

SOCIOPHONETICS OF THE LE HAVRE ACCENT

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ABSTRACT

We report on a pilot analysis of two speakers—M, 33, and F, 24, both middle-class—from Le Havre, France, part of the larger Towards A New Linguistic Atlas of France project.¹ The aim is to isolate features to investigate in greater detail in the full analysis. Two vowel changes are analysed: the merger or separation of /a/ (as in *patte* /pat/ ‘paw’) and /ɑ/ (*pâtes* /pat/ ‘pasta’), and the fronting of /ɔ/. Most areas of France merge /a/ and /ɑ/ to /a/ [18, 24, 46], but some Normandy speakers separate them [21], as does the regional language Norman, the oral vowel system of which is very close to that of its sister language French [30]. Both speakers analysed here have significant word-list differences between /a/ and /ɑ/. The female speaker also has fronted /ɔ/, a well-known feature of modern informal French [3], but one which has not been found for Norman. The emerging picture is of an urban accent which combines regional features and more widespread urban ones, even among middle-class speakers.

Keywords: sociophonetics, phonetics, phonology, French, Norman

1. INTRODUCTION

This paper presents initial results from the ongoing Towards A New Linguistic Atlas of France project (TANLAF; [22]). TANLAF aims to investigate possible differences between the varieties of French spoken in the major towns and cities of Northern France; we present here results from Le Havre, one of the largest cities (population approx. 300,000) in the largely rural region of Normandy.

The dominant wisdom in the field is that there are not many distinct regional varieties of French within the North of France (the *langue d’oil* area, where the autochthonous varieties are closely related to Standard French) [2, 11]. Native speakers themselves also find it difficult to tell apart the varieties of French spoken by natives of different cities in the North of France [7, 8], though the area around the far Northern city of Lille may be an exception [41, 42]. Overall, despite recent work showing large numbers of speakers throughout France pronouncing certain words in non-normative ways [4], and work showing phonological variation and change in Paris [12, 13,

24, 28, 33, 35, 36, 43, 47], the dominant perception is that variation in French across Northern France is mostly lexical [4].

The French spoken in Le Havre is of interest because it is subject to two possibly contradictory influences. On the one hand, France has been characterised as a ‘hypercephalic’ country [2], where the capital has nationwide influence out of proportion to the distance between it and the country’s other large urban centres. Le Havre is relatively close to Paris (215km/134mi), and the two are connected by road, rail and river, so we would expect Paris to be a significant influence on it anyway, but the influence is still magnified by the organisation of the country. On the other hand, the region of Normandy has a well-known autochthonous variety, Norman, a sister variety to French [30]. Norman was once spoken over a large area from Dieppe in the East to the Channel Islands in the West, but it now has no monolingual speakers, and relatively few bilingual ones [30]. There are some adult learners of Norman in both mainland France and (especially) the Channel Islands [29]. Despite this apparent moribundity, this paper finds a possible influence from Norman in the French of Le Havre.

We analyse word-list productions of two pairs of vowels, the /a ~ ɑ/ pair and the /ɔ ~ œ/ pair. /a/ and /ɑ/ are phonemes of classical French, and also of modern Canadian French, though much of the French of France (at least from middle-class speakers) now merges them to /a/ [11, 21, 45]. Despite this, a distinction which is at least allophonic, if not phonemic, has been found in the Regional French of Normandy in sites other than Le Havre [21], and the distinction in Norman is also at least allophonic [30].

The relationship between /ɔ/ and /œ/ is of a different kind: fronting of /ɔ/ towards [œ] has been noted since at least the late 1950s [38]. It still seems to be productive in much urban French of the North of France [1], and there is evidence it is now spreading to rural areas too [38]. The study in [9] is divided into Northern French and Southern French samples, and each sample includes both urban and rural speakers, indicating that they did not expect to find much difference between urban and rural treatments of /ɔ/ fronting. Our analysis therefore aimed to see whether it was also present in Le Havre.

