Obscuring morphomic patterns: some evidence from Catalan verbal inflection

Manuel Badal
Universitat de València

1 Introduction

During the Middle Ages, a new verb class was formed within Catalan 2nd conjugation, characterized by the presence of a velar augment (/g/ or /sk/, depending on the verb) at certain cells of the paradigm (about this diachronic process, see, e.g., Pérez Saldanya 1998; Wheeler 2011). The distribution of the velar can be considered "morphomic" (in Aronoff's 1994 terms), since the systematic appearance of this augment "cannot be aligned with any conceivable coherent semantic, syntactic, or phonological generalization" (Esher and O'Neill 2022: 351). The resulting layout from the analogical velarization process favored an implicative organization of the allomorphs, which made easier the acquisition of the paradigm.

As illustrated in table 1 with the verbs *beure* 'to drink' and *créixer* 'to grow', the velar augment usually appears in the L-pattern (Maiden 2018: 84), formed by the first-person present indicative and the whole present subjunctive, and PYTA (Menéndez Pidal 1904), formed by the preterite, the old conditional and the imperfect subjunctive, and also in the past participle if this form adopts the regular ending *-ut/-uda* (except for the verb *vendre* 'to sell', which presents the non-velarized form *venut* 'sold'). Root-stressed past participles, such as in the verbs *dir* 'to say' or *prendre* 'to take', do not adopt the velar: *dit* 'said', *pres* 'taken'.

		beure 'to drink' /g/	*créixer* 'to grow' /sk/
L-pattern	1SG present indicative	*be**c*** [ˈbe**k**]	*cre**sc*** [ˈkɾe**sk**]
	Present subjunctive	3sg *be**g**a* [ˈbe**ɣ**a]	3sg *cre**sc**a* [ˈkɾe**sk**a]
PYTA	Preterite	3sg *be**gu**é* [beˈ**ɣ**e]	3sg *cre**squ**é* [kɾe**s**ˈ**k**e]
	Conditional	3sg *be**gu**era* [beˈ**ɣ**eɾa]	3sg *cre**squ**era* [kɾe**s**ˈ**k**eɾa]
	Imperfect subjunctive	3sg *be**gu**és* [beˈ**ɣ**es]	3sg *cre**squ**és* [kɾe**s**ˈ**k**es]
Past participle		*be**g**ut* [beˈ**ɣ**ut]	*cre**sc**ut* [kɾe**s**ˈ**k**ut]

Table 1. L-pattern, PYTA, and past participle of *beure* 'to drink' (exponent of /g/ model) and *créixer* 'to grow' (exponent of /sk/ model) in Old Catalan. (In the tenses in which all the forms are velarized, we only offer the 3SG.)

The distribution of the velar augment shown in table 1 is the result of a diachronic change, which led to the "coalescence" (in Maiden's 2018: 292 terms) of the L and PYTA morphomic patterns. Even with all that, there are certain verbs that did not fully adopt this velar distribution pattern. In this paper, we analyze the causes that can explain the apparently uncoherent spread of velarization in three Catalan 2nd conjugation verbs with a remarkable high frequency: *haver* 'to haver', *ser* 'to be' and *voler* 'to want'. Based on the results obtained from a corpus of texts ranging from the 13th to the 19th century, we test whether a "coherence" effect took place in the diachronic change of these verbs, as follows from Maiden's (2018: 3) prediction, "morphological innovations of any kind (e.g. analogical levelling of the alternation, analogical extension of the alternation, creation of novel alternants, introduction of suppletive forms into paradigms) that affect any one of the

paradigmatic cells implicated in the alternation pattern equally and always affect all the others." Our initial assumption is, thus, that if the two morphomes are psychologically real for speakers (Maiden 2018: 13), all the forms associated to them must undergo the same analogical change. We will show that the corpus data contradict this hypothesis, though cast some light on the factors that can hinder the processes of morphological levelling and regularization.

