Research Article

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The pitfalls of near-mergers: A sociophonetic approach to near-demergers in the Malaga /θ/ vs /s/ split

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Abstract: The near-merger hypothesis has served to explain many situations where other explanations have not sufficed, including mainly those where apparently completed mergers have been reversed. However, the situation in the city of Malaga (Spain) calls for a critical review of the main pitfalls of this hypothesis and for a sociolinguistic reorganisation of sound change to allow for near-demergers. The present work focusses on the reversal of the coronal fricative /θ/ and /s/ merger (CASA 'house' = CAZA 'hunting') that has been widely observed in Malaga. Acoustic-perceptual analysis of the realisations of 54 speakers reveals that a completed phonological merger can, in fact, revert and that acoustic cues do not necessarily indicate a near-merger.

Keywords: near-merger, near-demerger, Andalusian Spanish, sociophonetics, sound change

1 Introduction

The near-merger concept has been the object of frequent research and debate ever since it was first coined by Labov et al. (Labov et al. 1972; Costa and Mattingly 1981, Di Paolo 1992, Trudgill et al. 2003, Hickey 2004, Bullock and Nichols 2017, Maguire et al. 2013, Regan 2017, 2020). Near-mergers are defined as a phonological phenomenon in which a speaker or speech community realises certain sound differences that cannot be perceived auditorily but can be discerned acoustically. Since Garde's Principle (1961, 38) states that a merger cannot be reversed, such a situation requires a well-founded explanation.

In an attempt to provide such an explanation, Labov et al. (1972, 277–93) analysed the MEAT = MATE merger that occurred in English during the sixteenth century and then reverted without hypercorrection. The authors hypothesised that this was a case of an apparent merger, or near-merger; i.e. the merger was never completed, it simply brought the contrasting elements closer together in phonetic space. Although certain acoustic differences were maintained during the merge, the fact that these could not be perceived auditorily by the speech community would give the false impression of a complete merger. However, since the merger never reached completion, the speakers were able to base themselves on these imperceptible differences to recover the contrast.

The near-merger concept has no doubt served as a useful explanation for other similar situations since then, yet the question arises whether the concept can be applied to explain any situation where a merger has reverted or whether some complete mergers may in fact split, thus proving that Garde's Principle is not universal.

Several theoretical and methodological issues prove that the concept cannot be applied as a general explanation, including, for example, the problem of how imperceptible acoustic differences could be maintained for generations, as well as the fact that identifying a near-merger requires analysis to observe whether

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acoustic differences are perceived auditorily by the speech community. Against this background, we consider that our in-depth acoustic-perceptual analysis of the Malaga speech community (Spain) offers the evidence required to propose a near-merger–near-demerger dichotomy based on a conceptual reorganisation.

In Malaga, the traditional coronal fricative merger CASA 'house' = CAZA 'hunting' (present since the Middle Ages in the Spanish of Andalusia, the Canary Islands and America) is experiencing a reversal towards the opposition CASA : CAZA (present in the centre and north of Spain). As we will show in this work, the non-standard phonological inventory is changing in the middle–high strata due to dialect contact and convergence. This indicates the emergence of a new variety displaying regional prestige, the speakers of which are mainly urban youths with a high level of education and an orientation towards foreign environments. Their nuclear phonological feature is specifically this prestigious demerger of /θ/ in imitation of Standard Spanish (Villena Ponsoda and Vida Castro 2017).

The hypothesis defended in this work is that the Malaga speakers of the middle–high strata have indeed reproduced a phonological contrast of a prestigious dialect, but that they have done so in terms of a *learner variety* (Hendriks 2005, Best et al. 2007, Flege and Bohn 2020) that presents a smaller distance between the contrasting realisations. Despite the small distance, the phonetic differences between CASA and CAZA are perceived auditorily by members of the speech community. At the same time, no auditory differences are perceived in realisations produced by speakers of the vernacular variety used by the lower strata, probably because no such differences exist. Even so, these speakers could be producing imperceptible phonetic differences that could be detected by acoustic analysis (which would indicate a near-merger; the small distance in the contrast employed by the middle–high strata would support this idea). However, in contrast to near-merger situations, the acoustic cues identified always coincide with correct auditory perception of the original lexical series. This fact means that the acoustic cues should be interpreted as the phonetic effect of individuals attempting to recover an old phonological contrast and not as acoustic cues persisting from a historical contrast. The near-demerger concept proposed in this work provides a suitable explanation for this apparent reversal, because it clarifies and completes the conceptualisation used to analyse phonological mergers and demergers.

Based on pre-stratified data from the city of Malaga, the present work will therefore explain why the near-merger concept should be employed with caution as well as why and how the reversal of a complete merger is in fact possible. To this end, this article begins by reviewing the main pitfalls of the near-merger hypothesis identified in previous literature. It then examines the circumstances affecting the Malaga speech community that led to the development of the near-demerger concept and presents the concept itself. Next, it describes the methodology used for the acoustic-perceptual analysis conducted for this work, after which it concludes with a discussion of the analysis and the results obtained.

2 The pitfalls of the near-merger

Although many studies claim to have found examples of merger reversal permitted by a near-merger (Labov et al. 1972, Costa and Mattingly 1981, Moonwomon 1987, Di Paolo 1992, Faber and Di Paolo 1994, Diehm and Johnson 1997, Bullock and Nichols 2017), an increasing number of studies do reject the near-merger hypothesis (Milroy and Harris 1980, Trudgill et al. 2003, Hickey 2004, Maguire et al. 2013, Johnson and Nycz 2015, Regan 2017). The following sections present and discuss the main problems of near-mergers.

2.1 Vitality and transmission

One of the main theoretical problems of the near-merger concept is the question of how phonetic differences not perceived by members of a speech community could still be maintained for generations (Hickey 2004, 131, Yu 2007, 188). In his study of the tonal near-merger in Cantonese, Yu (2007, 199–201) proposes a new model

based on Exemplar Theory. In contrast to traditional models regarding the phonetics–phonology interface, he states that categories consist of *clouds* of examples and that each cloud is modified and increases in size based on the individual experience of each speaker. For this process of categorisation, speakers make use of minimal phonetic differences for word recognition, i.e. they associate phonetic differences with different words. Finally, Yu (2007, 201) states that a near-merger indicates a transitional phase towards a complete merger, during which two (or more) clouds overlap but the cloud membership of each example remains distinct. In other words, speakers may maintain two different mental representations after a merger, despite not perceiving acoustic differences in the surface level (Chomsky and Halle 1968, 164–77). However, this would imply that languages gain complexity as time passes, as these nuances would accumulate at the underlying level (Hickey 2004, 132). Since this is not the case, although near-mergers can occur and can serve to explain certain situations, they must be of brief duration and exist only within one generation (Hickey 2004, 131).

The initial question then transforms into the following: can an individual speaker revert a merger during his or her lifetime? Sankoff (2004) analyses the realisations produced by two speakers throughout their lives and proves that an individual can in fact modify his or her phonological inventory and, thus, revert mergers as well as splits present in childhood.

2.2 Functional load

The number of minimal pairs distinguished by two phonemes is extremely relevant for the process of sound change, as it affects the likelihood of a merger or demerger. The probability of two phonemes merging is inversely proportional to the number of minimal pairs affected (Wedel et al. 2013). For instance, Trudgill et al. (2003, 213) consider that the historical English /v/ : /w/ merger (VILLAGE = WIND) is unsurprising, given the low number of minimal pairs involved and, thus, the low functional load. Jannedy and Weirich's results (2017, 395) regarding their study of the German fricatives /ʃ/ and /ç/ (MISCH 'mixture' = MICH 'me') are particularly significant, because this opposition affects only seven minimal pairs. Their study shows that the probability of these two phonemes merging in the future is greater than, for example, the probability of the virtual merger of the English series PIN vs PEN.

