1-1-2010

/s/-Deletion and the Preservation of Plurality in Modern Occitan

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Abstract

This paper examines the weakening and deletion of /s/ in the Languedocian dialect of Modern Occitan, particularly with regards to how it may affect the system of plural marking in noun phrases. Using data from linguistic atlases, and taking the geographical distribution of variants to represent the history of a change, I reconstruct a trajectory of s-loss in Languedocian by which /s/ aspirates to [h], then vocalizes to [j] before deleting entirely. I find that, where /s/ on the definite article has vocalized to [j], the immediately-preceding vowel of the definite article has undergone concomitant raising to [e]. This raising appears to preserve the difference between singular and plural despite the plural's weakening /s/. I argue that these results support Labov's (1994:596) hypothesis that the meaning of a weakening element may be transferred to a stable, co-occurrent one.

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1 Introduction

This paper examines the weakening and deletion of /s/ in the Languedocian dialect of Modern Occitan, particularly with regards to how it may affect the system of plural marking in noun phrases. Like other Romance languages, the dialect of Occitan under study marks plurality on a noun phrase by affixing an -*s* plural morpheme to the article, the noun, and any adjectives, as in (1).

(1) la-s   kambo-s burudo-s
     DEF.FEM-PL leg-PL   hairy-PL
     'hairy legs'

However, as in Spanish and Portuguese (see, e.g., Terrell 1977, Poplack 1980, Guy 1981, Ranson 1991, Hernández-Campoy and Trudgill 2002), the /s/ of the plural is undergoing weakening and deletion. This paper uses data from dialect atlases to examine what happens to the singular-plural distinction in Occitan when /s/ is lost: is there a tendency to preserve meaning? By what route?

Under the assumption that the geographical distribution of variants provides information on the history of a change, I reconstruct the trajectory of /s/-lenition in Languedocian Occitan as follows: /s/ aspirates to [h], then, in a stage that is unusual among Romance languages, vocalizes to [j] before deleting entirely. When the /s/ plural marking on the definite article reaches this stage of vocalization, the article vowel is raised to [e], preserving the difference between singular and plural despite the plural's weakening /s/. I argue that these results support Labov's (1994:596) hypothesis that the meaning of a weakening element may be transferred to a stable, co-occurrent one.

This paper is structured as follows. Section 2 provides background information on the language under study, including previous work on /s/-loss in Occitan, and the source of the data. Section 3 examines the weakening of the plural -*s* marker on nouns and definite articles, followed by an examination of concomitant effects on the vowel of the definite article. I conclude with a discussion of the role of meaning preservation in language change (Section 4).

2 Background

2.1 Language and Data

Occitan (also known as Langue d'Oc and, historically, Provençal) is a collection of dialects, distinct from Standard French, spoken in Southern France (Figure 1). The dialect examined in this paper is Languedocian ("Lengadocian" on the map in Figure 1).

Occitan and French both belong to the Gallo-Romance branch of Romance languages; however, the two followed different paths of development beginning in the 5th century with the invasion of Gaul by foreign tribes. Northern France sustained invasions by Britons, Saxons, and particularly Franks, who lent their name to the nation, while Southwest France, with the exception of Gascony, which was invaded by the Basques, received minimal outside influence. Roman language and culture thus remained more intact in Southern than Northern France, given the different levels of occupation in each half of the country (Guiraud 1968). By the 12th century, the vernaculars of Northern and Southern France were considered different languages, known as the Langue d'Oïl in the North and the Langue d'Oc in the South, after each language's affirmative particle (Pope 1966).

