AREAL CONTINUITIES AND DISCONTINUITIES EMERGE FROM PARALLEL STUDIES OF INFLECTION IN DIACHRONY*

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ABSTRACT Longitudinal study of specific inflectional characteristics can reveal stable, long-standing contrasts between the linguistic systems of different areas within a dialect continuum. This paper reports on a series of studies which use historical textual attestations to date analogical innovations in preterite forms for different varieties of Occitan (southern Gallo-Romance), providing a firm empirical foundation for theoretical enquiry about inflectional analogy, its directionality, nature and motivations. Because the studies are strictly parallel, they also facilitate comparisons from a dialectological perspective, conferring the additional benefit of elucidating historical diatopic (dis)continuities.

Based on the substance, sequence and chronology of observed changes, at least four distinct groups of speech varieties can be identified, each showing strong internal consistency as well as stability over several centuries. One suite of unique developments occurs in Gascon varieties. Another, entirely separate, trajectory is found in a small cluster of Lengadocian varieties around Toulouse. Across a large group of varieties from the Lengadocian, Provençau and Aupenc areas, a third set of changes is shown to occur not only in the same sequence but at the same or similar historical periods, indicating that this is a development undergone near-simultaneously across much of the Occitan-speaking area. In northern Occitan varieties (Lemosin, Auvergnat), the same set of changes occurs in the same sequence, but at a later period, indicating either diffusion of changes from southern vari-

eties, or independent parallel development. While some areas correspond to one or more of the traditional dialect divisions, others split existing dialect groups or span multiple dialect groups and subgroups.

These findings illustrate how investigation of genuinely morphological characteristics complements existing study of more familiar lexical and phonological characteristics, and also how long-standing dialect realities can emerge from the study of historical change.

1 INTRODUCTION

This paper reports a case study in which the diachronic study of specific inflectional characteristics unexpectedly reveals stable areal patterns within a dialect continuum. Certain speech varieties cluster together in undergoing one particular suite of analogical changes: this group of varieties shows consistency not only with respect to the substance and scope of the concrete changes observed, but also with respect to the order in which the changes occur, and furthermore with respect to the historical dating of the individual changes. By contrast, other varieties follow entirely separate trajectories with respect to substance, ordering and historical dates. The areal clusters and contrasts remain stable over several centuries, though they do not correlate closely with existing dialect classifications.

The study focuses on changes affecting inflected forms of the preterite ('simple past', reflex of Latin perfect indicative) in varieties of Occitan, a minority Gallo-Romance language traditionally spoken across southern France, the Val d'Aran in the Spanish Pyrenees and parts of the Italian Alps. Occitan preterite forms offer a promising case study for investigation of analogical change, since they illustrate both dialectal variation concerning which analogical changes apply, and also potential interaction between multiple analogical changes.

The inventory of changes affecting Occitan preterite forms can usually be recovered via comparative study (section 2). However, analysis of analogical change also requires knowledge of the sequence in which changes apply, and the directionality of the changes (i.e. which forms serve as influential models for change, and which forms constitute targets susceptible to change). For Occitan preterite forms, the sequence and directionality of changes can only be recovered via genuinely diachronic study, using historical textual attestations to date the changes (section 4). When parallel longitudinal studies of preterite forms in a number of separate geographical areas are combined, striking patterns emerge: continuity across a wide geographical area, and peripheral areas of idiosyncratic development. Areal groupings based on the diachrony of forms instantiating a single paradigm category (the preterite)

do not always match established dialect classification for Occitan; they nevertheless prove extremely stable over long periods in diachrony (sections 4–5). The findings illustrate the potential for parallel longitudinal study of inflection to reveal hitherto undocumented historical dialect realities; and in turn, as these empirical facts are progressively established, they serve as a precursor to more refined exploration of the mechanisms historically underlying change and stability in dialect continua.

2 Preterite ('simple past') forms in modern and mediaeval Occitan varieties

Six major dialect groupings are traditionally defined for Occitan (section 1). These conventional groupings are based primarily on phonetic and phonological isoglosses (Oliviéri & Sauzet 2016, Sibille forthcoming), such as the historical retention or palatalisation of Latin velars, e.g. CANTĀRE 'sing.INF' > *chantar* /tʃanˈta/ (typical of northern Occitan: Lemosin, Auvernhat, Vivaroaupenc) vs. *cantar* /kanˈta/ (typical of southern Occitan: Lengadocian, Provençau, Gascon), and the neutralisation (in the Gascon and Lengadocian areas) or retention (elsewhere) of phonemic opposition between /b/ and /v/. Although usually discussed with reference to modern Occitan varieties, these dialect groupings may be assumed to hold for earlier periods, since many of the relevant isoglosses reflect changes dated to the pre-literary period.