2.3 Orthography

Orthography reinforces the processes that lead to a demerger. The reversal of a complete merger in a variety is therefore more likely to occur when orthography continues to reflect the contrast. For the same reason, the reversal of a consonantal merger is more likely to occur than the reversal of a vocalic merger, as the former will usually not be reflected in orthography whereas the latter often is.

This idea that orthography influences speakers' mental representation is not new. Gordon (2003, 247) notes that speakers may alter their realisation of a certain phoneme on the basis that orthography reflects pronunciation, as in the case of the homophonous pair WITCH : WHICH, in which speakers believed that they did perceive a contrast because "*witch* had more of a 't' in it."[1] A specific example is described by Jespersen (1965, 223) and Chela Flores (2000, 56), who analyse the successive changes in pronunciation of the English adverb *often*, in which the ⟨t⟩ was sounded until the seventeenth century as [oftn] and then muted during the eighteenth and nineteenth centuries as [ofn]. It was the increase in literacy during the Victorian era that brought back the muted stop, clearly proving the influence of orthography (Chela Flores 2000, Chela Flores and Chela Flores 2007, 66, 154). In the English of today, both pronunciations coexist, but the spelling pronunciation has

1 In a perception test carried out in Malaga, although the participants could not correctly differentiate between the merged realisations of the pair CASA = CAZA, they also frequently stated that "sometimes both words are pronounced with -z- but sound different, and you can slightly discern whether it's a word with -s- or with -z- that's being read" (Molina García 2020, 428).

now become a marker of education and formality. Wells (1990, 493) established that approximately 72% of the speakers considered [ofn] to be the more natural pronunciation.

2.4 Contact between varieties

Numerous works state that dialect contact can in fact lead to the reversal of a complete merger. If a dialect maintains the opposition between two phonemes (usually this will be a dialect with high social prestige), another dialect in which the two units have merged (usually one with no social prestige) can recover the contrast (Britain 1997, Trudgill et al. 2003, Bukmaier and Harrington 2016, Vietti et al. 2018).

An example of such a situation is presented by Kochetov (2006) in his research on a process of phonological convergence consisting, on the one hand, of the merger of the unstressed vowels /o/ : /a/ → /a/ (VODA 'water' : TRAVA 'grass') and, on the other hand, of the consonantal demerger of the postalveolar fricative /ʂ/ → /ʂ/ : /ʃ/ (ŠUTKA 'joke' : JAŠČIK 'box'). This convergence is occurring in the dialect of the small rural community of Pokcha, in western Russia, due to the influence of the Russian standard variety. The author's results show that the driving force behind this change is strong social pressure towards urbanisation from the youth in the community, who are increasingly moving to urban centres where they are more likely to find employment.

2.5 Coexistence of varieties

Studies focussing on merger reversal do not tend to consider the coexistence of different varieties within a speech community, even though this fact can influence data and therefore lead to false conclusions regarding the presence of a near-merger. From the phonetic point of view, a near-merger must be based on acoustic cues which, although not perceived by the community for a certain period of time (sometimes a very long period of time), can nevertheless be detected throughout in acoustic analysis. However, differences observed in acoustic analysis may also simply be the result of the coexistence of socially distributed varieties in the community.

For example, let us assume that the following two varieties coexist in a speech community: one variety presenting the phonological opposition /A/ : /B/, the other presenting just one unit /B/ (/A/ = /B/). If we were to acoustically analyse a set of data from this speech community for the allophonic realisations of [B] as a whole (i.e. without organising the data into two groups according to variety), we would of course come to the possibly premature conclusion that we had identified a near-merger, i.e. acoustic differences not perceived by the speakers. However, instead of persisting from a historical contrast, the acoustic cues identified could in fact stem from speakers of a variety that was reinstating the contrast /A/ : /B/. In this situation, in order to confirm a near-merger, it would therefore be more appropriate to conduct acoustic analysis only of those realisations of [B] produced by speakers of the reducing variety.

This raises the question of how we can identify whether we are observing two different varieties. In principle, a variety consists of a number of features that show coherent covariation (a set of linguistic features with a homogeneous distribution). The question of how to identify a single variety is a problem that Labov has been trying to solve since his early works (Labov 1972). While researching the speech of young Philadelphians and after analysing nine subcategories of short *a*, Labov et al. (2016) identified two coherent systems: the traditional system presenting the tense–lax distinction and an innovative system in which all pre-nasal vowels were tense. This means that young Philadelphians are not simply choosing between two phonological variables, but between two established systems, i.e. varieties. Thus, two varieties are coexisting within the same community, and as explained in the previous paragraph, if we were trying to identify a near-merger, this fact would need to be taken into account to avoid misinterpreting the results.

Similarly, the works of Podesva et al. (2015) and Gross (2018) imply that when searching for cues for a near-merger, analysis should consider allophonic realisations produced only by speakers of a variety that features just *one* phonological unit. In other words, identifying differences in articulation in allophonic realisations of a

merged phoneme does not always indicate a near-merger, since these may simply be the surface manifestation of an underlying contrast in a different variety not considered in the analysis.

2.6 Methodological pitfalls

2.6.1 Direction of change

When analysis reveals acoustic cues that cannot be perceived by speakers, two scenarios, or directions of change, are possible:

> In one, analysis reveals two phonemes that appear to have merged (A = B) but that still present acoustic cues in allophonic realisations of the merged phoneme (B) that correspond to the two lexical series /series A/ and /series B/; these differences cannot be perceived by speakers.
>
> In the other, analysis reveals two phonemes still undergoing the reduction in contrast (/A/ = /B/); the merger will not yet be completed but will be close to doing so. In this scenario, the different acoustic cues of the two lexical series would simply reflect the remainder of the decreasing contrast /A/ : /B/.

Since the second would obviously indicate an on-going merger, only the first scenario would allow the acoustic cues identified to be interpreted as an indication of a near-merger. For example, as mentioned in Section 2.2, Trudgill et al. (2003) study the reversal of the merger /v/ : /w/ that occurred in England between the eighteenth and nineteenth centuries. Based on the acoustic analysis of isolated speech communities (The Bermudas, Bahamas, Tristan da Cunha, the Pitcairn Islands, etc.) in which the reduced realisation had been maintained unaltered to the present, they were able to determine that the merger in England reached completion. The authors therefore conclude that a complete merger can indeed be reverted. However, the search for a near-merger was fully justified in this context. If acoustic cues persisting from the historical contrast had been detected in England, this would have proved a near-merger.

A good example of the second scenario is provided by Bongiovanni's study (2019), which analyses the progress of the merger /ɲ/ : /nj/ → /nj/ (CAÑA 'fishing rod' : TANIA 'Tania, personal name') in Buenos Aires. The author observes acoustic differences in the entire sample but particularly among men over 45 years of age. The distribution of the differences points to an on-going merger that will probably be completed in the coming years.

In short, two scenarios are possible at the stage immediately preceding merger completion: one in which the merger process may still revert (near-merger), and one in which the merger process is about to complete (on-going merger). In the words of Trudgill et al. (2003, 212):

> Normally this very close approximation, we have to suppose, represents a stage on the way to a complete merger. However, on occasion, the two phonemes, because a total merger has not actually taken place, can at a later date subsequently move phonetically further apart again, leading to reports of unmergers as in the case of MEAT and MATE.

