <i>waiter</i> ’	/gar.sʻon/ ‘ <i>waiter</i> ’	AD, BM
gel	/ʒɛ/ ‘ <i>gel</i> ’	/ʒel/ ‘ <i>gel</i> ’	LR
gruyère	/gʁy.jɛʁ/ ‘ <i>Gruyère cheese</i> ’	/grɔ.jer/ ‘ <i>Gruyère cheese</i> ’	AD, BM
hotel	/o.tɛ/ ‘ <i>hotel</i> ’	/o.tel/ ‘ <i>hotel</i> ’	LR
jambon	/ʒã.bɔ̃/ ‘ <i>ham</i> ’	/ʒam.bon/ ‘ <i>ham</i> ’	AD
jante	/ʒãt/ ‘ <i>rim (of a wheel)</i> ’	/ʒantʻ/ ‘ <i>rim (of a wheel)</i> ’	AD
jaquette	/ʒa.kɛt/ ‘ <i>jacket</i> ’	/ʒæ.ket/ ‘ <i>jacket</i> ’	AD, BM
kilomètre	/ki.lo.mɛtʁ/ ‘ <i>kilometre</i> ’	/ki.lo.mɛtʁ/ ‘ <i>kilometre</i> ’	AD
lampe	/lãp/ ‘ <i>lightbulb</i> ’	/lam.ba/ ‘ <i>lamp, lightbulb</i> ’	AD, BM, LR
Londres	/lɔ̃dʁ/ ‘ <i>London</i> ’	/lon.dra/ ‘ <i>London</i> ’	AD, BM
mafia	/ma.fja/ ‘ <i>mafia</i> ’	/ma.fja/ ‘ <i>crime syndicate</i> ’	BM
maillot	/ma.jo/ ‘ <i>swimsuit</i> ’	/mæj.jo/ ‘ <i>swimsuit</i> ’	AD
manteau	/mã.to/ ‘ <i>coat</i> ’	/man.tʻo/ ‘ <i>coat</i> ’	AD
mayonnaise	/ma.jɔ̃.nɛz/ ‘ <i>mayonnaise</i> ’	/mæj.jo.nɛz/ ‘ <i>mayonnaise</i> ’	AD, BM
mazout	/ma.zut/ ‘ <i>heating oil</i> ’	/me.zutʻ/ ‘ <i>heating oil</i> ’	AD
mécanicien	/me.ka.ni.sjɛ̃/ ‘ <i>mechanic</i> ’	/mɔ̃.kæ.nɛs.jen/ ‘ <i>mechanic</i> ’	AD

Original	French	Lebanese	Source
mètre	/mɛtrɛ/ ‘metre’	/mɛ.tɛr/ ‘metre’	BM
moteur	/mo.tœʁ/ ‘motor’	/mo.tɛr/ ‘generator’	AD
numéro	/nyɛmɛʁo/ ‘number’	/nom.ra/ ‘license plate’	AD, BM
pantalon	/pɑ̃.ta.lɔ̃/ ‘pants’	/ban.tʰa.lon/ ‘pants’	AD, BM
Paris	/pa.ʁi/ ‘Paris’	/be.riz/ ‘Paris’	AD, BM
passport	/pas.pɔʁ/ ‘passport’	/pasʰ.pɔr/ ‘passport’	AD, BM
pétrole	/pe.tʁɔl/ ‘petroleum’	/pɛt.rol/ ‘petroleum’	AD, LR
pharmacie	/faʁ.ma.si/ ‘pharmacy’	/fær.mæ.ʃi.jæ/ ‘pharmacy’	AD, BM
pince	/pɛ̃s/ ‘pliers’	/bæn.sæ/ ‘pliers’	AD
plastique	/plas.tik/ ‘plastic’	/plæs.tik/ ‘plastic’	AD, BM
porno	/pɔʁ.nɔ/ ‘porn movie’	/pɔr.no/ ‘porn movie’	BM, LR
port	/pɔʁ/ ‘sea port’	/pɔr/ ‘sea port’	AD
programme	/pʁɔ.ɡʁam/ ‘programme’	/prog.ram/ ‘programme’	AD, LR
pyjama	/pi.za.ma/ ‘pyjama’	/pi.za.ma/ ‘pyjama’	LR
radar	/ʁa.daʁ/ ‘radar’	/ra.dʰar/ ‘radar’	LR
ressort	/ʁɛ.sɔʁ/ ‘spring’	/rɛs.sɔr/ ‘spring’	AD
sac	/sak/ ‘bag’	/sæk/ ‘handbag’	AD
sandwich	/sɑ̃.dwiʃ/ ‘sandwich’	/sʰan.dwiʃ/ ‘sandwich, wrap’	AD, BM, LR
sauce	/sos/ ‘sauce’	/sʰos/ ‘sauce’	LR
short	/ʃɔʁt/ ‘short pants’	/ʃɔrt/ ‘short pants’	AD, LR
smoking	/smɔ.kiŋ/ ‘tuxedo’	/smo.kɛn/ ‘tuxedo’	LR
tasse	/tas/ ‘cup’	/tʰa.se/ ‘hubcap’	AD, BM
taxi	/tak.si/ ‘taxi’	/tæk.si/ ‘taxi’	AD, BM, LR
télescope	/te.les.kɔp/ ‘telescope’	/tæ.lɛs.kɔp/ ‘telescope’	AD
télévision	/televizjɔ̃/ ‘television’	/tɛl.fɛz.jɔn/ ‘television’	AD, BM
vitesse	/vi.tɛs/ ‘gear’	/vi.tɛs/ ‘gear’	AD