2.1 Preterite forms in modern Occitan varieties

The majority of Occitan varieties retain a reflex of the Latin perfect indicative (e.g. CANTAUĪ 'sing. PFV.IND.1SG', FUĪ 'be.PFV.IND.1SG'). This reflex, here termed 'preterite', is today used as a perfective past form without present relevance (see e.g. Bras & Sibille 2022). As an overview of the system, table 1 shows illustrative forms for the three major conjugations (continuing Latin conjugations I, IV and III respectively) in six published dialect descriptions (Michalias 1907, Alibèrt 1976, Lavalade 1987, Bouras, Espinas, Bayle & Méjean 2002, Romieu & Bianchi 2005, Martin & Moulin 2007).

The commonalities between preterite forms in the majority of regions are striking. The Gascon system is unique in presenting a contrast between all three conjugations based on theme vowels: *cantèm* [kanˈtɛm] 'we sang' contrasts with *causim* [kawˈzim] 'we chose' and *batom* [baˈtum] 'we beat'. Elsewhere, preterite forms of all verb lexemes share a single series of desinences, characterised by the presence of a mid vowel /e/ or /ɛ/ and a rhotic consonant; preterite forms of the fourth conjugation are additionally distinguished by a thematic 'augment' /iɡ/ (Maiden 2004, Esher 2016), and in Provençal

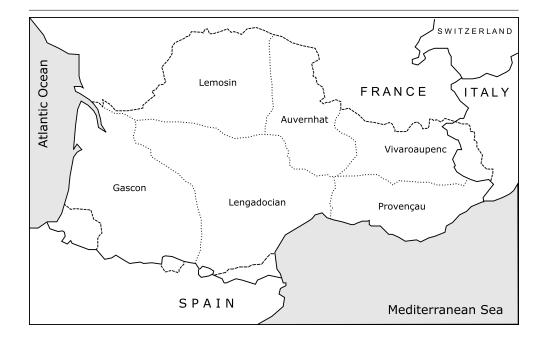**Figure 1**   Location of the traditional Occitan-speaking area, with conventional dialect groupings following Oliviéri & Sauzet (2016).

		Gascon	Lengadocian	Lemosin	Auvergnat	Vivaroaupenc	Provençal
I	1sg	*cantèi*	*parlèri*	*parlei*	*cramé*	*chantèro*	*parlère*
	2sg	*cantès*	*parlères*	*parleres*	*cramèras*	*chantères*	*parlères*
	3sg	*cantè*	*parlèt*	*parlet*	*cramé*	*chantèt*	*parlèt*
	1pl	*cantèm*	*parlèrem*	*parlerem*	*cramèren*	*chantèrem*	*parleriam*
	2pl	*cantètz*	*parlèretz*	*parleretz*	*cramèris*	*chantèretz*	*parleriatz*
	3pl	*cantèn*	*parlèron*	*parleren*	*cramèron*	*chantèran*	*parlèron*
IV	1sg	*causii*	*floriguèri*	*legiguei*	*partigué*	*legiguèro*	*finiguère*
	2sg	*causis*	*floriguères*	*legigueres*	*partiguèras*	*legiguères*	*finiguères*
	3sg	*causí*	*floriguèt*	*legiguet*	*partigué*	*legiguèt*	*finiguèt*
	1pl	*causim*	*floriguèrem*	*legiguerem*	*partiguèren*	*legiguèrem*	*finigueriam*
	2pl	*causitz*	*floriguèretz*	*legigueretz*	*partiguèris*	*legiguèretz*	*finigueriatz*
	3pl	*causín*	*floriguèron*	*legigueren*	*partiguèron*	*legiguèran*	*finiguèron*
III	1sg	*batoi*	*batèri*	*batei*	*vendé*	*vendèro*	*bateguère*
	2sg	*batós*	*batères*	*bateres*	*vendèras*	*vendères*	*bateguères*
	3sg	*bató*	*batèt*	*batet*	*vendé*	*vendèt*	*bateguèt*
	1pl	*batom*	*batèrem*	*baterem*	*vendèren*	*vendèrem*	*bategueriam*
	2pl	*batotz*	*batèretz*	*bateretz*	*vendèris*	*vendèretz*	*bategueriatz*
	3pl	*batón*	*batèron*	*bateren*	*vendèron*	*vendèran*	*bateguèron*

Table 1   Illustrative preterite forms for conjugations I (*cantar*/*chantar* 'sing', *parlar* 'speak', *cramar* 'burn'), IV (*causir* 'choose', *legir* 'read', *finir* 'finish', *partir* 'divide') and III (*batre*/*bàter* 'beat', *vendre* 'sell'). Data from Michalias (1907) for Auvergnat, Alibèrt (1976) for Lengadocian, Lavalade (1987) for Lemosin, Bouras et al. (2002) for Vivaroaupenc, Romieu & Bianchi (2005) for Gascon, Martin & Moulin (2007) for Provençal; orthography as in source.

varieties, preterite forms of the third conjugation may be distinguished by a thematic augment /eg/ (Esher 2016, 2021d). The close similarities between preterite forms across a wide area are suggestive of shared development in all dialect groups except Gascon.