2.6.2 Importance of perception

The second problem in terms of methodology is that studies often differentiate realisations simply based on the lexical series to which they belong, instead of also observing whether any differences identified are perceived by the speech community. This makes it impossible for their analysis to identify a near-merger, since by definition and as indicated by Labov (1994, 544–73), to record a near-merger it is essential to ascertain the "speakers' incapacity to distinguish realisations" presenting different phonetic features. Despite this fact, many studies that support the near-merger hypothesis only go as far as to identify acoustic differences and do not confirm that they are unperceived by the community.

For example, when analysing a case of merger reversal (/A/ vs /B/ → /A/ → /A/ vs /B/) for which there is phoneme–spelling correspondence (/A/ ⟨a⟩, /B/ ⟨b⟩), studies will often only analyse whether the realisations vary acoustically according to the graphemes ⟨a⟩ and ⟨b⟩. However, using this method, analysis can only identify the degree to which the two phonemes are merged or demerged; it cannot identify the direction of change. If acoustic cues were identified, they could therefore indicate either an incomplete merger or a beginning demerger. Thus, it would be important to identify whether the differences are perceived by speakers, as it is possible that they would be. If the aim of the analysis was to demonstrate a near-merger, it should include realisations perceived as [A], exclude realisations perceived as [B], and determine in the former whether there was a difference in allophonic articulation according to the graphemes ⟨a⟩ and ⟨b⟩.

Regarding the process of change under study in the present work, if we wanted to confirm a near-merger, we would therefore need to analyse those realisations of the lexical series CASA-CAZA that are perceived by speakers as identical (in this case, as [θ]). Upon finding significant differences between the articulation of /θ/ and /s/ in accordance with the graphemes ⟨z⟩ and ⟨s⟩, Regan (2017, 241) even specifically states that:

> This does not indicate that there are no speakers in the community without a *near-merger*. As this study has only relied on production, there are several speakers that demonstrate subtle, but statistically significant differences in one or more acoustic measures, but as perception tasks were not conducted …, it may be that these speakers cannot themselves hear a difference.

3 Sociolinguistic situation in Malaga

Between the thirteenth and eighteenth centuries, Spanish underwent a process of phonological reduction (Penny 2000, Cano Aguilar 2004). During this period, the sibilant phonemes were affected by a series of mergers that, for the coronal obstruents, can be summarised by the following two results:

> **Centre and north of Spain:** Distinction between an apico-alveolar fricative /s/ and an interdental fricative /θ/ (CA**S**A : CA**Z**A).

> **Southern Spain and Spanish-speaking America:** Merger into a dental or laminal alveolar fricative /θ/ with a wide field of realisation (CA**S**A = CA**Z**A)[2]. The phonological merger presents wide phonetic variation. The most frequent result is *seseo*, i.e. the systematic choice of sibilant realisations for minimal pairs: CASA : CAZA [ˈka.sa]. Another result is *ceceo*, i.e. the systematic choice of interdental/non-sibilant realisations for minimal pairs: CASA : CAZA [ˈka.θa]. The geographic distribution of this /θ/ = /s/ merger across the Spanish-speaking world is significant. In the Spanish of the Canary Islands and the Americas, *seseo* is more frequent than *ceceo*. At the same time, in Andalusia, there is broad variation between *seseo*, *ceceo* and *distinción*, i.e. distinction between the two phonemes. Within Andalusia, although *distinción* is becoming increasingly widespread, as described in the following paragraph, it used to be the case that *ceceo* occurred more frequently in coastal areas, *seseo* in inland areas, and *distinción* in northern areas (Samper Padilla 2022).

However, since the middle of the twentieth century, many studies have observed a tendency in southern Spain towards convergence with the European Spanish standard (Ávila Muñoz 1994, Moya Corral and Sosinski 2015, Villena Ponsoda and Vida Castro 2015, 2017, Regan 2017, 2020). Based on recent research (Molina García 2020), we can conclude that the phenomenon is sociolinguistically marked and widely perceived by the speech community.

According to previous data, in Malaga, 70.7% of words of the CASA lexical series are realised as [s]. Nevertheless, these realisations are unequally distributed across the social hierarchy. As shown in Table 1, speakers under 55 years of age with post-compulsory education produce 88.3% split realisations versus only 11.7% merged realisations, whereas speakers over 55 with compulsory education produce only 30.8% split realisations versus 69.2% merged realisations.

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2 This phenomenon mainly affects fricatives in syllable-initial position. In coda position, the sibilant fricative /-s/ tends to be omitted or even aspirated as /h/. The resyllabification of the consonant group -st- as an affricate [t^{s}] is becoming increasingly frequent, representing a compensation mechanism to avoid a loss of linguistic information (Vida Castro 2022).

Table 1: Effect of age by educational level on the perceived variation of the /θ/ demerger

	<55 Post-compulsory [24]	>55 Post-compulsory [12]	<55 Compulsory [12]	>55 Compulsory [6]	Total [54]
Split	424	181	122	37	764
	88.3	**75.4**	**50.8**	**30.8**	**70.7**
Merger	56	59	118	83	316
	11.7	24.6	49.2	69.2	29.3
					1,080

$Chi^2 = 212.594$, $p < 0.001$; Cramer's $V = 0.444$.

Regarding perception, the results of a previous test (Molina García 2020) showed that the members of this speech community are able to detect the etymological origin of the allophones. Thus, they are able to distinguish the allophones produced by speakers who show ample acoustic distance in the realisations of the CASA-CAZA lexical series, but they are unable to differentiate the allophones produced by speakers showing minimal distance; i.e. they are unable to differentiate speakers of the reducing variety. The answers to a sociological questionnaire conducted for the same work also showed that the speech community associates the distinction pattern with higher education, higher social class, *good* pronunciation, and the most well-off residential districts of Malaga, whereas it associates the merger pattern with lower education, lower social class, *bad* pronunciation, and rural and humble origins.

3.1 Rise of regional varieties

The first variety to gain regional prestige in Andalusia was the Seville urban dialect. Although this traditionally functioned as the Andalusian oral standard, a new variety began to emerge in Andalusia – particularly in eastern Andalusia – during the second half of the twentieth century. This new variety has since functioned as an intermediate between the southern vernacular varieties and the standard variety, yet it represents a process of dialect levelling that looks more like *koineisation* than convergence towards the national standard (Hinskens 1998, Auer 1998, Kerswill 2003), with the change being led by young women with a university education.

The intermediate variety combines characteristic southern features with central–northern features that provide the basis for the standard variety. On the one hand, it reverses, i.e. modifies the direction of, multisecular changes affecting Andalusian in the syllabic onset: stop of the fricatisation of the postalveolar affricate (/t͡ʃ/ → [ʃ]), as in COCHE 'car' ['ko.t͡ʃe]; /x/ with velar or even uvular realisation, as in CAJA 'box' ['ka.xa]; retention of intervocalic [ð], as in CADA 'each' ['ka.ða]; etc. The coronal fricative split /θ/ → /s/ : /θ/ should be considered as belonging to this group of changes. On the other hand, it maintains regional phonological features in the syllabic coda: a tendency towards the open syllable and, therefore, elision of final consonants. The works of Villena Ponsoda and Vida Castro (2015, 2017) have registered a strong correlation between many phonological variables, demonstrating that these are mainly used by young middle-class urban women oriented towards the standard variety. We can therefore consider this a coherent variety.

In short, two coherent varieties coexist in Malaga that differ based on their treatment of the coronal fricatives; i.e. there exists a prestigious variety that distinguishes between the coronal fricatives presenting a merger in the vernacular variety.