Anglade ([1921] 1977) placed the number of speakers of Occitan at 12 or 14 million; the 1999 French census found fewer than two million people who said that their parents had spoken to them at least occasionally in Occitan in their childhood, and only 250,000 who had spoken it to their own
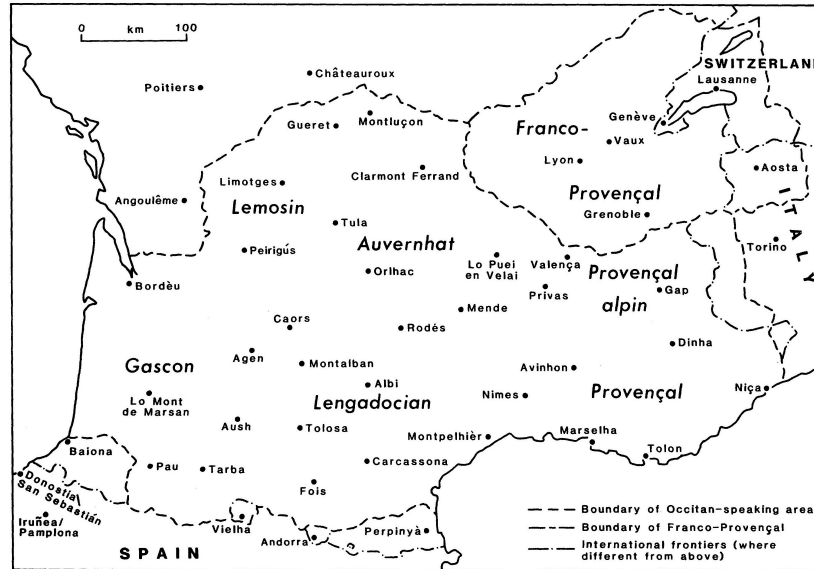
Figure 1: Location of Occitan dialects in Southern France. Map from Harris and Vincent (1988).

children (Héran et al. 2002). UNESCO estimates 500,000 speakers of Languedocian specifically (UNESCO 2009).

The data used in this paper come from the *Atlas linguistique et ethnographique du Languedoc occidental* (abbreviated henceforth as *ALLOc*; Ravier 1978, 1982, 1986, 1993). The area sampled in *ALLOc* is bordered by the Dordogne River to the north and the Garonne River to the west; it includes the major city of Toulouse but not that of Bordeaux. Data were gathered between 1967 and 1972, collected from 131 localities within the Atlas borders, 15–17 km apart, as plotted in Figure 2. (Subsequent plots will zoom in on the region under study.)
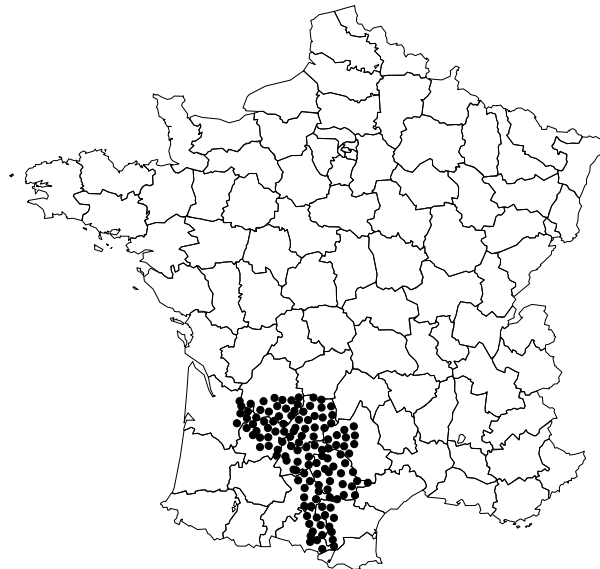

Figure 2: 131 localities sampled in ALLOc.

Approximately 1200 lexical items were elicited for the atlas, with each lexical item elicited once per locality. Most informants were 60–70-year-old farmers. To elicit forms, researchers provided a

French word and asked the informant for the Occitan translation, so all informants had some level of bilingualism. Data were collected by semantic category and were phonetically transcribed.

2.2 Linguistic Background

We can see a historical parallel to the /s/-lenition of Languedocian Occitan in a similar process that occurred in the evolution of French. Old French had two cases, a nominative and an oblique; the oblique case, which marked plural by affixing /s/ to articles and nouns, was the source of the Modern French single-case system. Preconsonantal /s/ was lost by the 12th or 13th century, and /s/ before pause by the 17th century, which led to the system French has today, in which an orthographic <s> is attached to plural nouns and articles but is not pronounced. Instead, plurality in Modern French is conveyed by another mechanism: change in the vowel of the definite article from singular /la/ (feminine) or /lə/ (masculine) to plural /le/ (gender-neutral). The only place where /s/ still manifests itself is in the process of liaison before a vowel: for instance, the vowel-initial noun *l'heure* [lœʁ] 'hour' has as its plural *les heures* [lez œʁ]. With the exception of such vowel-initial forms, though, plurality in Modern French is expressed only by the vowel of the definite article.