The split between preterite forms in Gascon and in other Occitan varieties is an ancient one. Distinctive Gascon preterite forms are observable from the very earliest texts, and their emergence is thus dated to the pre-literary period (i.e. earlier than the 11th century; Bourciez 1927, Esher 2015, 2023b), several centuries earlier than any of the areal contrasts tracked for other dialect groups in sections 4 and 5. Detailed consideration of the historical development of Gascon preterites will therefore be left for future research. For the purposes of the present study, it is sufficient to note that these varieties show

differential development from a very early period.[1]

2.2 Identifying analogical changes in the preterite

The historical record for Occitan dialects is patchy, and secondary literature on the history of inflectional developments is correspondingly limited. A first step in identifying analogical changes which have historically affected the preterite is to compare the twentieth- and twenty-first-century forms, robustly attested in dialect descriptions and linguistic atlas data, with the mediaeval forms of the thirteenth century, robustly attested in literary and administrative texts (mostly from the Languedoc and Provence) and compiled in grammars designed to facilitate scholarly access to these texts (e.g. Anglade 1921, Skårup 1997).

Typical mediaeval forms of the major conjugational types are shown in table 2. At this period, a single series of desinences is already shared by preterite forms of conjugations I and III, originating in Latin weak -DEDĪ perfects, while preterite forms of conjugation IV retain a distinct series continuing etymological -IUĪ perfects (Wheeler 2012, Esher 2021b). These conjugational types are traditionally termed 'weak' in the sense of 'non-root-stressed', since all bear stress on the syllable immediately following the root. They contrast with so-called 'strong' types, in which the first person singular, third person singular, and third person plural forms are root-stressed, a stress alternation which in some verbs corresponds to a stem alternation (Esher 2015).

	I 'weak'	IV 'weak'	III 'weak'	'strong', sigmatic	'strong', velar
1sg	*cantiei*	*parti*	*vendiei*	*fís*	*aic*
2sg	*cantiest*	*partist*	*vendiest*	*fezist*	*aguist*
3sg	*cantèt, cantèc*	*partit, partic*	*vendèt, vendèc*	*fés*	*ac*
1pl	*cantém*	*partim*	*vendém*	*fezém*	*aguém*
2pl	*cantètz*	*partitz*	*vendètz*	*fezétz*	*aguétz*
3pl	*cantèro(n)*	*partiro(n)*	*vendèro(n)*	*feiro(n)*	*agro(n)*

Table 2 Illustrative mediaeval Occitan preterite forms for conjugations I (*cantar* 'sing'), IV (*partir* 'leave'), III (*vendre* 'sell') and two types of 'strong' preterites (based on data from Anglade 1921: 294, Skårup 1997: 110–116).

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1 Note that some authors (e.g. Chambon & Greub 2002) prefer to consider Gascon a separate language, based on distinctive sound changes during the pre-literary period. Early differentiation with respect to preterite inflection may be considered consistent with early phonological differentiation, independently of whether Gascon varieties receive the label 'language' or 'dialect'.

Comparing the mediaeval forms with the modern forms highlights a number of analogical innovations which are expected to apply in the intervening period, in all dialect groups considered here. For the weak conjugations, a rhotic consonant is introduced into all personal forms except the third person singular (and, in some northern varieties, the first person singular); the distinctive series of desinences for conjugation IV is replaced by the series shared with I and III; a thematic augment (usually of the form *-iss-* /is/ or *-igu-* /ig/) is introduced into forms of conjugation IV; and, in Provence, a thematic augment (usually of the form *-egu-* /eg/) is introduced into forms of conjugation III. The shared series of desinences is also introduced into the formerly 'strong' conjugations; stress and stem alternations previously characterising these conjugations are eliminated, and a velar-final root is commonly introduced, e.g. *faguèri* 'I did', *aguèri* 'I had' replacing earlier *fis*, *aic* (Esher 2015).

2.3 Chronology and directionality in inflectional analogy

In the diachrony of inflectional systems, analogical changes can be understood as inherently directional insofar as they involve the remodelling, reshaping or replacement of one or more 'target' forms on the basis of one or more 'models' or 'templates' (see e.g. Blevins & Blevins 2009: 4–6; Fertig 2013: 15–16, 43–51, 104; Esher 2023a: 59–63). In Occitan, for example, fourth-conjugation preterite forms are remodelled to match 'weak' first- and third-conjugation preterite forms (Esher 2016); and the erstwhile root-stressed 'strong' preterite forms of the first person singular, third person singular and third person plural in certain lexemes are reshaped based on the non-root-stressed preterite forms of the other persons in these same lexemes, as well as on the desinences of the 'weak' conjugations (Esher 2015).

