



Mooney, D. (2021). Phonetics and phonology of Romance languages: Occitan. In C. Gabriel, R. Gess, & T. Meisenburg (Eds.), *Manual of Romance Phonetics and Phonology* (pp. 709-742). (Manuals of Romance Linguistics). de Gruyter.
<https://doi.org/10.1515/9783110550283>

Peer reviewed version

Link to published version (if available):
[10.1515/9783110550283](https://doi.org/10.1515/9783110550283)

[Link to publication record in Explore Bristol Research](#)
PDF-document

This is the author accepted manuscript (AAM). The final published version (version of record) is available online via De Gruyter at <https://doi.org/10.1515/9783110550283> . Please refer to any applicable terms of use of the publisher.

University of Bristol - Explore Bristol Research

General rights

This document is made available in accordance with publisher policies. Please cite only the published version using the reference above. Full terms of use are available:
<http://www.bristol.ac.uk/red/research-policy/pure/user-guides/ebr-terms/>

Damien Mooney

21 Occitan

Abstract: This chapter details the phonological system of southern Gallo-Romance, or Occitan, a language traditionally spoken throughout the south of France and in parts of Spain and Italy. It begins by outlining the external history of the language, its principal dialects and sub-dialects, the glottonyms used to refer to the language, and its representation in written form; supra-dialectal groupings are also proposed. The historical linguistic developments that characterize the major dialects and supra-dialectal groupings are then presented, before a detailed discussion of the modern consonantal, vocalic, and glide/diphthong inventories. Within the discussion of the modern phonological system, extensive information on the phonetic realization of phonemes across geographical space is provided. Finally, the suprasegmental phonology of Occitan is presented, including stress placement, prosodic organization, nuclear configurations and applications, and contact-induced prosodic change.

Keywords: Occitan, southern Gallo-Romance, phonological variation, phonetic variation, standardization.

1 Introduction

Occitan is the name commonly given to the varieties of southern Gallo-Romance traditionally spoken in the south of France, but also in parts of Italy and Spain. Over the course of the 20th century, Occitan has found itself in an increasing state of language obsolescence, resulting in domain restriction, a reduction in speaker numbers, and the transfer of linguistic features from French. It is extremely difficult to estimate speaker numbers for Occitan but recent work has cautiously estimated that there are around 500,000 native speakers in total (Martel 2007), with the vast majority of these speakers being over the age of seventy and rural dwellers. Active competence among younger generations is rare, but since the 1980s, some public schools and private *Calandretas* (immersion-education schools) have been offering bilingual Occitan-French education, primarily at primary school level.

This chapter details the phonetics and phonology of Occitan and its varieties, focusing both on the commonalities between phonological systems over geographical space and the high levels of variation observable. It begins with an external overview of the history of Occitan and its dialects (Section 2), followed by a historical phonological justification of the major dialectal and sub-dialectal divisions within this language sub-family (Section 3). The consonantal and vocalic inventories are discussed in detail (Section 4), with cross-dialectal comparisons

included in each section, followed by a discussion of the prosodic organization of the language (Section 5).

2 Contextual background

By the 10th century, the varieties descended from the Vulgar Latin spoken in Gaul had become strongly diversified along regional lines, leading to the development of three broad dialect areas for Gallo-Romance (cf. Figure 1). The most significant division within Gallo-Romance is between the *langue d’oc* (commonly referred to as ‘Occitan’) in the south, and the *langue d’oil*, in the north. The third, eastern area, *francoprovençal*, shares features of both northern and southern dialects, as well as independent developments which distinguish it from both.

< Insert Figure 1 approximately here >

Figure 1. The Gallo-Romance Languages (Mooney, 2016)

Within the Occitan area, many dialectal and sub-dialect divisions have been proposed, as well as supra-dialectal classifications that group and re-group Occitan varieties, to which we will now turn.