3.2 Development of the near-demerger concept

The pitfalls of the near-merger as well as the sociolinguistic context of Malaga clearly necessitate a conceptual reorganisation regarding the process of sound change. This section therefore proposes the concept of near-demerger, which clarifies and complements that of near-merger. If we consider the processes behind merging

and demerging, we could describe them as consisting of transitional stages distinguished by a series of acoustic cues in an articulation that may or may not be perceived by the speech community (Figure 1). Yu (2007, 188) calls these transitional stages *suspended contrasts*.

As described in the previous sections, not every case of suspended contrast can automatically be classified as a near-merger. Instead, a re-categorisation based on the direction of the change is required, so that we may differentiate between two kinds of transition, as shown in Figure 2 and described below.

1) **Transition towards merger**: In the transition towards a merger, we can assume an *Initial State of Merger*. This is characterised by a first phonetic reduction in the realisations corresponding to the two lexical series. However, the acoustic distance still allows speakers to distinguish most realisations. As stated by Labov (1972), the conditions for a near-merger are met during the stage preceding merger completion, because the acoustic distance is then so small that speakers are unable to differentiate the realisations. This concept therefore serves as an accurate explanation for certain cases of merger reversal.
2) **Transition towards split:** Here, the same process occurs but in reverse. The realisations corresponding to the two lexical series begin to differ, but the acoustic distance is still so small that speakers cannot yet differentiate between the realisations. If analysis of a phonetic change only considered a single moment in time, it would be impossible to distinguish this *Initial State of Demerger* from the state of *Near-Merger*.

If we define the direction of change, as described in Section 2.6, and thus adopt a diachronic perspective, the presence of unperceived acoustic cues will not necessarily indicate a *Near-Merger*, because they could also indicate *Initial State of Demerger*. As the phonetic distance between the realisations increases, we reach the state of *Near-Demerger*, which would be the stage at which most realisations differ according to etymological origin. At this stage, speakers will be making an active effort to separate the phonemes in the two lexical series, and the resulting difference will be perceived by the speech community. If the community does not perceive the difference, acoustic cues will indicate *Initial State of Near-Demerger*.

3.3 Near-demerger in Malaga

Considering this framework, the Malaga speech community could be a clear example of how a complete merger could be reverted. A near-merger is unlikely to have occurred in this community for several reasons:

1. *Vitality and transmission*. The merging of coronal obstruents has existed in southern Spain since the fifteenth century (possibly even since the thirteenth century according to some scholars). As described in Section 2.1, it is difficult to conceive a situation in which certain unperceived differences in articulation could have been transmitted across generations for seven centuries.
2. *Functional load.* According to the author's findings, the Spanish /θ/ : /s/ split involves at least 65 minimal pairs. Due to the high likelihood of misunderstandings, this may well have encouraged speakers to recover the contrast.
3. *Orthography*. The fixed relationship ⟨s⟩ - /s/, ⟨z; c+e; c+i⟩ - /θ/ continues to be reflected in orthography and is even specifically included in the national curriculum. If speakers wanted to recover the contrast, orthography would serve as a strong point of reference that would prevent hypercorrection.
4. *Contact with and influence from the standard Peninsular variety*. Standard Spanish maintains a clear distance between the two fricatives. As described in Section 2.4, it would therefore be reasonable to assume that southern Spanish is recovering the contrast through the imitation of standard Spanish.

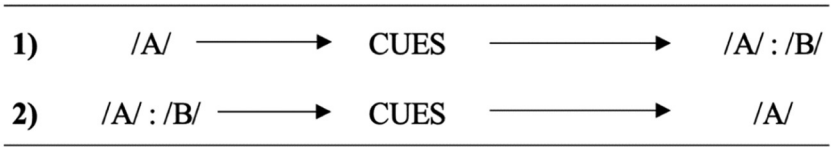

Figure 1: The processes of phonological change corresponding to mergers and demergers.

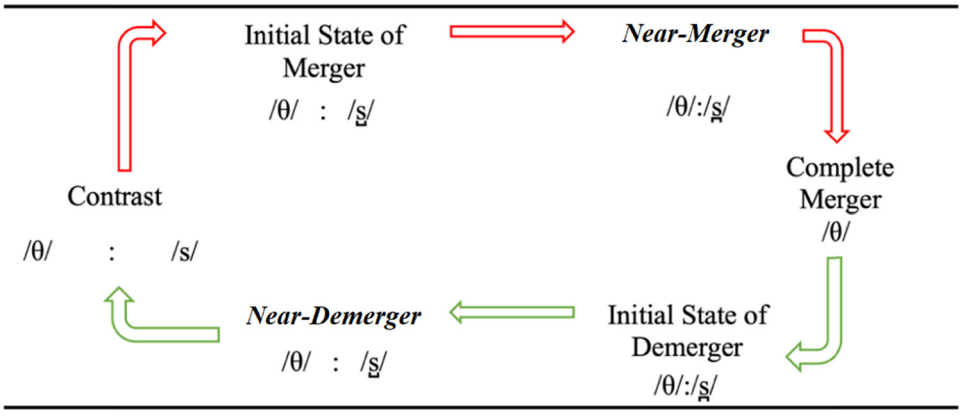

Figure 2: Re-categorisation of the processes of phonological change.

4 Data and methodology

For the present work, we analyse realisations produced by 54 informants and taken from the *Corpus oral complementario del español hablado en la ciudad de Málaga* (Supplementary oral corpus of the Spanish spoken in the city of Malaga (Vida Castro, In press)). This corpus consists of semi-guided oral interviews gathered between 2013 and 2015 according to the methodology stipulated by the *Proyecto para el Estudio Sociolingüístico del Español de España y América, PRESEEA* (Project for the sociolinguistic study of Spanish in Spain and America, PRESEEA). As shown in Table 2, the 54 informants were pre-stratified by generation (first generation, 18–34; second generation, 35–54; third generation, >55), sex (male, female), and educational level (basic, intermediate, and high), ensuring three informants per group.

Regarding the linguistic variables, 20 words from the CASA 'house', POSO 'sediment' lexical series and 20 words from the CAZA 'hunting', POZO 'well' lexical series were selected from each interview, totalling 2,160 realisations. Only intervocalic realisations were selected, within either the word (e.g. CA**S**A) or word-initial by phonetic syntax (e.g. LA **S**ALA). In addition, a balance was ensured between words chosen from the initial, middle, and final parts of the interviews.

Auditory labelling was used to identify realisations as [s] alveolar sibilant, [s̪] dental sibilant, [θ^{s}] post-dental non-sibilant, or [θ] interdental non-sibilant. A reliability test was conducted to validate the labelling, i.e. to prove that every allophone labelled presented acoustic correlates showing statistically significant differences. Those perceived as [s] or [s̪] were considered to be split prestigious realisations, and those perceived as [θ] or [θ^{s}] to be merged vernacular realisations (Figure 3).

These realisations were then analysed acoustically to search for acoustic differences using *Praat* (Boersma and Weenink 2017). As shown in Figure 4, the fricative noise allowed for the clear definition of the beginning and end marks. Since only intervocalic fricatives had been chosen, the anterior and posterior formants of the spectrogram facilitated this step.