Scholars of analogy in diachrony have historically been interested in the factors which constrain changes and determine the choice of models and targets, from type and token frequency to complexity and the cognitive representation of inflectional systems; a practical overview can be found in Fertig (2013: 102–121). However, rigorous investigation of the factors relevant to change can only proceed if models and targets for analogy are correctly distinguished. A salutary cautionary tale is offered by Bybee & Brewer's (1980) analysis of Occitan preterite data, which develops detailed theories concerning the mental representation of the relationships between person forms, based on an inaccurate assumption about the source and spread of the characteristic rhotic consonant (see Esher 2023a for discussion). Establishing the directionality of change is thus critical as a first step towards elucidating the mechanisms of inflectional analogy.

Of the suite of developments identified in section 2.2, all are unequivocally due to inflectional analogy, mostly of the type which Fertig (2013) terms 'extension': they involve redistribution of inflectional substrings from one inflectional class, paradigm category or set of inflected forms, to another. With multiple analogical changes affecting a given set of inflectional forms, Occitan preterite inflection should thus offer an instructive case study of interaction between analogical innovations. Comparative study of modern varieties usually allows identification of the inflectional substrings introduced or extended by analogy, but the sequence of changes is not always recoverable, precluding further investigation. In order to surmount this obstacle, longitudinal diachronic study is required.

3 Sources for diachronic study of Occitan preterite forms

No tagged electronic corpora are currently available for Occitan varieties during the historical period from the fourteenth to the nineteenth century during which analogical changes affect preterite forms. Longitudinal study must therefore rely on manual consultation of published texts from the relevant period (Esher 2021a,b,c,d).

As is typical for historical sources, the range of texts available for consultation is limited by constraints on the initial production and subsequent conservation of documents. For almost the entire period, literacy was confined to educated and high-status sectors of the population. Due to the costs associated with creating handwritten or printed documents, and to the specialist skills required for these processes, production was limited to texts considered of high significance for literary, cultural or administrative functions, and production was concentrated in major administrative centres, the majority of which were urban. Furthermore, this period is also one of gradual language shift from Occitan to French, a shift led by educated and urban sectors of society.

The surviving documents available to scholars today via published and digitised editions represent widely varying types and quantities of texts for different areas at different periods (Esher 2021b,d). During the fourteenth and fifteenth centuries, production focuses on administrative documents, historical chronicles, and religious mystery plays. In the sixteenth and seventeenth centuries, Occitan remains as a vehicle for religious and literary culture, in the form of hagiography, drama and narrative poetry. For the eighteenth century, both narrative and lyric poetry are well attested, together with religious doctrine and political propaganda using Occitan to communicate with the general population.

The shift in text types affects the range of inflectional forms attested (Esher 2021b). Third person singular forms predominate in administrative documents, while lyric poetry and the scripts of stage plays are more likely to contain first and second person forms. Lexical choices also have an indirect effect on the range of conjugational types represented: most verbs of conferring, paying, and oath-taking, typical of legal documents, belong to class I (e.g. *jurar* 'swear', *bailhar* 'give', *pagar* 'pay'), while verbs of class IV arise more frequently in religious texts which require discussion of notions such as obedience and suffering (e.g. *obeir* 'obey', *patir* 'suffer').

The fragmented nature of the textual record means that certain phenomena cannot be observed directly. Where precise dates are given, these correspond to dates at which a written document was produced, or at which a printed document was published (i.e. subsequent to initial production of the text), by skilled individuals who first acquired Occitan as children (i.e. at an earlier period) but whose date of birth is not always known. Thus, dates at which a given inflected form is attested in a text may not correspond directly to dates at which the form entered, or remained in, common usage; but instead, must be interpreted as dates prior to which the form had entered usage or remained in usage among the individuals responsible for text production.

4 Parallel longitudinal studies and results

Parallel longitudinal studies using attestations in historical documents to date analogical changes in preterite inflection are currently available for Occitan varieties spanning multiple different dialect groupings (figure 2). Within the Lengadocian grouping, the areas of Toulouse (on the border with Gascon; Esher 2021a), Quercy/Rouergue (north-west Lengadocian; Esher 2021b) and Montpellier (south-east Lengadocian, nearing the Provençau area; Esher 2021b) are represented. Within the Provençau area, data are available for varieties of the Rhône valley and for coastal varieties (Esher 2021d) as well as for the area of Nice (Esher 2021d), which is treated by some authors as forming a distinct subgroup of varieties (Del Giudice 2021). Comparable data are also given for varieties of the French Alps (Esher 2021d).