The chain of events that gave rise to this plural-conveying vowel alternation is not known. Seklaoui (1989:8) refers to the /e/ in the plural as the result of "an obscure phonetic evolution." Spence (1976) proposes that its source is as follows: the vowels of the Vulgar Latin plural definite articles *los, las* were reduced to [ə], which was then variably lengthened compensatorily after loss of the following /s/, and this [əː] then raised to [e]. He admits, though, that there is no clear phonetic mechanism by which this could have occurred, and that the need to disambiguate singular from plural must have been an influencing factor. In this paper, I propose that the patterns found in closely-related Occitan may elucidate the question.

This is not the first study of /s/-deletion and its effects on plurality in Modern Occitan. Eckert (1969, 1985) performed a similar study using data gathered from the *Atlas Linguistique de la France* (henceforth *ALF*), for which fieldwork was carried out between 1897 and 1901. She found evidence for two sound changes in Southern France: one deleting the plural /s/ marker, which was restricted only to the northern half of the region she examined, and a concomitant change of *a > [o], which was more widespread, but which showed grammatical conditioning. Specifically, in the northern half of the region under study, where plural /s/ had been deleted, the *a > [o] change had gone to completion in singulars only; in the area where /s/ was retained, the *a > [o] change had gone to completion in both singulars and plurals (as sketched in (2)). Directly between the /s/-deleting North and the /s/-retaining South, Eckert identified an area of "number disturbance," in which /s/ was variably retained; this region was bisected by the *a > [o]-in-plurals change. The upshot of all this is that where the singular-plural distinction was in danger of being lost due to /s/-deletion, the contrast was maintained by the simultaneous *a > [o] change.

	Region of /s/-deletion:	Region of /s/-retention:
(2)	*a > [o] in singulars only	*a > [o] in both plurals and singulars
	sg. *lo bello pullo* pl. *la bella pulla*	sg. *lo bello pullo* pl. *los bellos pullos*
	'the beautiful hen(s)'	'the beautiful hen(s)'

The data provided in *ALLOc* were collected 70 years after Eckert's *ALF* data, and reveal that /s/-deletion has continued to spread, even into the area where the *a > [o] change went to completion in both singulars and plurals. This paper thus examines how plurality has been preserved without the "recourse" of final vowel quality.

3 Data

The findings presented in this section are drawn from the manifestation of plural on the definite article and the noun of eight lexical items. All eight items are feminine, and the noun of each is voiceless stop-initial. (As in other Romance languages, Languedocian Occitan marks noun gender in the vowel of the definite article, so nouns were restricted to a single gender in order to ensure

that all would have the same definite article. The manner and voicing of the initial consonant were restricted to control for phonologically-conditioned /s/-lenition in the preceding article.) Findings will frequently be exemplified with a single lexical item, but reference will be made to that item's typicality vis-à-vis the other seven items examined.

3.1 Manifestation of /s/ on the Noun

Figure 3a plots the manifestation of /s/ on the noun only, with one point for each location surveyed in *ALLOc*, for the lexical item *las pezados*[1] 'animal tracks'. Points represented with a black 'x' were discarded as not applicable, either because that locality had a collective singular rather than a plural form for this lexical item, or because that locality had a masculine rather than a feminine form, meaning that its definite article was not comparable to that of the others. Points represented with a blue dot had no /s/ on the noun: the form took the shape *[article] pezado*. Points represented with a yellow dot had a vocalized /s/ on the noun: the form took the shape *[article] pezadoj*. Points represented with a red dot had /s/ (or, less frequently, some other fricative with a buccal articulation, such as /ʃ, ç, x/) on the noun: the form took the shape *[article] pezados*.
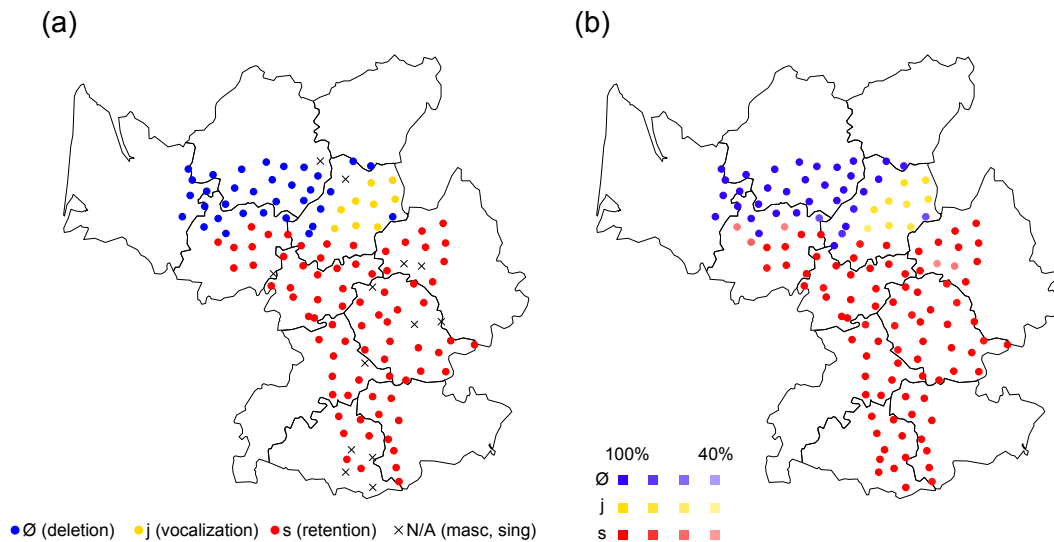