B.1 Rhotics Data

Original	French	Lebanese
abat-jour	/a.ba.ʒur/	/a.ba.ʒur/
autostrade	/o.tɔs.tʁad/	/o.tʰos.tʁad/
bonjour	/bɔ̃.ʒur/	/bon.ʒur/
carbone	/kaʁ.bɔn/	/kær.bon/
carte	/kɑʁt/	/kært/
chambre à air	/ʃɑ̃bʁaεʁ/	/ʃam.bəʁ.jer/
chauffeur	/ʃo.fœʁ/	/ʃu.fer/
chorale	/kɔ.ʁal/	/ko.ræl/
cigarette	/si.ga.ʁet/	/si.gæ.ræ/
cravate	/kʁa.vat/	/græ.vatʰ/
débrayage	/de.bʁε.ja:ʒ/	/də.bəʁ.jeʒ/
docteur	/dɔk.tœʁ/	/dək.tor/
en arrière	/ɑ̃.naʁ.jεʁ/	/a.naʁ.jer/
espadrille	/εs.pa.dʁij/	/sbəd.rin/
fabrique	/fa.bʁik/	/fæb.ræ.ke/
France	/fʁɑ̃s/	/fræn.sæ/
frein	/fʁɛ̃/	/frem/
gabardine	/ga.baʁ.din/	/gæ.bær.din/
garage	/ga.ʁaʒ/	/gæ.ræʒ/
garçon	/gaʁ.sɔ̃/	/gar.sʰon/
gruyère	/gʁy.jεʁ/	/grə.jer/
kilomètre	/ki.lɔ.mεtʁ/	/ki.lo.mətr/
Londres	/lɔ̃dʁ/	/lon.dra/
mètre	/mεtʁ/	/mə.tər/
moteur	/mo.tœʁ/	/mo.ter/
numéro	/nymεʁo/	/nom.ra/
Paris	/pa.ʁi/	/be.riz/

Original	French	Lebanese
passeport	/pas.pɔʁ/	/pasʕ.por/
pétrole	/pe.tʁɔl/	/pət.rol/
pharmacie	/faʁ.ma.si/	/fær.mæ.fi.jæ/
porno	/pɔʁ.no/	/por.no/
port	/pɔʁ/	/por/
programme	/pʁɔ.gʁam/	/prog.ram/
radar	/ʁa.daʁ/	/ra.dʕar/
ressort	/ʁɛ.sɔʁ/	/rɛs.sor/
short	/ʃɔʁt/	/ʃort/

B.2 Denasalisation Data

Original	French	Lebanese	Change(s)
antenne	/ã.tɛn/	/an.tʕen/	ã > an
balcon	/bal.kɔ̃/	/bæl.kon/	ɔ̃ > on
bonjour	/bɔ̃.zuʁ/	/bon.zur/	ɔ̃ > on
camp	/kã/	/kan/	ã > an
chambre à air	/ʃãbʁaɛʁ/	/ʃam.bɛr.jer/	ã > am
chance	/ʃãs/	/ʃansʕ/	ã > an
clémentine	/kle.mã.tin/	/kæ.læ.mæn.tin/	ã > æn
échappement	/e.ʃap.mã/	/æ.ʃək.man/	ã > an
en arrière	/ã.naʁ.jɛʁ/	/a.nar.jer/	ã > a
France	/fʁãs/	/fræn.sæ/	ã > æn
frein	/fʁɛ̃/	/frem/	ɛ̃ > em
garçon	/gaʁ.sɔ̃/	/gar.sʕon/	ɔ̃ > on
jambon	/ʒã.bɔ̃/	/ʒam.bon/	ã > am; ɔ̃ > on
jante	/ʒãt/	/ʒantʕ/	ã > an
lampe	/lãp/	/lam.ba/	ã > am

Original	French	Lebanese	Change(s)
Londres	/lɔ̃dʁ/	/lon.dra/	ɔ̃ > on
manteau	/mɑ̃.to/	/man.tʰo/	ɑ̃ > an
mécanicien	/me.ka.ni.sjɛ̃/	/mɛ.kæ.nɛs.jɛn/	ɛ̃ > en
pantalon	/pɑ̃.ta.lɔ̃/	/ban.tʰa.lon/	ɑ̃ > an; ɔ̃ > on
pince	/pɛ̃s/	/bæn.sæ/	ɛ̃ > æn
sandwich	/sɑ̃.dwiʃ/	/sʰan.dwiʃ/	ɑ̃ > an
télévision	/televizjɔ̃/	/təl.fɛz.jon/	ɔ̃ > on