Table 2: Social distribution of the informants

		Age, gender						Total
		18–34 years old		35–54 years old		>55 years old		
		Male	Female	Male	Female	Male	Female	
Educational level	Basic	3	3	3	3	3	3	18
	Intermediate	3	3	3	3	3	3	18
	High	3	3	3	3	3	3	18

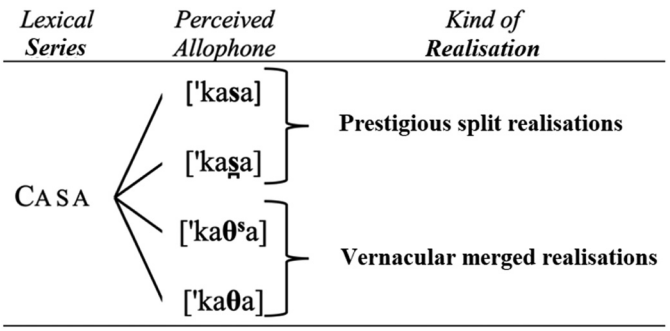

Figure 3: Categorisation of the perceived allophones for the coronal fricative in CASA.

The acoustic parameters selected to identify acoustic cues were those traditionally employed in acoustic studies on fricatives (Forrest et al. 1988, Jongman et al. 2000, 1256, Gordon et al. 2002, 23, Martínez Celdrán and Fernández Planas 2007, 107, Cicres Bosch 2011, 35, Univaso et al. 2014, 113, Regan 2017):

Duration [ms]: Total duration of the segment.
Zero crossings: The number of times a wave crosses the zero point of the horizontal axis.
Intensity [dB]: The measurements of mean, minimum and maximum intensity.
Spectral moments [Hz]:
  Centre of Gravity (CoG): The average frequency at which friction noise occurs.
  Skewness: The frequency at which greater energy predominates on either side of the CoG.
  Kurtosis: The peakedness of the spectrum, with positive values implying sharp peaks, and *vice versa*.
  Standard deviation: The distance of the spectrum frequencies from the CoG.
Spectral peak [Hz]: The frequency of the highest sound intensity, i.e. the height of the highest concentration of energy.

Finally, statistical analysis was conducted using the program *Statistical Package for Social Sciences* (SPSS, 23.0). Although the sample size would have been large enough for parametric tests, non-parametric tests were conducted because the acoustic parameters did not fulfil the principles of homoscedasticity and homogeneity of variance. The non-parametric Mann–Whitney *U* test was therefore used to determine the significance of the acoustic cues identified in the lexical series CASA-CAZA.

5 Results

5.1 Risk of bias and reification in near-mergers

Contrary to our hypothesis, Table 3 shows significant acoustic differences between realisations perceived as [θ] in words of the CASA, POSO lexical series (significantly higher intensity, skewness, and kurtosis) as well as in

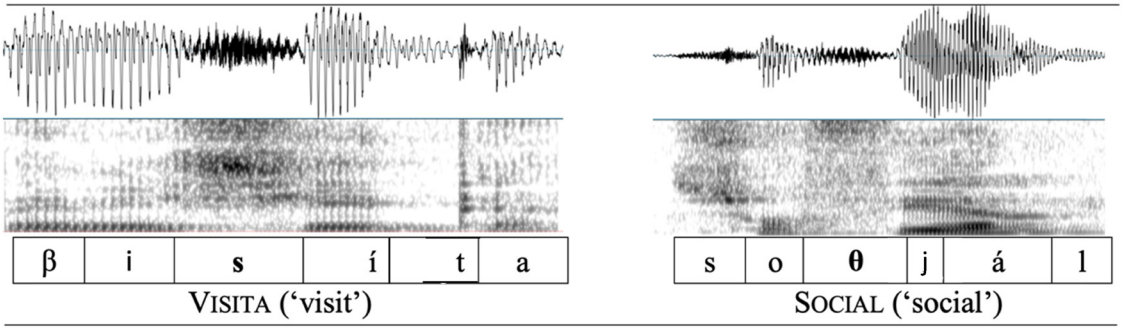

Figure 4: Selection of [s] (left) and [θ] (right) from the Praat spectrograms.

Table 3: Mean values and standard deviation of the acoustic correlates for realisations perceived as [θ] in the lexical series with ⟨s⟩ (CASA, POSO) and ⟨z⟩ (CAZA, POZO)

	CASA, POSO [θ] *N* = 284 (23%)	CAZA, POZO [θ] *N* = 284 (23%)	Sig.
Duration	0.84 ± 0.23	0.99 ± 0.27	<**0.000**
Zero crossings	78 ± 46	87 ± 45	<**0.001**
Mean intensity	46.5 ± 5	45 ± 6	<**0.000**
Max. intensity	51 ± 6	49.5 ± 6.6	<**0.000**
Min. intensity	40.5 ± 5.5	38.5 ± 6.5	<**0.000**
CoG	1,800 ± 1,990	2,130 ± 2,080	<**0.001**
Skewness	5.5 ± 4	4 ± 4	<**0.000**
Kurtosis	60 ± 95	45 ± 95	<**0.000**
S. deviation	2,750 ± 1,650	3,150 ± 1,630	<**0.000**
Spectral peak	2,800 ± 2,860	3,580 ± 3,430	<**0.000**

Significant results are highlighted in bold.

words of the CAZA, POZO series (significantly longer duration and higher zero crossings, CoG, standard deviation, and spectral peak). In other words, based on this first superficial analysis, Malaga appears to represent a case of near-merger.

However, a more detailed analysis reveals that these results do not offer a true reflection of reality. As shown in Figure 5, of the 54 informants, 33 produced only 0–25% of the total number of vernacular [θ] realisations (i.e. *ceceante* realisations) for words from the CASA lexical series. In fact, of those 33 informants, 21 did not present any such realisations at all. At the same time, 19 informants produced over 75% of the total vernacular realisations. Based on this more detailed analysis, we can observe two opposing poles: on the one hand, we have 21 informants who did not produce any vernacular realisations, and on the other hand, we have 10 informants who produced 67% of the total vernacular realisations (214 of 319).

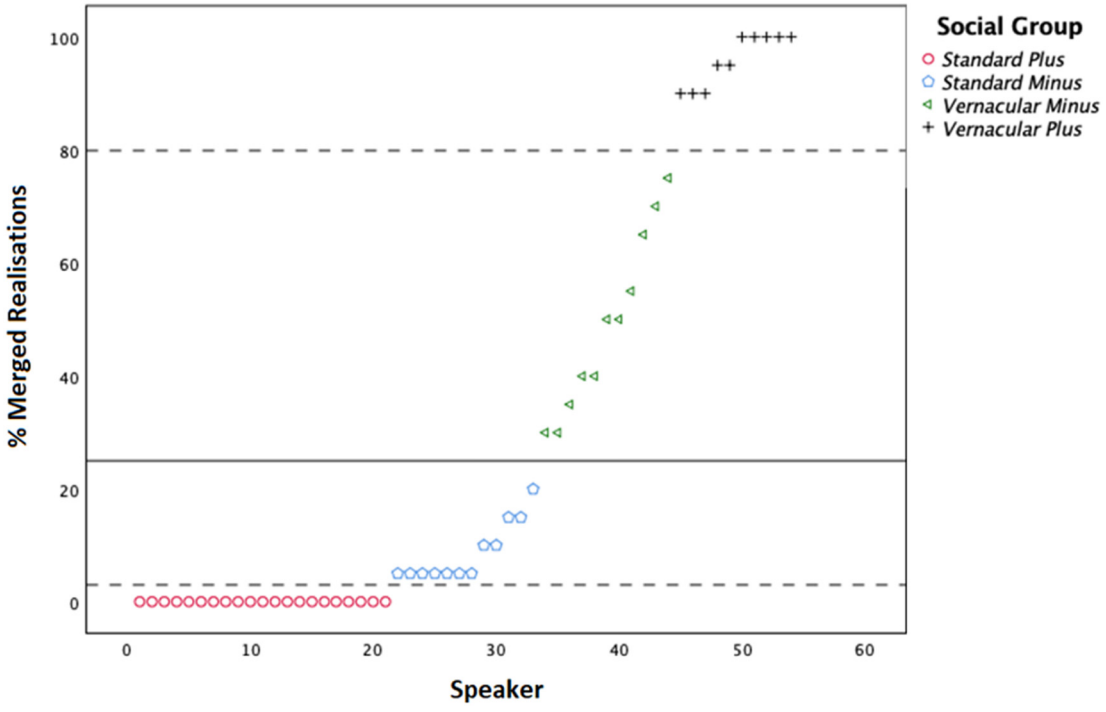

Figure 5: Percentage of vernacular realisations produced by the 54 speakers, classified into four groups.