Figure 3: (a) Manifestation of /s/ on the noun of *las pezados* 'animal tracks'. (b) Percent manifestation of most common variant of /s/ on the noun across eight lexical items. More saturated colors indicate a higher representation of that variant across the eight items.

Figure 3a reveals that vocalization of /s/ to [j], while not particularly prevalent in the area under study, is well-represented in a tight cluster of towns in the northeast sector. Vocalization is not attested as a stage of /s/-loss in Ferguson's (1990) typology of s > h changes, and likewise is not mentioned as a variant in those synchronic studies of /s/-weakening in Spanish and Portuguese cited earlier. However, Seklaoui (1989) does list vocalization as a possible, though rare, outcome of /s/-weakening, citing examples from Italian as well as Occitan.

To show that the patterns of /s/-realization depicted in Figure 3a are not specific to the lexical item *las pezados*, I calculated the percentage of each variant of /s/ for each locality across all eight lexical items examined. The most common variant for each locality is plotted in Figure 3b, with a color saturation indicating how common that variant was across the eight lexical items examined

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[1]There is a great deal of variation in the manifestation of this noun across the region studied, from *pezados* to *penachados* to *penados* to *pyados*; the most common form, *pezados*, will be used here as a citation form.

(the darker the color, the more well-represented the variant). For instance, a locality for which /s/ was retained on the noun in all eight lexical items examined will be plotted as a dark red dot; a locality which had retention of /s/ for one item, vocalization to [j] for four items, and deletion of /s/ for three items will be plotted as a light yellow dot (indicating that [j] was the most common variant across the eight items, but that it was only represented in 50% of the observed forms). Figure 3b indicates that, for all but a few border towns, the pattern demonstrated by *las pezados* holds for the other lexical items examined.

Assuming, then, that each town in the area under study is progressing or has progressed through the same process of /s/-weakening, and given that the trajectory of the process must be from s > j > ∅, we can identify the northwest sector of the region under study as being the most advanced (having completed the change), the northeast sector as being in the process of undergoing the change (having advanced as far as the vocalization stage), and the central/southern portion as being the most conservative (having not yet begun to weaken /s/). The change thus appears to have originated in the northwest and to be progressing south- and eastward.

3.2 Manifestation of /s/ on the Article

Figure 4a shows the manifestation of /s/ on the article of *las pezados*. In addition to retained (e.g. *las*), vocalized (e.g. *laj*), and deleted (e.g. *la*) variants, aspiration of /s/ to [h] (e.g. *lah*; plotted in green) is observed; /s/ may also fully assimilate to the following /p/ of *pezados* (e.g. *lap*), resulting in a geminate (plotted in purple).
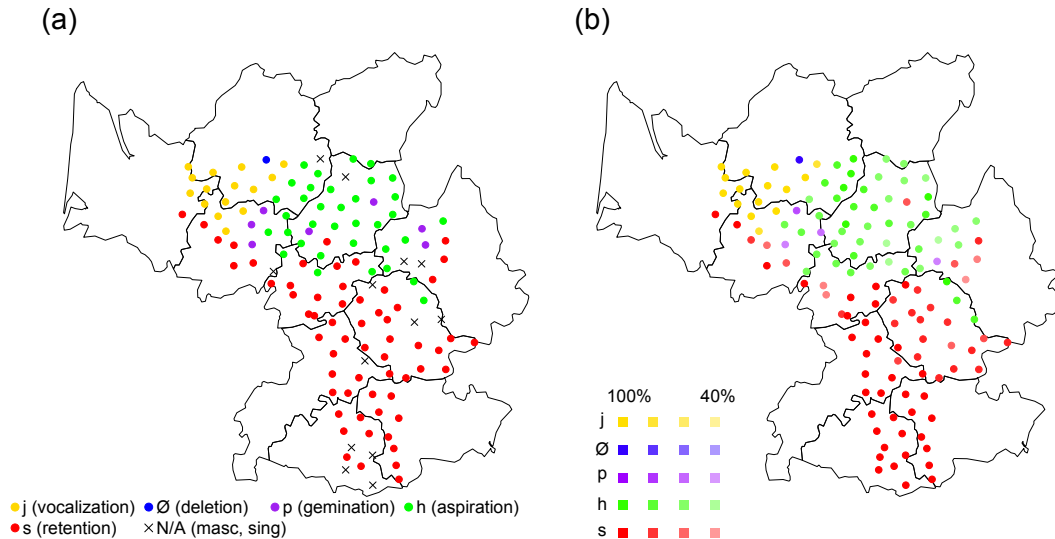