B.3 Bilabials Data

Original	French	Lebanese	Change(s)
capsule	/kap.syl/	/kæb.su.le/	p > b
échappement	/e.ʃap.mɑ̃/	/æ.ʃək.man/	p > k
espadrille	/ɛs.pa.dʁij/	/sbəd.rin/	p > b
lampe	/lɑ̃p/	/lam.ba/	p > b
pantalon	/pɑ̃.ta.lɔ̃/	/ban.tʰa.lon/	p > b
Paris	/pa.ʁi/	/be.riz/	p > b
passport	/pas.pɔʁ/	/pasʰ.por/	p > p; p > p
pétrole	/pe.tʁɔl/	/pət.rol/	p > p
pince	/pɛ̃s/	/bæn.sæ/	p > b
plastique	/plas.tik/	/plæs.tik/	p > p
porno	/pɔʁ.nɔ/	/por.no/	p > p
port	/pɔʁ/	/por/	p > p
programme	/pʁɔ.gʁam/	/prog.ram/	p > p
pyjama	/pi.ʒa.ma/	/pi.ʒa.ma/	p > p
télescope	/te.les.kɔp/	/tæ.lɛs.kop/	p > p

B.4 Pharyngealisation Data

Original	French	Lebanese
acétone	/a.se.tɔ̃n/	/æ.si.tʰon/
antenne	/ɑ̃.tɛn/	/an.tʰen/
atlas	/a.tlas/	/atʰ.lasʰ/
autobus	/o.to.bys/	/o.tʰo.bis/
automobile	/o.to.mo.bil/	/o.tʰom.bil/
autostrade	/o.tɔ̃s.tʁad/	/o.tʰos.trad/
azote	/a.zɔt/	/a.zotʰ/
bifteck	/bif.tɛk/	/bɛf.tek/
biscotte	/bis.kɔt/	/bɛs.ko.te/
botte	/bɔt/	/botʰ/
capsule	/kap.syl/	/kæb.su.le/
carte	/kɑrt/	/kært/
cassette	/ka.sɛt/	/kæ.set/
catalogue	/ka.ta.lɔg/	/kæ.tæ.log/
chance	/ʃɑ̃s/	/ʃansʰ/
châssis	/ʃɑ.si/	/ʃæs.si/
cigarette	/si.ga.ʁɛt/	/si.gæ.ræ/
clémentine	/kle.mɑ̃.tin/	/kæ.læ.mæn.tin/
cravate	/kʁa.vat/	/græ.vatʰ/
culotte	/ky.lot/	/ki.lotʰ/
disque	/disk/	/disk/
docteur	/dɔ̃k.tœʁ/	/dɔ̃k.tor/
espadrille	/ɛs.pa.dʁij/	/sbəd.rin/
France	/fʁɑ̃s/	/fræn.sæ/
garçon	/gɑʁ.sɔ̃/	/gar.sʰon/
hotel	/o.tɛl/	/o.tel/
jante	/ʒɑ̃t/	/ʒantʰ/
jaquette	/ʒa.kɛt/	/ʒæ.ket/

Original	French	Lebanese
kilomètre	/ki.lɔ.mɛtʁ/	/ki.lo.mɛtʁ/
manteau	/mɑ̃.to/	/man.tʰo/
mazout	/ma.zut/	/me.zutʰ/
mécanicien	/me.ka.ni.sjɛ̃/	/mɛ.kæ.nɛs.jɛn/
mètre	/mɛtʁ/	/mɛ.tɛʁ/
moteur	/mo.tœʁ/	/mo.tɛʁ/
pantalon	/pɑ̃.ta.lɔ̃/	/ban.tʰa.lon/
passport	/pas.pɔʁ/	/pasʰ.pɔʁ/
pétrole	/pe.tʁɔl/	/pɛt.rol/
pharmacie	/faʁ.ma.si/	/fær.mæ.ji.jæ/
pince	/pɛ̃s/	/bæn.sæ/
plastique	/plas.tik/	/plæs.tik/
ressort	/ʁɛ.sɔʁ/	/rɛs.sɔʁ/
sac	/sak/	/sæk/
sandwich	/sɑ̃.dwiʃ/	/sʰan.dwiʃ/
sauce	/sos/	/sʰos/
short	/ʃɔʁt/	/ʃɔʁt/
smoking	/smɔ.kiŋ/	/smo.kɛn/
tasse	/tas/	/tʰa.se/
taxi	/tak.si/	/tæk.si/
télescope	/te.les.kɔp/	/tæ.lɛs.kɔp/
télévision	/televizjɔ̃/	/tɛl.fɛz.jɔn/
vitesse	/vi.tɛs/	/vi.tɛs/

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