2. METHOD

We analyse two of the TANLAF Le Havre informants: a 24-year-old woman (F24) and a 33-year-old man (M33). Following [32], final sample size per city will vary with the size of the city; as Le Havre has between 200,000 and 1,000,000 inhabitants, its final sample will be two men and two women. Within each city, the sample is stratified only by biological sex. Informants must have spent the majority of their life in the urban area of the city concerned, especially since the age of 4, so that most of their peers are from there [31]. All informants are aged 18-33, middle-class, with at most one university degree, and none are educators. These criteria are in order to eliminate possible confounding motivations for variation. In this way, any variation found between cities is more likely to be regional variation, and not caused by social class differences, age differences or stereotypes which may dictate the kind of French that an educated person ‘should’ speak.

Recordings are made in relaxed surroundings (these informants were recorded in their homes). The speakers analysed here were recorded on a Marantz PMD671 solid-state recorder, recording direct to .wav (sampling rate of 22.05kHz / 16-bit). As storage of large files is now much easier than it was, many studies now record at double this rate, but 22.05kHz is also still used in studies of vowels [e.g. 5, 44], as it provides reliable measurements for frequencies below 11.025kHz [16], which is still far above the frequencies which have been found to be sociolinguistically relevant for vowels, up to about 4kHz [25]. The microphone was a collar-mounted Audio-Technica PRO70 cardioid condenser lavalier.

Speakers recorded an interview with the researcher, a reading passage and a word-list. Word-list data is analysed in this pilot study, on the basis that any regional difference appearing there will certainly appear in less formal connected speech. The word-list was presented in PowerPoint, one word per slide, so as not to show speakers when the end of the list was approaching. Analysis was done in Praat [6].

Table 1 shows the tokens analysed here.

Table 1: Tokens analysed in this paper

	/a/	/ɑ/	/ɔ/	/œ/	/ə/
F24	87	32	62	18	20
M33	120	26	70	25	144

The discrepancy between speaker totals is explained by the removal of outliers and badly-recorded tokens.

Recordings were segmented using EasyAlign [20]. Formant values were measured at vowel

midpoints, using a modified version of [34]. Reliability was ensured because recommended use of EasyAlign requires checking phone boundaries; this also gave the opportunity to check signal quality and the reliability of Praat’s formant detection.

Raw formant frequencies in Hz were Lobanov-normalised through phonR [39]. The potential presence of distinctions between all relevant vowel pairs for each speaker was then tested by t-test on the normalised F1 (height) and F2 (anteriority) values.

3. RESULTS

Raw Hz formant frequencies, normalised values, and full vowel-plots for F24 and M33 are provided at [23].

The partial vowel-plots in Figures 1 and 2 show the relationships between /a/ and /ɑ/, and /ɔ/, /œ/ and /ə/, for F24 and M33. The figures compare the mean values of the speakers’ vowels with a reference set of vowels, mostly from [15], but including /ə/ from [49], as [15] does not include it.

Figure 1: Low and mid vowels of speaker F24 compared with female reference vowels [15].

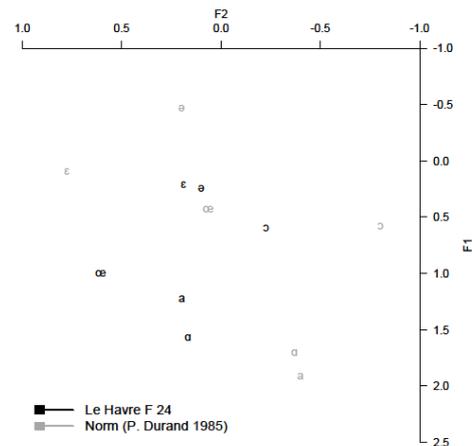
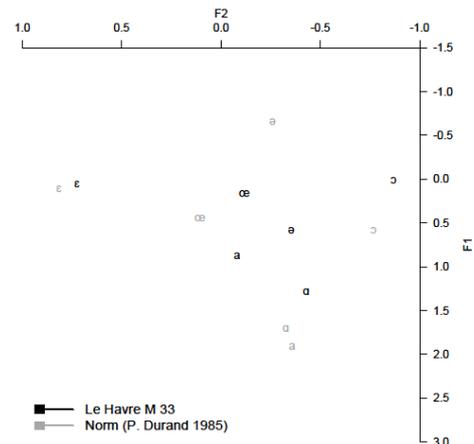


Figure 2: Low and mid vowels of speaker M33 compared with male reference vowels [15].