2.1 Dialectal divisions and sub-divisions

The modern *langue d’oc* area is commonly divided into six main dialects (cf. Figure 2): Gascon in the southwest; central Lengadocian; Lemosin and Auvernhat in the north of the *Oc* region; Provençal in the southeast; Vivaro-Alpin or *provençal alpin*, above the Provençal region. Additional principal dialects have been proposed, e.g. Aquitanian (Ford 1921, 1; Coustenable 1945, 11), but this would be included within the Gascon dialect area by most other classificatory systems.

< Insert Figure 2 approximately here >

Figure 2. The Gallo-Romance Dialect Areas (Mooney, 2016)

The six main Occitan dialects have been shown, to a certain extent, to have a common structural base (cf. 3), but they are frequently grouped together on the basis of common phonological developments. Bec (1963, 37) proposes regrouping Occitan into three supra-dialectal divisions: *nord-occitan*, including Lemosin, Auvernhat, and Vivaro-Alpin; *occitan moyen*, including Lengadocian and Provençal; Gascon stands alone. Oliviéri/Sauzet (2016, 319) mirror this classification, making a distinction between northern Occitan, southern Occitan, and Gas-

con. Sampson (1999, 139) proposes four supra-dialectal groupings, separating Lengadocian, Provençal, and Gascon, but maintaining a *nord-occitan* group on the basis that Lemosin, Auvernhat, and Vivaro-Alpin “form something of a linguistic continuum with a good deal of overlapping of linguistic features”. Wheeler (1988, 246), on the other hand, proposes a bipartite supra-dialectal division between northeastern Occitan, including Lemosin, Auvernhat, Vivaro-Alpin, and Provençal, and southwestern Occitan, including Lengadocian and Gascon. Nonetheless, within each dialectal area, many sub-dialectal divisions and classifications have been proposed.

For the three northern varieties, *nord-occitan*, various sub-dialects can be identified: “le limousin a pour sous-dialectes: le bas-limousin, le haut-limousin, le périgourdin et le marchois. L’auvergnat a pour sous-dialectes: le cantalien, le limagnien, le velaunien et le forézien. Le [Vivaro-Alpin] a pour sous-dialectes: le briançonnais, le diois, le valentinois et le vivarais” (Ford 1921, 1). There is substantial variation regarding these sub-dialectal divisions, both in terms of their geographical limits and, indeed, in terms of the names that the sub-dialects are given. Many further sub-divisions have also been proposed; for example, Quint (1999, 1–2), working on the a variety of Vivaro-Alpin that he calls *albonnais*, provides the following classification framework: Occitan (*langue*) > Vivaro-Alpin (*dialecte*) > *vivaro-dauphinois* (*sous-dialecte*) > *vivaro-vellave* (*groupe de parlers*) > *boutiérot* (*sous-groupes de parlers*) > *albonnais* (*parler*). The northern limits of the *nord-occitan* area constitute a transition zone, often referred to as the *croissant*, between the *langue d’oc* and *langue d’oil*, where intermediate linguistic forms are commonly found (Bec 1963, 13; cf. 3.1).

Bec (1963, 45) proposes four sub-dialectal groupings within Lengadocian: *languedocien méridional* (central, toulousain, fuxéen, donésanais, narbonnais); *languedocien septentrional* (rouergat, gévaudanais, aurillacois), which constitutes a transition zone into the *nord-occitan* area; *languedocien occidental* (agenais, quercinois, albigeois); *languedocien oriental* (biterrois, montpelliérain, cévanol), which transitions into Provençal. Provençal is commonly divided into four sub-dialects: *rhodanien*, spoken in the west of the province; *maritime*, spoken in the central part of the province; *bas-alpin* or *gavot*, spoken in the lower Alps; *nissart* spoken in and around Nice. Bec (1963, 47) makes a distinction between (*provençal*) *maritime* (spoken along the coast) and *central*, bordered by *maritime* to the south, *rhodanien* to the west, and *bas-alpin* to the east. Equally, the variety of Provençal traditionally spoken in Marseille is sometimes singled about as an autonomous sub-dialect (Ford 1921, 1). *Rhodanien* is, of course, the basis of Frédéric Mistral’s *Trésor* and has acted as a reference point for many works on Occitan (e.g. Ford 1921; Coustenoble 1945).