These results show that this linguistic feature is concentrated within a specific social group, meaning we are observing a community in which two separate varieties showing a tendency towards social polarisation coexist (Villena Ponsoda and Vida Castro 2015, 2017). If the realisations of the two groups representing the two extremes (Standard Plus, Vernacular Plus) were considered as a whole during analysis, the acoustic cues differentiating θ (⟨s⟩) and θ (⟨z⟩) would suggest a near-merger, a fact that may apply to Vernacular Plus, but of course cannot apply to Standard Plus.

When analysing whether the realisations perceived as [θ] vary significantly according to educational level (the variable that best explains the use of the vernacular realisation), we can observe that almost all the acoustic parameters of [θ] produced by speakers with compulsory education differ from those produced by speakers with post-compulsory education (Table 4).

From this, we can deduce that the phoneme /θ/ of the intermediate variety differs from that of the vernacular variety. On the one hand, the /θ/ unit of the intermediate variety is in opposition to /s/ as strident or sibilant (usually as [s̪]) versus non-strident, non-sibilant (usually as [θ]). On the other hand, the /θ/ unit of the vernacular variety is an isolated dental or coronal unit with a realisation ranging from [θ] to [s̪]. Since we cannot compare allophones of different phonological units, we will only be able to confirm or refute a near-merger if we restrict our analysis to the ten speakers that present 75% or more vernacular realisations, i.e. the informants who, in theory, are users of the vernacular variety with only one phonological unit /θ/. If these ten speakers do not show pronunciation differences for /θ/ in the Casa : Caza lexical series, we will be able to conclude that these speakers are using a system with a complete merger.

Table 4: Mean values and standard deviation of the acoustic correlates for realisations perceived as [θ]. Comparison between speakers with compulsory and post-compulsory education

	[θ] Compulsory education *N* = 737 (59.5%)	**[θ] Post-compulsory education *N* = 480 (40.5%)**	**Sig.**
Duration	0.92 ± 0.25	0.98 ± 0.28	<**0.000**
Zero crossings	85.5 ± 45	85 ± 45	<0.591
Mean intensity	47.5 ± 6	44 ± 5.5	<**0.000**
Max. intensity	52 ± 6.5	48.5 ± 6	<**0.000**
Min. intensity	41 ± 6.5	37 ± 6	<**0.000**
CoG	2,000 ± 2,150	2,100 ± 2,000	<0.199
Skewness	5 ± 4	4.5 ± 4.5	<**0.020**
Kurtosis	45 ± 100	50 ± 150	<**0.027**
S. deviation	3,000 ± 1,700	3,100 ± 1,650	<0.371
Spectral peak	3,000 ± 3,700	3,700 ± 2,950	<**0.001**

Significant results are highlighted in bold.

5.2 Results of in-depth sociolinguistic analysis

The present section is structured according to the comparison of three main axes:

1) The four Linguistic Groups established based on the percentage of vernacular realisations produced, reflected above in Figure 5:
   - Vernacular Plus (V+)
   - Vernacular Minus (V−)
   - Standard Minus (S−)
   - Standard Plus (S+)
2) The four Concepts established in the conceptual reorganisation are described in Section 3.2:
   - Complete Merger
   - Initial State of Demerger
   - Near-Demerger
   - Contrast

3) The four Social Groups established based on a recodification of the speaker variables to reflect the two that best explain the social distribution of the fricative split:
   - Group A: >55 years old + Compulsory Education
   - Group B: <55 years old + Compulsory Education
   - Group C: >55 years old + Post-Compulsory Education
   - Group D: <55 years old + Post-Compulsory Education

As shown in Table 5, the hypothesis defended below is that there is a connection between the Linguistic Group V+, the Concept Complete Merger and Social Group A; between V−, Initial State of Demerger and B; and so forth. In other words, most of the Linguistic Group V+ will consist of members of the Social Group A, and these members will reflect a Complete Merger, and so forth.

Table 5: Hypothesis regarding the correlation between Linguistic Groups, Phonological Situation and Social Groups in the production of the phonological change

Linguistic group	Phonological situation	Social group
V+ (*N* = 10)	Complete merger	A: >55 Comp. Edu. (*N* = 6)
V− (*N* = 11)	Initial state of demerger	B: <55 Comp. Edu. (*N* = 12)
S− (*N* = 12)	Near-demerger	C: >55 Post-Comp. Edu. (*N* = 12)
S+ (*N* = 21)	Contrast	D: <55 Post-Comp. Edu. (*N* = 24)

5.2.1 Linguistic Group V+. Complete Merger

Out of the 397 realisations produced by this group and perceived as [θ], half proceeds from the CASA lexical series, meaning they are merged realisations. In contrast, Tables 3 and 6 reveal that there are no significant differences and that the mean values of all the acoustic parameters present a regular distribution with no influence from etymological origin. If we consider the results of the previously conducted perception test (Molina García 2020, 426), which proved that the speech community is unable to detect the etymological origin of realisations produced by speakers using the merger pattern, Table 6 allows us to conclude that the phonological unit /θ/ of the vernacular variety is a case of a Complete Merger. In view of the results presented below for the other Linguistic Groups, this Complete Merger will have spent many years undergoing a process of splitting, meaning that we are most probably facing one more example in which a complete merger has indeed reversed.

Table 6: Mean values and standard deviation of the acoustic correlates for realisations perceived as [θ] by the Linguistic Group V+ in the CASA-CAZA lexical series

	CASA, POSO [θ] *N* = 198 (50%)	CAZA, POZO [θ] *N* = 199 (50%)	Sig.
Duration	0.81 ± 0.22	0.84 ± 0.25	<0.183
Zero crossings	72 ± 47	73 ± 45	<0.599
Mean intensity	46 ± 5	46 ± 5	<0.645
Max. intensity	51 ± 5.5	51 ± 5.5	<0.599
Min. intensity	40 ± 5	40 ± 5.5	<0.758
CoG	1,400 ± 1,700	1,400 ± 1,600	<0.543
Skewness	6 ± 4	6 ± 4	<0.496
Kurtosis	80 ± 115	70 ± 100	<0.660
S. Deviation	2,500 ± 1,650	2,500 ± 1,630	<0.748
Spectral peak	2,000 ± 1,500	2,250 ± 1,900	<0.220

Table 7: Analysis by speaker for Linguistic Group V+. Percentage of vernacular realisations, Social Group, Educational Level, Sex, Age and significant acoustic cues

Speaker	% Merged realisations	Social group	Education	Sex	Age	Cues
9	90	C	Post-Comp.	Male	>55	0
16	90	A	Comp.	Female	>55	0
52	90	B	Comp.	Male	<55	0
22	95	B	Comp.	Male	<55	0
5	100	B	Comp.	Male	<55	0
18	100	B	Comp.	Male	<55	0
24	100	A	Comp.	Male	>55	0
49	100	B	Comp.	Male	<55	0
51	100	A	Comp.	Male	>55	0
56	100	C	Post-Comp.	Male	>55	0

Table 7 presents individual analysis of the ten members of Linguistic Group V+. Note that not a single member belongs to Social Group D (<55 years old, post-compulsory education; $N = 24$), and that three members belong to Social Group A (>55 years old, compulsory education; $N = 6$); i.e. 50% of all Group A members belong to Linguistic Group V+. Regarding educational level, eight of the ten speakers have only compulsory education, i.e. 50% of all speakers with compulsory education belong to Linguistic Group V+.