Overall, two distinct diachronic pathways emerge from these data. The first is found across multiple varieties from the Vivaroaupenc, Provençau and Lengadocian dialect areas (section 4.1), with two variants according to the local shape of the fourth-conjugation thematic augment (section 4.2). The second is confined to a small subpart of the Lengadocian dialect area around Toulouse (section 4.3). Each pathway is defined not only by the inventory and substance of the changes which occur in the preterite, but by the sequence in which these changes occur, and also by the approximate periods at which the
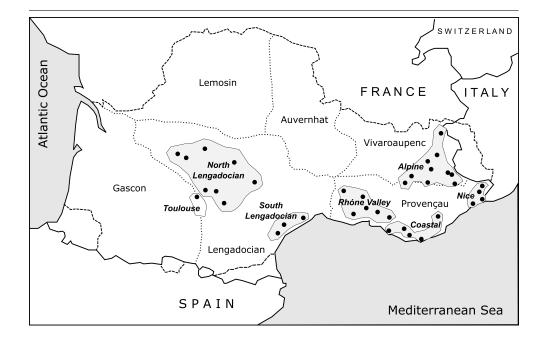
Figure 2 Locations of historical textual sources studied by Esher (2021a, 2021b, 2021d)

changes take place. Although the geographical incidence of neither pathway matches traditional dialect groupings, each reflects a geographic area across which the development of preterite inflection shows internal consistency over a period of several centuries: stable areal continuity within each of the two regions, and stable areal discontinuity between them.

4.1 The majority desinence type with rhotic consonants and mid vowels

The first pathway considered here is common to the north Lengadocian, south Lengadocian, Rhône valley/Coastal, Nice and Alpine areas (Esher 2021b,d), and involves a sequence of three major inflectional changes affecting preterite forms (table 3). The same set of changes is observed in all five geographical areas, and the changes occur in the same chronological order, indicating a single, cohesive development shared by all areas. The dating of certain changes shows a chronological gradation from west to east, with progressively later dates of attestation for more easterly areas. Although these datings must be treated with caution due to the limited range of inflected forms which are observable in the textual corpora, and the very low incidence of certain forms, they are suggestive of a developmental pathway in which preterite innovations arose in western varieties and rapidly diffused eastwards.

	North Leng.	South Leng.	Rhône/Coastal	Nice	Alps
Assimilation of strong preterites to weak preterite type (e.g. venc 'COME.PRET.3SG' → venguet)					
incipient	from 1446	from 1400	from 1431	post-1400, pre-1488	pre-1500
complete	pre-1584	pre-1628	post-1521, pre-1588	post-1524	post-1562
Generalisation of rhotic consonant to persons other than 3PL (e.g. cantiei 'SING.PRET.1SG' → canteri)					
incipient	post-1465/99	post-1372	post-1439	post-1542	post-1418, pre-1500
complete	pre-1518/84	pre-1628	pre-1588	pre-1642	post-1562
Last attestations of old conditional (e.g. aguera 'HAVE.COND2.3SG')					
	post-1465, pre-1584	1422	1464	1430	1495

Table 3   Dating of analogical changes affecting preterite inflection (Esher 2021b: Table 10).

The earliest attested change is the extension of weak preterite desinences (with or without a rhotic consonant) to verb lexemes which previously had strong preterite forms, e.g. *fezi* 'I did', *agui* 'I had', *venguet* 's/he came' for earlier *fis*, *aic*, *venc*. For all areas, this change begins during the fifteenth century, and is plausibly contemporaneous. In the Lengadocian and Rhône/Coastal

areas, it is positively attested in texts dating from the first half of the fifteenth century. For Nice, texts with preterite tokens for the relevant lexemes show only strong preterites in 1400, but instances of assimilation to the weak type in 1488, a window for emergence which is compatible with an early fifteenth-century date contemporary with the other areas, or a slightly later date in the second half of the fifteenth century. For the Alps, the date of emergence cannot be precisely observed, but must precede 1500. The completion of the change occurs during the mid-to-late sixteenth century. Here, the most interesting data come from the Rhône valley, where the change is demonstrably incomplete in 1521 but complete by 1588; the latter date closely matches what is observed for the western Lengadocian area, where the same change is demonstrably complete in texts from 1584. For the south-east Lengadocian area, no texts representing the period between 1400 and 1628 were available for study; the change is complete in texts from 1628 and plausibly occurred at a similar date to the surrounding areas, but cannot be positively dated with greater precision. For the Alpine area, the available textual record ends in 1562, at which point the change is not yet complete; thus, completion may have occurred by the late sixteenth century as in other areas, or later still.

The second change within this pathway is the introduction of desinences with a rhotic consonant into forms of the first and second person singular and plural. This change begins a little later than the assimilation of strong preterite forms to the weak type: the spread of rhotic desinences remains unattested in a north Lengadocian text dated to the period 1465–1499, in a Coastal text from 1439, and in a Niçois text from 1542, whereas the assimilation of strong preterite forms is positively attested from 1446, 1431, and 1488 respectively in these areas. However, in all areas for which positive attestations are available, completion dates for extension of the rhotic consonant match completion dates for the assimilation of strong preterite forms to the weak type: although one change begins before the other, both reach completion at the same period.