Figure 4: (a) Manifestation of /s/ on the article of *las pezados* 'animal tracks'. (b) Percent manifestation of most common variant of /s/ on the article across eight lexical items. More saturated colors indicate a higher representation of that variant across the eight items.

Figure 4a shows that the southern half of the region under study is conservative, with /s/ retained on the article as it was on the noun. Also, more generally, /s/ on the article has not advanced as far in the weakening process as had /s/ on the noun, with only one point showing total deletion of /s/. More advanced weakening on nouns than articles has been similarly found in studies of synchronic /s/-lenition in Spanish and Portuguese (Cedergren 1973, Poplack 1980, Guy 1981).

Figure 4b shows the same type of plot as Figure 3b, with the most attested variant across the eight lexical items plotted in a color saturation indicative of how common it is. Though there is more inter-item inconsistency in the manifestation of article /s/ than there was for noun /s/ (as indicated

by the more light-colored points in Figure 4b than Figure 3b), the pattern evident in *las pezados* is still generally shared by the other lexical items under examination.

Assuming that /s/-lenition on the article follows the same geographic trajectory as did *s*-lenition on the noun, the northwest sector of the region under study must be displaying the most advanced variant, followed by the northeast sector, followed by the conservative south. This gives us, then, a trajectory of /s/-loss in which /s/ first aspirates to [h], then vocalizes to [j], then deletes entirely.[2] The full range of possible manifestations of /s/ displayed by the data, in presumed diachronic order, then, is s > h > j > geminate > ∅.

The data presented in Figures 3a and 4a have been combined to produce Figure 5, where a single score captures the degree of weakening on both the article and the noun of *las pezados*. This score assumes the weakening trajectory s > h > j > geminate > ∅; a locality was assigned a higher score the closer it was to the weakening end of the scale. Figure 5 plots this combined weakening score for each locality, with amount of weakening captured in the lightness of the gray: black points show the least weakening (i.e., most retention: both article and noun retain /s/); empty circles show the most weakening (i.e., least retention: both article and noun have deleted /s/), and interim shades of gray indicate other steps on the hypothesized weakening trajectory.
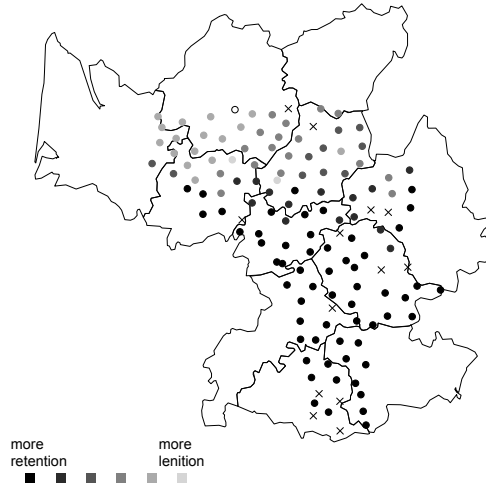

Figure 5: Lenition of /s/ on both the article and the noun of *la<u>s</u> pezado<u>s</u>* 'animal tracks' (combined score). Darker points indicate more retention; lighter points, more weakening.

3.3 Article Vowel Quality

The final factor to examine is the quality of the vowel in the definite article. As outlined in Section 2.2, definite article vowel quality plays a crucial role in disambiguating singular from plural nouns in the closely-related language of French.