Particularly interesting is the fact that no acoustic cues can be found to indicate a near-merger. This shows that searching for acoustic differences in the set for Linguistic Group V+ as a whole does not conceal individual speakers who may still present acoustic cues.

5.2.2 Linguistic Group V−: Initial State of Demerger

The situation changes if we analyse the 11 informants belonging to Linguistic Group V−, the group that presented 25–75% vernacular realisations. We could describe these speakers as being at an initial stage of learning how to split, meaning they are in a transitional stage. All the members of this group show significant differences in six of the ten acoustic parameters considered (Table 8). Of the 302 realisations produced by this group and perceived as [θ], 100 (33%) proceed from words with ⟨s⟩ etymology, and 202 (67%) proceed from words with ⟨z, ce, ci⟩ etymology.

We are thus facing an Initial State of Demerger, in which speakers are trying to recover an old phonological opposition due to the influence of the standard Peninsular variety. This process results in a series of acoustic cues that may or may not be perceived.

Table 9 presents the individual analysis of the 11 members of Linguistic Group V−. Note that we can now observe four members of Social Group D and, again, three members of Social Group A; i.e. the remaining 50% of all Group A members belong to Linguistic Group V−. We have thus identified that the six members of Social Group A present a regular distribution across the Linguistic Groups V+ and V−. Apart from the difference regarding Social Group D, we can now also observe a balance in educational level that was not present before: only five speakers now have compulsory education, and six have post-compulsory education.

The individual analysis of realisations according to etymology also confirms the hypothesis. Most of the members of Group V− differentiate realisations perceived as [θ] according to the lexical series (Table 9). This presence of acoustic cues differentiating the realisations of [θ] in each lexical series (CASA/CAZA) could be misinterpreted as an indication of a near-merger, as the significant differences in articulation are not perceived by speakers.

However, recall that Linguistic Group V+ proved the existence of a Complete Merger, meaning the direction of change is Complete Merger → Contrast. We must therefore accept that this group of speakers is reverting to a case of a completed merger. Thus, the acoustic cues identified do not persist from the old

Table 8: Mean values and standard deviation of the acoustic correlates for realisations perceived as [θ] by the Linguistic Group V− in the Casa-Caza lexical series

	CASA, POSO [θ] *N* = 100 (33%)	CAZA, POZO [θ] *N* = 202 (67%)	Sig.
Duration	0.80 ± 0.30	0.94 ± 0.25	<**0.000**
Zero crossings	57 ± 45	76 ± 45	<**0.000**
Mean intensity	48.5 ± 7	48.5 ± 7.5	<0.930
Max. intensity	52.5 ± 6.5	53 ± 8	<0.757
Min. intensity	43 ± 7	42 ± 7.5	<0.375
CoG	1,300 ± 1,500	1,800 ± 1,750	<**0.001**
Skewness	7.5 ± 5	5 ± 5	<**0.002**
Kurtosis	125 ± 150	70 ± 150	<**0.001**
S. deviation	2,000 ± 1,600	2,900 ± 1,700	<**0.000**
Spectral peak	3,150 ± 3,250	3,450 ± 3,350	<0.265

Significant results are highlighted in bold.

Table 9: Analysis by speaker for Linguistic Group V−. Percentage of vernacular realisations, Social Group, Educational Level, Sex, Age, and significant acoustic cues

Speaker	% Merged realisations	Social group	Education	Sex	Age	Cues
7	30	D	Post-Comp.	Male	<55	**Dur.**
25	30	A	Comp.	Female	>55	0
15	35	A	Comp.	Female	>55	0
57	35	B	Comp.	Male	<55	0
46	40	C	Post-Comp.	Male	>55	**ZC.**
3	50	C	Post-Comp.	Male	>55	**Int-** + **Peak**
20	50	D	Post-Comp.	Male	<55	**CoG.**, **Sk.**, **Kurt.**
21	55	D	Post-Comp.	Male	<55	**Dur.**
50	70	A	Comp.	Male	>55	**ZC.**
13	65	D	Post-Comp.	Male	<55	**Sk.**, **Kurt.**, **SD.**
42	75	B	Comp.	Female	<55	**Int.**, **SD.**, **Peak**

opposition, but rather reflect the attempt by a certain part of the community to separate the allophonic realisations in line with the European Spanish standard.

5.2.3 Linguistic Group S−: Near-Demerger

While Linguistic Group V− presents an Initial State of Demerger, we consider the 12 speakers of Linguistic Group S−, who present 5–25% vernacular realisations, as representing a Near-Demerger. Of 219 realisations perceived as [θ], 198 (90%) proceed from the CAZA lexical series, and only 21 (10%) proceed from the CASA lexical series. Despite the low number of vernacular realisations, Table 10 shows that certain acoustic cues (duration and intensity) do reveal the etymological origin of the realisations. This situation corresponds exactly with the concept of Near-Demerger, in which certain acoustic cues exist, resulting from the few cases where speakers have tried to separate the two realisations according to the etymological origins [s] (CASA) and [θ] (CAZA) but the resulting difference does not seem to be perceived by speakers.

It would even be reasonable to assume a connection between the duration of a realisation and the security of speakers in using standard pronunciation. We could therefore conclude that speakers who try to actively replicate the sibilant realisation in words of the CASA series shorten the realisation when they intuitively feel it is unetymological. These results emphasise the importance of orthography in supporting the reversal of mergers, as mentioned above.

Table 10: Mean values and standard deviation of the acoustic correlates for realisations perceived as [θ] by the Linguistic Group S− in the CASA-CAZA lexical series

	CASA, POSO [θ] *N* = 21 (10%)	CAZA, POZO [θ] *N* = 198 (90%)	Sig.
Duration	0.85 ± 0.30	0.105 ± 0.30	<**0.006**
Zero crossings	80 ± 45	90 ± 45	<0.306
Mean intensity	45.5 ± 6	43.5 ± 5.5	<0.158
Max. intensity	50 ± 6	48 ± 6	<0.248
Min. intensity	40 ± 7.5	36.5 ± 5.5	<**0.030**
CoG	2,450 ± 2,350	2,250 ± 2,150	<0.975
Skewness	4.5 ± 5	4.5 ± 5	<0.630
Kurtosis	60 ± 110	50 ± 140	<0.779
S. deviation	2,750 ± 1,600	3,200 ± 1,650	<0.216
Spectral peak	5,100 ± 4,050	3,900 ± 3,650	<0.346

Significant results are highlighted in bold.

Table 11 shows a significant change in the patterns identified so far for Social Group and educational level. In the Linguistic Group S− (*N* = 12), we can now observe nine members of Social Group D, but only one member of Social Group B and two members of Social Group C. Regarding educational level, we can now also observe ten speakers with post-compulsory education and only one with compulsory education. As only very few vernacular realisations were provided by each speaker, we could not conduct statistical analysis to search for individual acoustic cues.

5.2.4 Linguistic Group S+. Contrast

The Linguistic Group S+ (*N* = 21, i.e. the largest) does not present vernacular realisations, meaning we could not conduct analysis to search for acoustic cues, because the 371 realisations perceived as [θ] all proceed from the CAZA lexical series. The members of this Linguistic Group represent the final completion of the demerger process. They have acquired the contrast, and the differences are perceived by the community (Molina García 2020).