Related to the spread of the rhotic consonant through preterite forms is the loss of a separate paradigm category, the reflex of the Latin pluperfect indicative (e.g. CANTAUERAM 'I had sung'), used as a conditional in mediaeval Occitan (see e.g. Henrichsen 1955, Jensen 1994, Skårup 1997). For etymological reasons, this 'second conditional' has rhotic desinences in all personal forms. In most Occitan varieties, it is lost as a distinct category in the post-mediaeval period, only surviving into the twentieth century for certain lexemes in varieties at the periphery of the Occitan-speaking area (north Lemosin, Pyrenean Gascon, Italian Alps; Esher 2013). As noted by Allières (1971: 255), there is geographical correlation between the retention of the second conditional and the absence of rhotic desinences in the preterite. The

hypothesis of rhotic desinences in the preterite being due to merger between the preterite and the second conditional is defended by Esher (2021a) and the textual attestations obtained by Esher (2021b,d) support this hypothesis. In all areas for which attestations are available, the latest-dated attestation of a form unambiguously identifiable as a second conditional occurs between the start and end dates for the spread of rhotic desinences to the preterite: the second conditional is falling out of use as a distinct category during exactly the period at which rhotic desinences are becoming established in the preterite.

4.2 *The case of fourth-conjugation verbs*

A further two changes affecting the same group of varieties concern verbs with thematic vowel /i/, reflexes of the Latin fourth conjugation (table 4). Such verbs are attested in mediaeval Occitan with distinctive etymological preterite desinences in /i/, which are subsequently supplanted by desinences with a mid vowel originating in conjugations I and III. A large subclass of fourth-conjugation verbs also exhibits introduction of a thematic 'augment' (Maiden 2004) into preterite forms (Esher 2016). In the majority of varieties, the augment has the form *-igu-* /ig/ (e.g. *legiguèro* 'I read', table 1), while in the area of Nice and coastal Provence, the augment instead has the form *-iss-* /is/ (e.g. *finissèri* 'I finished'). These contrasting forms reflect different origins: *-igu-* is an analogical creation based on velar-final roots in lexemes with erstwhile strong preterite forms, while *-iss-* is analogically extended from other paradigm categories within fourth-conjugation lexemes (Esher 2016, 2021d).

	North Leng.	South Leng.	Rhône	Nice	Alps
Assimilation of weak preterites in -i- to weak type in -e-					
incipient	from 1339	from 1400	pre-1628	post-1400, pre-1543	post-1562
complete	pre-1548	pre-1628	pre-1628	post-1543	post-1562
Introduction of thematic augment -iss-/-igu-					
incipient	from 1339	from 1400	pre-1628	post-1543	[no data]
complete	pre-1548	pre-1628	pre-1628	post-1543	[no data]

Table 4   Dating of analogical changes affecting fourth-conjugation preterite inflection (Esher 2021b: table 10).

Verbs of this conjugation are sparsely attested in historical texts, and in many cases are entirely absent: thus, for Alpine varieties, while the latest-dated texts available indicate that fourth-conjugation verbs retained their distinctive desinences into the late sixteenth century, the subsequent development

of these forms cannot be observed or dated. For Nice, there is evidence that the loss of distinctive desinences in this conjugation began at some point after 1400 and before 1543, while the introduction of the augment *-iss-* and the completion of both changes occurred at some point after 1543 (Esher 2021d). An early grammar of Niçois, published in 1840 by an author born in 1796 (Gourdon 1975), indicates that the loss of distinctive desinences is fully established by the early nineteenth century, but provides no reliable indication concerning the presence or absence of a thematic augment in the preterite.

For the north Lengadocian, south Lengadocian and Rhône valley areas, textual attestations indicate that the loss of distinctive fourth-conjugation desinences and the introduction of a thematic augment occur within the same time-frame. In the north Lengadocian areas, both commence around 1339 and are fully complete by 1548; in the south Lengadocian area, both commence around 1400 and are complete at some point before 1628, suggesting a slightly later date for these changes. In the Rhône valley, while the first emergence of the forms cannot be observed, texts from 1628 indicate that both changes are already completed, potentially in step with the developments in the south Lengadocian. For these three groups of varieties, spanning Lengadocian and Provençal dialect areas, the substance, relative chronology and absolute chronology of changes are again entirely consistent.

4.3 Localised preterite type with velar consonants in the desinences

Traditionally classed within the Lengadocian dialect grouping are the varieties spoken in the area surrounding and extending south of the city of Toulouse (Alibèrt 1976). Historically, one of the characteristic features of these varieties is a unique series of preterite desinences with a velar consonant rather than a rhotic consonant. In the literature, velar desinences are traditionally attributed to analogical remodelling of all personal forms on the third person singular form in *-èc* (compare table 2; see Bybee & Brewer 1980, Esher 2021a, 2023a). The thematic augment found in fourth conjugation verbs usually has a distinct form *-isc-* /isk/ (also written *-isqu-*), but some varieties, principally those further south (see e.g Sicre 1909, Esher 2021a) retain distinctive desinences with theme vowel /i/ to this day.