Figure 6a shows the vowel quality of the **singular** definite article in the region under study, revealing that the region can be neatly bisected into a *la* region in the southwest and a *lo* region in the northeast. The default assumption is that this vowel quality will be maintained in the plural, as it is in, e.g., Spanish and Portuguese.

Figure 6b superimposes isoglosses indicating the observed vowel quality of the **plural** definite article on the plot from Figure 4a which depicts the manifestation of /s/ on the article of *las pezados*. The black isogloss reproduces the *lo*/*la* split in the singular definite article from Figure 6a. Figure 6b reveals that this same split is maintained throughout much of the region for the plural article,

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[2]Though Figure 3b shows no locality in which the [h] stage of the trajectory is reached when /s/ is attached to a noun, this may be due to a prohibition against phrase-final [h]; the lexical items elicited for *ALLOc* were produced in isolation, with nothing following the noun.
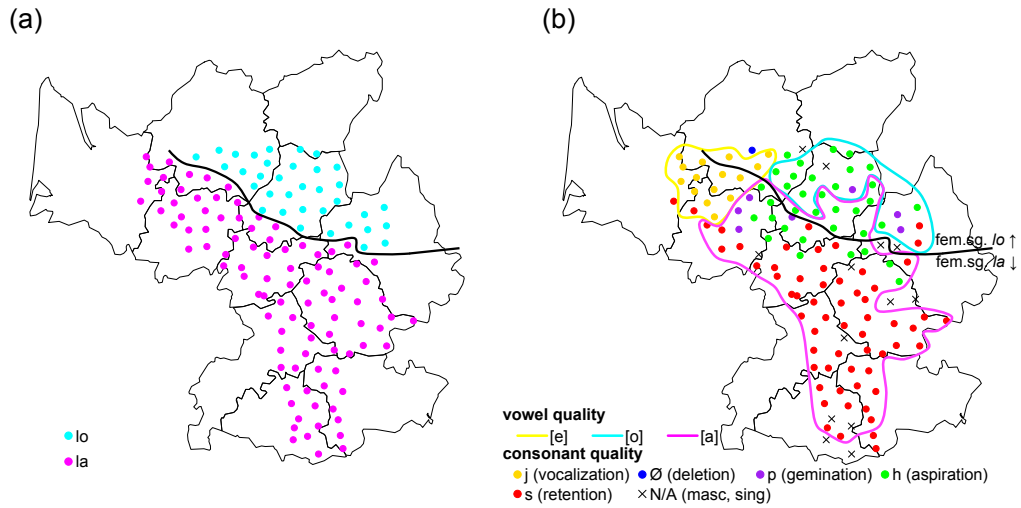
Figure 6: (a) Vowel quality of the singular definite article. (b) Vowel quality of the plural definite article (isoglosses) and manifestation of /s/ on the article of *la̠s pezados* 'animal tracks' (points). Black isogloss marks *lo/la* split in the singular definite article.

with the crucial exception of the northwest sector, where the vowel of the article is, exceptionally, [e]. This region of article [e] coincides almost perfectly with the region in which /s/ on the article has vocalized to [j]. The observed vowel raising is thus almost certainly due to coarticulation of the vowel /a/ and the following palatal glide.

Subsequent data reveal, however, that vowel raising in Languedocian plural articles is not purely a mechanical process. Figures 7 and 8 present data on an additional lexical item, *las kanos* 'impurities found in wine'. Figure 7a shows that the manifestation of /s/ on the noun is nearly identical to what it was for *las pezados* in Figure 3a.
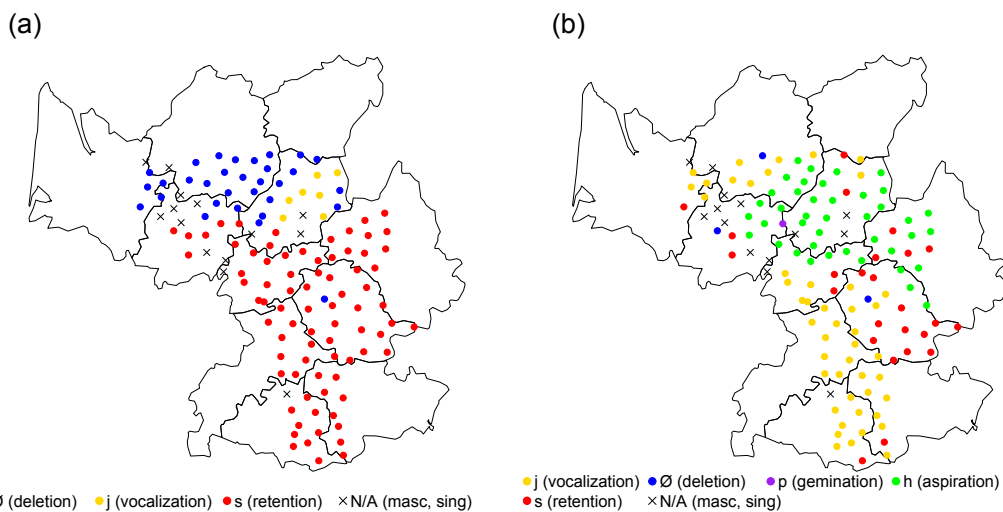