We use a relatively old reference set because more modern reference sets ([19, 49]) do not include /a/: most speakers of French in France, particularly young and middle-aged ones, do not now make an audible difference between /a/ and /ɑ/ [11, 17].

3.1. /a/ and /ɑ/

Tokens were coded as /a/ if their phonological environment was listed in [14] as being likely to produce /a/ and not /ɑ/. A list of phonological environments for Quebec French was used in this study of the French of France because Quebec French still reliably distinguishes /a/ from /ɑ/ in the way that the French of France once did, though the distinction is now rare in the French of France. Token numbers for /a/ are much lower than numbers for /ɑ/ simply because of the low frequency of /a/ relative to /ɑ/ in French of any variety (for speakers with a distinction) or of the relevant phonological environments (for speakers without one).

Table 2 shows the results of t-tests on the differences between /a/ and /ɑ/ for our speakers. For both F24 and M33, /a/ is significantly higher than /ɑ/. In addition, /a/ is significantly fronter than /ɑ/ for M33, though this is not true for F24.

Table 2: Differences between /a/ and /ɑ/

	df	Height		Anteriority	
		<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
F24	118	2.107	<0.05	0.249	>0.05
M33	145	3.591	<0.01	2.960	<0.01

3.2. /ɔ/, /œ/ and /ə/

The relationships tested among these three vowels were between /ɔ/ and /œ/ and between /ɔ/ and /ə/. In the Standard French vowel-space [17], /ɔ/ is a mid-low rounded back vowel and /œ/ a mid-low rounded front vowel, both at about the same height, with /ə/ a mid-central vowel a little higher than these. When /ɔ/ is fronted, it typically does not front further than a central position, so that it ends closer to /ə/ than to /œ/. Nevertheless, the prototypical symbol associated with fronted /ɔ/ is <œ> [38, 1, 40], because this is how French often spells both /ə/ and /œ/. Tables 3 and 4 show the results of t-tests on these differences.

Table 3: Differences between /ɔ/ and /œ/

	df	Height		Anteriority	
		<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
F24	79	3.345	<0.01	9.999	<0.001
M33	94	4.227	<0.001	11.705	<0.001

Table 4: Differences between /ɔ/ and /ə/

	df	Height		Anteriority	
		<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
F24	81	1.908	>0.05	2.369	<0.05
M33	213	6.087	<0.001	8.573	<0.001

/ɔ/ and /œ/ should of course be significantly different for any speaker, but the test was carried out as a sense-check, and gave the expected result (Table 3). Of more interest are the differences between /ɔ/ and /ə/, since fronted /ɔ/ would be closer to /ə/ than to /œ/. Therefore, in straightforward /ɔ/-fronting, there might not be any significant difference between a speaker's /ɔ/ and /ə/ at all. However, if there *were* any significant difference, one might expect it to be in height rather than in anteriority, since normative /ə/ is higher than normative /ɔ/ [17]. The full version of F24's vowel chart [23] shows P. Durand (1985)'s reference /ə/ much higher than reference /ɔ/, and also much higher than F24's /ə/ and /ɔ/.

In fact, for F24, the differences are the other way around from what we might expect given the norm. /ɔ/ is significantly different from /ə/ in anteriority, but not in height. The significant anteriority difference looks on the face of it as if we should reject the hypothesis that F24 is fronting /ɔ/. In terms of absolute (Euclidean) distance, though, F24's /ɔ/ is slightly closer to her own /ə/ than it is to reference /ɔ/ (Table 5). Therefore, taking into account that the phonetic effect of /ɔ/-fronting is to move /ɔ/ closer to /ə/, we can still conclude that F24 is marginally participating in the /ɔ/-fronting change in progress.