Data from *Las Leys d'Amors*, a prescriptive grammar produced in 1356 (Anglade 1919) show that the generalisation of velar preterite desinences across all conjugations, including the loss of strong preterite forms, are well advanced and plausibly near completion by at least the mid-fourteenth century: a wide range of such forms are cited by the *Leys* in a long list of *peccatz* 'errors, failings' evidently frequent in usage but judged unsuited to literary endeavours (Esher 2021a). Velar preterite desinences in this area thus be-

	parlar 'speak', I	*florir* 'blossom', IV (conservative)	*florir* 'blossom', IV (innovative)	*batre* 'beat', III
1sg	*parlègui*	*florigui*	*florisquègui*	*batègui*
2sg	*parlègues*	*florigues*	*florisquègues*	*batègues*
3sg	*parlèc*	*floric*	*florisquèc*	*batèc*
1pl	*parlèguem*	*floriguem*	*florisquèguem*	*batèguem*
2pl	*parlèguetz*	*floriguetz*	*florisquèguetz*	*batèguetz*
3pl	*parlèguen*	*floriguen*	*florisquèguen*	*batèguen*

Table 5 Illustrative preterite forms for major conjugations in the area of Toulouse and Foix (Alibèrt 1976: 118, 124, 125, 130).

come established considerably earlier than the majority rhotic desinence type which develops in other areas during the fifteenth and sixteenth centuries.

Fourth-conjugation verbs are not explicitly discussed by Esher (2021a), and re-examination of the textual corpus used for Esher's study yields few attestations. Up until the end of the eighteenth century, the only fourth-conjugation forms attested are third person singular forms, the majority of which retain conservative desinences in *-ic*: *mouric* 'died', *souffric* 'suffered' (1641), *emplic* 'filled' (1744), *espelic* 'blossomed' (1757), *sourtic* 'went out' (1792), though occasional attestations of thematic augments occur: *remplisquec* 'filled' (1791), *mourisquec* 'died' (undated 18th century text). Nineteenth-century texts contain only forms with a thematic augment: *serbisquec* 'served' (1813), *seguisqueben* 'followed' (1820; a rare example of a third person plural form). These data indicate that the loss of distinctive fourth-conjugation desinences and the introduction of a thematic augment occur in Toulouse around the end of the eighteenth century. By contrast, equivalent developments affecting fourth-conjugation verbs in the adjoining north and south Lengadocian areas take place much earlier, during a window from the late fourteenth century to the early seventeenth century.

Overall, the developments observed in the variety of Toulouse differ sharply in both substance and chronology from those discussed in sections 4.1 and 4.2. The analogical changes undergone by preterite forms delineate two distinct pathways affecting distinct groups of varieties. Although these groups do not map well onto traditional dialect divisions, each remains stable and consistent over several centuries with respect to the development of the preterite.

5 INDICATIONS FOR LEMOSIN AND AUVERGNAT

At the time of writing, comparable (detailed, systematic) longitudinal studies of preterite forms in historical texts are not available for the remaining major dialect groups: Lemosin and Auvergnat, within the northern Occitan grouping. Some preliminary indications may nevertheless be gleaned from comparative data and from existing scholarly literature.

For Lemosin and Auvergnat, two broad types of preterite forms are attested in modern varieties (Esher 2021c): forms with rhotic desinences, as shown in table 1, and forms which instead have a dental consonant /t/ (e.g. *vendètem* 'we sold'). The forms with rhotic desinences closely resemble those found in the Lengadocian, Provençal and Alpine varieties discussed in section 4.1, and are thus expected to emerge via the same series of changes. The forms with /t/, found exclusively in the northern part of both dialect areas (Esher 2021c), are ordinarily attributed to analogical remodelling of all personal forms based on the third person singular in *-èt*, in a development parallel to the emergence of velar preterite forms in Toulouse (Bybee & Brewer 1980).

Regrettably, historical textual sources from the period between the fourteenth and nineteenth centuries, in which the majority of changes affecting the preterite are expected to occur, are rare for these dialects. For Lemosin, Chabaneau (1876: 278) asserts that the generalisation of a rhotic consonant through preterite desinences is only attested in texts from the seventeenth century onwards. The emergence of preterite desinences with a dental consonant in both Lemosin and Auvergnat appears to occur around the same period, and the two types of systems co-exist over a wide geographical area, sometimes even within a single speech variety, suggesting that they may have developed together, or that the /t/-series arises via analogical remodelling of the /r/-series (Esher 2021c). No precise date is available for the loss of the second conditional, which is still in use in some, though not all, Lemosin varieties in the late nineteenth century (Chabaneau 1876: 283–284).

For fourth-conjugation verbs, it is likely that the loss of distinctive desinences in /i/ is a relatively recent phenomenon, as in the area of Toulouse. The late-nineteenth-century paradigms given by Chabaneau (1876: 239) do not include forms with a thematic augment, while for the late twentieth century, Lavalade (1987) notes variation between speakers in some Lemosin varieties as to whether the preterites of fourth-conjugation verbs have a distinctive theme vowel /i/ (e.g. *sentítes* 'you.SG felt', *partítes* 'you.SG left') or a thematic augment (e.g. e.g. *sentissètes* 'you.SG felt', *partiguètes* 'you.SG.left').