2 Data and methodology

To extract the verb forms, we have set up a corpus comprising Catalan works ranging from the 13th to the 19th century. We have chosen this period to be able to study the velarized forms from the first Catalan texts until the promulgation of Fabra's norm; the inclusion in the study of the 20th century would have introduced a clearly independent variable of the morphome influence: the norm impact, with possible effects especially on the analyzed forms that have not been admitted in the standard language, such as *vullc* [ˈvuʎk] 'I want'. In addition, all the corpus texts belong to the second half of each century, since, methodologically, the objective is to determine the evolution of verb forms at the end of each one.

Once the counts have been made, to elucidate whether the distribution of the non-velarized and velarized forms (variable 'velarized') in relation to the centuries (variable 'century') is random or not, we have carried out several chi-square tests with SPSS Statistics (IBM Corp. 2019). The chi-square test is based on the comparison of the bivariate frequencies obtained from the data (empirical frequencies) with the frequencies that would result if there were no association between the variables 'velarized' and 'century' (theoretical frequencies). The test produces two indicators: the χ^2 value for a two variables distribution –non-velarized and velarized forms– in the periods in which the seven centuries are grouped and the asymptotic significance (p). The p-value is evaluated from the threshold of 0.05, as is usual in the social sciences: when the p-value is less than 0.05, the probability that the elements have been randomly distributed according to the global frequency between the different groups is lower (less than 5%); in this case, we should discard the null hypothesis according to which the variable 'century' does not influence the distribution of verb forms and assume that, on the contrary, the distribution of these forms in the different centuries varies significantly. On the other hand, if p-value is greater than 0.05, in other words, if the probability of obtaining the real random distribution is greater than 5%, we will accept the null hypothesis and assume that the verb forms have been distributed with the same criterion in the different centuries. Once it has been checked whether the forms are randomly organized or not, it is necessary to test the association between the variables. This data is determined by Cramér's; this parameter range is 0 to 1: a weak association is 0.1 to 0.2; a moderate one, 0.2 to 0.4; a relatively strong one, 0.4 to 0.6; a strong one, 0.6 to 0.8, and a very strong one, 0.8 to 1 (Rea & Parker 2014: 219).

3 Results and discussion

3.1 *Haver* 'to have'

In the verb *haver* 'to have', only some velarized forms in the present subjunctive are attested, like *haga* [ˈaɣa] 's/he have', although never became statistically significant ($\chi^2_{(3)} = 4.990$, $p = 0.172$, Cramér's V = 0.107). The high frequency of this verb, used mainly as a perfect auxiliary (see IEC 2016), probably favored the preservation of irregular forms over the

centuries (Anshen & Aronoff 1988; Booij 1997: 43; Bybee & Brewer 1980: 218; Rainer 1988). Additionally, since the first person of the present indicative did not adopt the velar consonant, it could not exert the same force as in verbs such as *caure* 'to fall' or *deure* 'to owe', in which /g/ was first introduced into the first-person present indicative and then extended to the present subjunctive because of the class-stability principle (see Badal 2022). Regarding PYTA, the only tense where changes are observed is the old conditional ($\chi^2_{(6)}$ = 112.586, p < 0.001, Cramér's V = 0.784), with some non-velarized forms in the 19th century documented in Valencian, like *havera* [aˈveɾa] 's/he would have'. In this variety, the original forms of the imperfect subjunctive, such as *hagués* [aˈɣes] 's/he had' or *haguesses* [aˈɣeses] 'you had', were no longer used, and the preterite had lost much vitality. Consequently, the PYTA morphome was blurred, since the only used tense at this time was the old conditional, used then as an imperfect subjunctive (Ridruejo 1985). However, this analogical change is not consolidated at the end of the studied period, and presents dialectal variation, since the forms with the velar consonant (e.g., *haguera* [aˈɣeɾa] 's/he would have') are widely attested at the beginning of 20th century (see Alcover & Moll 1929-1932).