For M33, /ɔ/ and /ə/ are highly significantly separated in both height and anteriority: he does not seem to be participating in /ɔ/-fronting, at least in formal word-list style.

Table 5: Euclidean distances for vowels involved in /ɔ/-fronting

	speaker /ɔ/- speaker /ə/	speaker /ɔ/- reference /ɔ/
F24	0.459	0.521
M33	0.775	0.508

4. DISCUSSION

The sociophonetic variation investigated in this paper covers two different types of change in French:

- 1) a phonological change, between a system with two low unrounded vowels, /a/ and /ɑ/, as in more conservative varieties, and a system with one, /a/, as in less conservative varieties
- 2) a phonetic change, the ongoing sound-change of /ɔ/-fronting, which implicates the relationship between a speaker's /ɔ/ and a speaker's /ə/ (and reference /ɔ/), but does not implicate their number of vowel phonemes.

4.1. /a/ and /ɑ/

In conservative French [50], we expect /a/ higher and fronter than /ɑ/. We find this configuration for M33. F24, on the other hand, has /a/ significantly higher but not significantly fronter than /ɑ/. It is interesting that the conservative difference reflected in descriptions like [50] is not reflected in datasets like [15]: in [15], in fact, /a/ is slightly higher and slightly fronter than /ɑ/, the opposite of most descriptions which have both vowels (though not all descriptions have both). Significance cannot be tested for the vowels in [15], as only one male and one female value are given.

Perceptually, we should note that, even in Normandy speakers who have /a/ and /ɑ/ significantly different, the difference is hard to hear, at least consciously [21]. This raises the questions of how relevant Normandy's statistically significant difference is to perception and to acquisition. These questions are sociolinguistic, not phonetic, but they could be tested by future perceptual experiments.

4.2. /ɔ/, /œ/ and /ə/

/ɔ/-fronting is described in the literature as a trait of Northern urban French [1, 26, 38, 40]. F24 is participating in this ongoing change, while M33 is not; in fact, M33's /ɔ/ is slightly *backed* and raised compared to reference /ɔ/ (Figure 2).

4.3 Conclusion

In summary, both F24 and M33 have significant separations (in at least one dimension) between /a/ and /ɑ/, and F24 is participating in /ɔ/-fronting, though M33 is not. These indications suggest that both speakers analysed here have elements of a Le Havre accent. A separation of /a/ and /ɑ/ is a trait of Standard French in at least some descriptions [10, 15, 37, 48], although many recent sources also say that the distinction is now at best tenuous [18, 24, 46]. More interestingly for our purposes, use of both /a/

and /ɑ/ has also been observed in cities, particularly the suburbs of Paris [28], the urban area near Lille [27] and Le Havre itself [26]. /ɔ/-fronting is more unambiguously an incoming feature, and it is not surprising that our female speaker should exhibit it while our male speaker does not: it is axiomatic in sociolinguistics that young female speakers often lead in the adoption of new linguistic changes [31].

Thus, our young female speaker can be said to exhibit at least two elements of non-standard, urban French, while our young male speaker can be said not to exhibit any, even though their treatment of one of the variables examined here is the same. This apparent paradox hinges on the status of an /a ɑ/ separation as both a feature of conservative Standard French and a feature of (Northern) urban non-standard French. It does not seem necessary to resolve the paradox: one linguistic feature can perfectly well be part of more than one system. Confirmation of other non-standard characteristics of a Le Havre accent will await further investigation of the data collected, and future studies of the city using a bigger sample size. We can now say, though, that there may be more urban variation in France than we have thought (*cf* [2] and studies summarised there). We can also challenge the characterisation in [26] of the Le Havre accent as a 'linguistic myth'.

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