Figure 7: (a) Manifestation of /s/ on the noun of *las kano̠s* 'wine impurities'. (b) Manifestation of /s/ on the article of *la̠s kanos* 'wine impurities'.

By contrast, Figure 7b reveals that the manifestation of /s/ on the article of *las kanos* differs substantially from that of article /s/ for *las pezados* (Figure 4a): while the northeast and northwest sectors conform to *las pezados* by vocalizing and aspirating /s/, respectively, much of the south, where /s/ was retained in the article of *las pezados*, vocalizes /s/ in the article of *las kanos*.

This southern strip of vocalization has an apparent phonological source: it corresponds almost perfectly with the region in which the noun for this lexical item is, rather than a variant of the stop-initial *kanos*, a variant of the fricative-initial *fluretos*. The area in which the noun is fricative-initial is surrounded by the green isogloss in Figure 8a; it corresponds well to the the southern /s/-vocalizing area. An immediately-following fricative must thus vocalize /s/ in a process independent of other ongoing lenition processes.
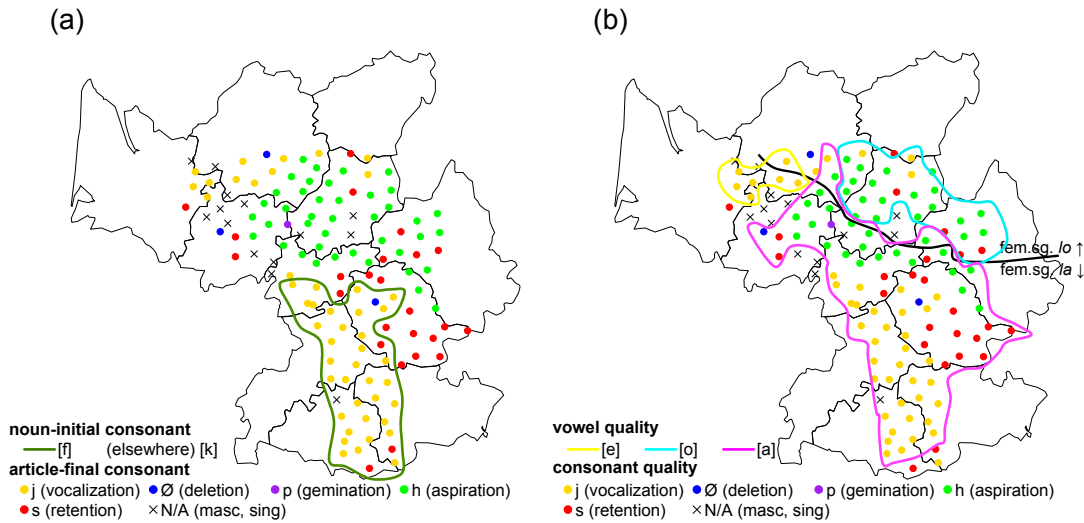

Figure 8: (a) Manifestation of /s/ on the article of *las kanos* 'wine impurities'. The area encircled in green has a fricative-initial noun (elsewhere, the noun is stop-initial). (b) Vowel quality of the plural definite article (isoglosses) and manifestation of /s/ on the article of *las kanos* 'wine impurities' (points). Black isogloss marks *lo/la* split in the singular definite article.

But unlike the vocalization depicted in Figure 6b, this phonologically-conditioned vocalization *does not trigger vowel raising.* Figure 8b shows a clear difference between /s/-vocalization in the northwest sector and /s/-vocalization in the south: in the south, vocalization has no accompanying vowel change.