3.2 *Ser* 'to be'

As for *ser* 'to be', the first person of the present indicative ($\chi^2_{(6)}$ = 244.435, p < 0.001, Cramér's V = 0.910) and the present subjunctive ($\chi^2_{(6)}$ = 3323.054, p < 0.001, Cramér's V = 0.959) present a very similar chronology, since both consolidate the velarization in the 19th century. The velarization of the first person of the present indicative (*soc* [ˈsok] 'I am') is justified by convergence (Maiden 2005: 139-140) with most 2nd conjugation verbs, which adopted /g/ in forms with this tense-mood (e.g., *bec* [ˈbek] 'I drink', *dec* [ˈdek] 'I owe'). In the present subjunctive, the analogical velarization could be due to two factors: the influence exerted by the first person of the present indicative and the tendency to repair the hiatus of the etymological forms (e.g., *si.a* [ˈsia] >> *si.ga* [ˈsiɣa] 's/he be') giving the syllable a simpler structure (Hualde 1992: 383). Regarding PYTA, the third person of the preterite form is the only one coming from Latin *perfectum* in which velarized cases are documented ($\chi^2_{(6)}$ = 1251.345, p < 0.001, Cramér's V = 0.655): *fonc* [ˈfoŋk] 's/he was'. It is difficult to come out with a convincing explanation for the evolution undergone by this form: until the 15th century, the non-velarized forms (i.e., *fo* 's/he was') are the predominant ones. However, *fonc* equals the frequency of the non-velarized forms in the 16th century and reaches its peak in the 17th. But in the 18th century the trend is reversed again and the forms without the /g/ become again the most common ones. Finally, in the 19th century the velarized forms become the minority. The final recession of velarized forms might be attributed to the need for coherence: since over the centuries no other PYTA form adopts the /g/, the velarization process is blocked, since a single PYTA cell with a velar augment is unusual.

3.3 *Voler* 'to want'

In the verb *voler* 'to want', the L-pattern resulting from regular sound change (i.e., *vull* [ˈvuʎ] 'I want' ~ *vulla* [ˈvuʎa] 's/he want') undergoes an alteration driven by analogical velarization. While Valencian still preserves a homogeneous pattern, the morphome is obscured in general Catalan. The first person of the present indicative adopts the velar in Valencian only ($\chi^2_{(4)}$ = 83.782, p < 0.001, Cramér's V = 0.794): *vullc* [ˈvuʎk] 'I want'. However, the analogical velarization of the present subjunctive is widespread in Catalan ($\chi^2_{(6)}$ = 356.474, p < 0.001, Cramér's = 0.983): e.g., *vulga* [ˈvulɣa] */vullga* [ˈvuʎɣa] 's/he want'. In the evolution of *voler* in Valencian, the principles of uniformity (Mayerthaler 1987)

and class-stability (Wurzel 1987) take precedence over phonological congruence, given that the L-pattern uniformity is preserved: all forms share the same root-final palatal and present the velar consonant (i.e., *vullc* ~ *vullga*), despite this unusual combination (about this phonological restriction, see Wheeler 1984: §3.4; Hualde 1992: 381; IEC 2016: 25). Even so, in general Catalan the phonological congruence hinders the morphome homogenization, leading to the L-pattern obscuring, and the generation of a new irregularity: while the first person of the present indicative retains the etymological form, the present subjunctive forms adopt a new allomorph to which the velar is added (i.e., *vull* ~ *vulga / vulgui*).

4 Conclusions

To sum up, although in most cases the evolution of morphomic patterns is usually coherent because all morphome cells undergo the same change(s), the present investigation brings to light cases in which this tendency is obscured. More specifically, the results of the study corroborate what some authors have already observed for other phenomena: the more a verb is used, the less susceptible it is to morphological regularization patterns. The data under analysis in this paper, thus, cast light on the fact that sometimes frequency can exert a greater pressure than morphomic coherence in verbal diachronic evolution.

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