The fact to highlight here is that six members of Linguistic Group S+ belong to Social Group C and 11 belong to Social Group D. Again, just as for the Linguistic Group S−, there are no speakers from Social Group A. Linguistic Group S+ therefore unites six of the 12 Group C speakers and 11 of the 24 Group D speakers.

Table 11: Analysis by speaker for Linguistic Group S−. Percentage of vernacular realisations, Social Group, Educational Level and Age

Speaker	% Merged realisations	Social group	Education	Sex	Age
1	5	D	Post-Comp.	Male	<55
4	5	B	Comp.	Female	<55
8	5	C	Post-Comp.	Female	>55
28	5	D	Post-Comp.	Male	<55
29	5	D	Post-Comp.	Female	<55
33	5	D	Post-Comp.	Female	<55
55	5	D	Post-Comp.	Male	<55
10	10	D	Post-Comp.	Female	<55
34	10	D	Post-Comp.	Female	<55
48	10	C	Post-Comp.	Female	>55
31	15	D	Post-Comp.	Female	<55
27	15	D	Post-Comp.	Female	<55

6 Discussion

As summarised in Table 12, we have identified four different groups of speakers:

a) The first group, V+, consists of ten speakers whose vernacular realisations of [θ] in words with ⟨s⟩ exceed 75%. There are no significant differences between the [θ] produced by these speakers in relation to etymological origin (⟨s⟩ or ⟨z⟩), indicating a Complete Merger.
b) The second group, V−, consists of eleven speakers whose vernacular realisations of [θ] in words with ⟨s⟩ range from 25 to 75%. There are significant differences in six of the ten acoustic parameters analysed, indicating an Initial State of Demerger.
c) The third group, S−, consists of 12 speakers whose vernacular realisations of [θ] range from 5% to 25%, indicating a Near-Demerger.
d) The fourth and largest group, S+, consists of 21 speakers who do not present vernacular realisations, indicating that they have acquired the Contrast.

Our analysis revealed a continuum of vernacular realisations from 0 to 100%, which we subsequently recodified into four intervals to adjust the frequency of vernacular usage to the stages of the splitting process identified in our conceptual reorganisation, reaching from (1) Complete Merger, i.e. the vernacular realisation ([θ] from ⟨s, z⟩) and no acoustic differences, through to (4) Contrast, i.e. no vernacular realisation ([θ] from ⟨s⟩) and a systematic contrast between [θ] and [s] (Figure 6).

As shown in Figure 6, the two opposite poles on the continuum are mostly occupied either by speakers of compulsory education and older age (V+) or by speakers of post-compulsory education and intermediate or young age (S+). In between the two poles, we can observe two groups of speakers. First, we have speakers presenting an Initial State of Demerger; i.e. they have begun to modify acoustic parameters aiming for the

Table 12: Percentage of Merged Realisations, Etymological Origin of [θ], Social Variables, Acoustic Cues identified and Phonological situation, according to the four Linguistic Groups considered

	% Merged realisa.	Etymological origin			Social group			Education			Age			Acoustic cues	Phonological situation
			N	%		*N*	%		*N*	%		*N*	%		
V+ *N* =10	>75	⟨**s**⟩	198	50	A	3	30	Comp.	8	80	>55	5	50	No	**(1) Complete Merger**
					B	5	50								
		⟨**z**⟩	199	50	C	2	20	Post-Comp.	2	20	>55	5	50		
					D	0	0								
V− *N* = 11	25–75	⟨**s**⟩	100	33	A	3	28	Comp.	5	45	>55	5	45	6: Duration, Zero Crossings, Centre of Gravity, Skewness, Kurtosis, Standard Deviation	**(2) Initial State of Demerger**
					B	2	18								
		⟨**z**⟩	202	67	C	2	18	Post-Comp.	6	55	>55	6	55		
					D	4	36								
S− *N* = 12	5–25	⟨**s**⟩	21	10	A	0	0	Comp.	1	9	>55	2	17	2: Duration, Intensity	**(3) Near-Demerger**
					B	2	17								
		⟨**z**⟩	198	90	C	2	17	Post-Comp.	11	91	>55	10	83		
					D	8	66								
S+ *N* = 21	0	⟨**s**⟩	0	0	A	0	0	Comp.	4	19	>55	6	29	No	**(4) Contrast**
					B	4	19								
		⟨**z**⟩	371	100	C	6	28	Post-Comp.	17	81	>55	15	71		
					D	11	53								

CAZA POZO	CASA POSO	Phonological Situation	Acoustic Differences	Historical Process
[θ]	[θ]	(1) Complete Merger	One sound only [θ] without acoustic differences or cues	CAZA CASA → [ˈkaθa]
[θ]	[θˢ]	(2) Initial State of Demerger	Many acoustic differences heterogeneously distributed in [θ] to separate it from [s̪]	[ˈkaθa] [ˈkaθˢa]
[θ]	[s̪]	(3) Near-Demerger	A few differences in [θ], because [s̪] has been nearly acquired	[ˈkaθa] [ˈkas̪a]
[θ]	[s̪]	(4) Contrast	Clear acoustic differences. Huge distance between [θ] and [s]	[ˈkaθa] [ˈkasa]

Figure 6: Historical process regarding the stages of the coronal fricative split in southern Spanish.

clearest possible separation of the realisations of the fricatives in the CASA and the CAZA lexical series. Second, we have speakers presenting a Near-Demerger; i.e. the process is not yet complete but has reached a point where the distance between the lexical series seems irreversible. The social distribution and age in this group are clear proof of the Near-Demerger.

The results of the analysis show that the on-going merger reversal in southern Spanish stems from a complete merger, since we did not identify acoustic cues in the vernacular realisations of speakers who frequently use them. At the same time, speakers in the speech community are unable to detect the etymological origin of the realisations produced by speakers of the reducing variety. We have thus disproved the idea that only near-mergers can be reversed, a hypothesis that would in itself be farfetched in the case at hand. If the process of the phonological merger began back in the mid-thirteenth century, how could the differences in articulation have been maintained over approximately seven hundred years when the speech community could not perceive these differences? Once we discard the near-merger hypothesis, two questions arise regarding the reversal of this complete merger: *why* and *how*?

Why? The contrast of the CASA-CAZA lexical series enjoys manifest social prestige. Speakers strive to separate the allophonic realisations according to the lexical series to the extent that they obtain a reward in terms of prestige. The speech community draws an abstract perceptual boundary to differentiate between *distinguishing* and *reducing* speakers. As long as speakers are considered to be in the reducing bracket, they try to acquire the contrast.

How? If social prestige is the reason speakers are trying to acquire this contrast, there must be factors that are supporting the process, i.e. factors that lead to the reversal of a merger without hypercorrection. In the present work, we have identified two main factors: orthography and dialect contact.

Regarding the first, Spanish has mostly preserved the opposition in writing. The ⟨s⟩ grapheme represents strident or sibilant realisation, whereas ⟨z⟩ represents non-strident or non-sibilant realisation. Most studies of near-mergers focus on a vocalic split. However, analysing a consonantal split offers the advantage that orthography may have served as orientation, making it easier to confirm or refute the presence of a near-merger. Regarding the second, the existence of a prestigious variety preserving phonological contrast allows speakers of the reducing variety to replicate the opposition through imitation. In our case, the Peninsular standard has traditionally maintained the fricative contrast, meaning that speakers more oriented towards this national standard have been able to reproduce the contrast while avoiding hypercorrection.

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