4 Analysis

I propose that these findings are interpretable via Labov's (1994) observations on the maintenance of meaning in systems in which a grammatical marker is being lost. Specifically, Labov proposes the following:

> "When an element of the system is found to co-occur frequently with the signal being deleted, it is increasingly eligible to assume the distinctive feature representing the semantic feature in question" (Labov 1994:596).

Labov cites as an example of this the loss of the negative marker *ne* in French, which has been all but replaced with the particle *pas*. He proposes that this situation has its source in the following development. Given that *ne* was involved in a process of weakening and deletion and *pas* was

not strictly required for a negative sentence, in the history of French, sentences would inevitably surface which were intended by a speaker as negative but which bore no overt negative marker. These sentences were ambiguous between negative and positive (Labov's "unsupported zeroes"), and some learners may have misinterpreted them as positive. Over time, as learners attempted to match their percentage of *ne*-use to that of the negative sentences they received in their input, the unambiguously-negative input they received became more and more skewed toward tokens containing *pas*, since those that didn't contain *pas* were prone to be factored out as positives. This eventually resulted in *pas* taking over as the negative marker, as the loss of *ne* eventually went to completion.

If an analogous process occurred in Languedocian, we could explain the differing article vowel qualities between the northwest sector and the south in cases like *las fluretos*, where both regions vocalize /s/ on the article but only the northwest shows concomitant vowel raising. In the south, /s/ is consistently retained on the noun, meaning that there is no possibility of a plural form being mistaken for a singular, even when the /s/ of its article has weakened to [j]. In the northwest, by contrast, the loss of /s/ on the noun means that the singular comes to bear a close resemblance to the plural: only the [j] on the article separates them. If this [j] were to be variably deleted, singular-plural ambiguity would result and those tokens in which the vowel had not raised to [e] could be misclassified as singulars. At the same time, a variably retained [j] would trigger vowel raising, meaning that the number of forms unambiguously identified as plurals could eventually shift to those that bore [e] in their article, despite having no consonantal plural marking. In the south, where there are no ambiguous forms, learners would not have any more evidence of plurality from forms in which the vowel was raised than from forms in which it wasn't. As a result, any coarticulation-induced raising would fail to be cemented as part of the linguistic system, instead remaining merely a phonetic variant of the unraised vowel.

This analysis crucially depends on there being ambiguous forms in the northwest to be misrepresented as positive. I have assumed here that such forms arise when [j] is variably deleted, but there is no evidence from *ALLOc* of such [j]-deletion actually occurring. This is the downside of working with linguistic atlases: we have no access to the synchronic variation present within a speaker or a community at the time the data were collected. Nevertheless, the atlas has a clear advantage over other linguistic methods in allowing rapid comparison between multiple regions. In the present study, such rapid comparison has revealed data that appears to support the importance of ambiguous or near-ambiguous forms for meaning preservation in the face of a process of lenition.

5 Conclusions

This paper has added data from the Languedocian dialect of Occitan to the vast typology of cases of /s/-lenition in the world's languages. The dialect atlas data considered here have revealed that /s/-lenition in Languedocian passes through a stage of vocalization to [j], which, when on a definite article, triggers raising of a preceding vowel. This raising, a change which is mechanically actuated, becomes used to preserve plurality in regions where /s/-weakening is advanced.

This study raises a number of further questions. Did /s/-loss in French go through a stage of vocalization as well, and is this the source of the mysterious /e/ in plural definite articles in that language? What has happened to the manifestation of plural on verbs in this dialect, and can that be shown to have had any effect on plural marking in the noun phrase? After all, though the noun phrases in *ALLOc* were uttered in isolation, natural speech would of course provide additional sources of plural marking. Finally, preliminary analysis of masculine plural articles reveals that those in the advanced northwest sector take the shape *lu* in the singular but *lej* in the plural. Is this also (perhaps less articulatorily likely) a result of vowel mutation triggered by the following [j], or is this the result of analogy with the feminine article?

As is the case with many dialect atlases, *ALLOc* was conceived primarily to study lexical variation and was not strictly designed to examine sound changes: for instance, no attempt was made to target minimal pairs. Nevertheless, it has revealed a reasonable path by which the otherwise-unexplained /e/ in French plural articles may have come about, and has provided data relevant to theories of homophony avoidance and maintenance of semantic distinctions.

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