The overall impression gained from these data is of a similar inventory and sequence of changes to those described in sections 4.1 and 4.2, but oc-

curring at a substantially later date. In a first group of changes, beginning around the sixteenth and seventeenth centuries, and largely complete by the nineteenth century, strong forms are assimilated to weak forms (Chabaneau's grammar mentions no remaining strong forms), and personal desinences undergo remodelling. Two sub-pathways are discernable, each spanning part of both dialect groups. In the south, remodelling occurs via fusion with the second conditional as it recedes from use, comparable to the changes observed in Lengadocian, Provençau and Alpine varieties. In the north, an additional, localised, idiosyncratic development occurs in the form of the /t/-preterites, which emerge based on analogy with the third person singular form. In a second group of changes, beginning in the late nineteenth century and continuing into the twentieth for both sub-pathways, fourth-conjugation preterite forms acquire a thematic augment and the series of desinences found in preterites of all other conjugational types.

6 Conclusions

The longitudinal studies reported here were initially motivated by the needs of research on the phenomenon of analogical change in inflectional morphology. Inflectional analogy is understood as a directional process, constrained and motivated by the structured interrelationships between inflected word-forms (Blevins & Blevins 2009, Blevins 2016, Fertig 2013, 2016, Maiden 2018, Esher 2022, 2023a). The study of inflectional analogy, particularly when dealing with multiple changes affecting a single paradigm category or form, relies on robust identification of the directionality and sequence of analogical innovations, in order to differentiate between models offering templates for analogy, and targets which are vulnerable to analogical remodelling. In the case of the Occitan preterite, longitudinal studies based on historical textual attestations lay a firm empirical foundation for theoretical enquiry about the factors and motivations relevant to analogical change. These studies identify the relative and absolute chronology of changes affecting the preterite, showing that weak forms act as models for strong forms, and that fourth-conjugation verbs are often more conservative, retaining their distinctive forms for long periods before undergoing remodelling to match the majority weak type. The studies also confirm the systematic interconnectedness of certain changes, such as the loss of the second conditional and the introduction of rhotic desinences into the preterite, or the loss of distinctive fourth-conjugation desinences and the introduction of a thematic augment.

Because the studies are strictly parallel, they also facilitate comparisons from a dialectological perspective. Comparative data indicate that preterite forms in the majority of Occitan varieties instantiate similar systems, in which

preterite forms of all verb lexemes share a single set of desinences, usually characterised by a mid vowel and a rhotic consonant, and in which preterite forms of fourth-conjugation lexemes are distinguished by a novel thematic augment, usually /iɡ/. Such consistency in the organisation of the inflectional system is striking for a language known to exhibit considerable diatopic variation, and is strongly suggestive of either shared or parallel development.

The datings obtained from longitudinal study offer a new perspective on the remarkable consistency of Occitan preterite forms. For one group of varieties (North Lengadocian, South Lengadocian, Rhône valley/Coastal, Nice, Alps), a given set of changes is shown to occur not only in the same sequence but at the same or similar historical periods, indicating that this is a development undergone near-simultaneously across a large part of the Occitan-speaking area. Changes affecting fourth-conjugation verbs, however, are shown to be independent, occurring with differing inflectional material (augment /iɡ/ or /is/) and at differing time periods in two separate subgroups, one including the north and south Lengadocian and the Rhône valley, the other unique to Nice. In northern Occitan varieties (Lemosin, Auvergnat), the same set of changes occurs in the same sequence, but at a later period, indicating either diffusion of changes from southern varieties, or independent parallel development. Finally, in a small cluster of Lengadocian varieties around Toulouse, an almost entirely unique set of changes are attested. Some distributional elements of the changes in Toulouse are familiar from other Occitan varieties, such as the progressive generalisation of a single series of desinences across all lexemes, from classes I and III to erstwhile 'strong' forms and finally class IV, with the introduction of a thematic augment; yet the shape and source of the desinences, characterised by a velar consonant, and of the thematic augment /isk/, are unique to this area, as is the chronology of the sequence, in which velar desinences are established at an early period, while changes to fourth-conjugation verbs are relatively recent.

In this way, longitudinal study of specific inflectional characteristics reveals stable, long-standing contrasts between the linguistic systems of different areas within a dialect continuum. The case study of the preterite, reported here, indicates at least four geographical groups which consistently contrast in inflectional development: Gascon varieties; Lengadocian varieties in the area of Toulouse; Lemosin and Auvergnat varieties; and a large group comprising Alpine and Provençau varieties together with all Lengadocian varieties except those around Toulouse. While some areas correspond to one or more of the traditional dialect divisions, others split existing dialect groups or span multiple dialect groups and subgroups. These findings illustrate how

investigation of genuinely morphological characteristics complements existing study of more familiar lexical and phonological characteristics, and also how long-standing dialect realities can emerge from the study of historical change. The stable areal continuities and discontinuities identified here only become visible via parallel longitudinal study tracking inflectional characteristics in multiple varieties over an extended period.

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