One commonality in all taxonomies is that Gascon is considered as separate from other Occitan dialects, primarily because it is the most divergent in terms of its phonological and morphosyntactic structure (Rohlf, 177; Walter 1988, 153).

From as early as the 14th century, Gascon has been referred to as “un lengatge estranh”, by Guilhem Molinièr in the grammatical treatise *Las Leys d’Amors* (1356), but the explanation as to why Gascon contains such highly divergent linguistic features has been much debated (cf. 3.3). Lodge (1993: 68) notes that numerous factors seem to be at play: the pre-Latin Aquitainian (rather than Gaulish) substratum; the post-Latin Basque superstratum resulting from the Basque invasion of the area between the Garonne and the Pyrenees from the 6th to the 9th centuries; close communication networks with Romance-speaking populations south of the Pyrenees. Many sub-dialects of Gascon can also be identified, such as Bordalés, traditionally spoken in the Bordeaux area, *lo parlar negre* (‘the black language’), spoken primarily in the western part of the *département des Landes*, and Biarnés, the principal surviving dialect of Gascon, spoken in the region of Béarn.

Outside of France, Occitan dialects are also spoken in about 16 valleys in the provinces of Cuneo and Turin in Italy (Oliviéri/Sauzet 2016, 319), in the Val d’Aran in the Generalitat de Catalunya, Spain, and in Guardia Piemontese (La Guardia) in Calabria, southern Italy (Bec 1963, 13; Oliviéri/Sauzet 2016, 319).

2.2 Occitano-Romance

In Section 2.1, we noted that Bec (1963) proposed three supra-dialectal groupings for Occitan: *nord-occitan*, *occitan moyen*, and Gascon; in fact, Bec (1963) also includes Catalan (###22 Catalan) in his taxonomy. Although the classification of Occitan as Gallo-Romance and Catalan as Ibero-Romance is common, some scholars criticize the justification for this decision as superficial. Posner (1996, 24) is not alone in maintaining that “the end-result looks suspiciously like areal grouping”, and Judge (2007) defends the notion that Catalan and Occitan should in fact form their own separate sub-branch of Romance. Many studies, including Bec (1963) and Sumien (2006), have emphasized the common diachronic developments in, and strikingly similar synchronic structures of, Occitan and Catalan: “whereas a ‘Proto-Occitan-Catalan’ is a quite plausible concept, a ‘Proto-Occitan-French’ (excluding Catalan) certainly is not” (Harris 1988, 16). On this basis, “Occitano-Romance” has been proposed as a sub-language family in its own right, distinct from Gallo- and Ibero-Romance, or, in some cases, as a sub-grouping within Gallo-Romance. Bec (1963, 55–58) takes this argument further, proposing two supra-dialectal areas within Occitano-Romance, on the basis of common phonological developments in each area: *alverno-méditerranéen* (later *arverno-méditerranéen*; Bec 1973, 18–19), including *nord-occitan* and Provençal, and *aquitano-pyrénéen*, including (Pyrenean) Lengadocian, Gascon, and Catalan. This division is mirrored, to some extent, by the northeastern-southwestern supra-dialectal areas proposed by Wheeler (1988; cf. 2.1). Within the *aquitano-*

pyréen grouping, which is said to have Gascon at its centre (“centré autour du gascon”) (Bec 1973, 18), geographically restricted Pyrenean Lengadocian is identified as a transition variety between Gascon and Catalan (“le ‘pont’ naturel entre gascon et catalan”) (Bec 1973, 19), but the rest of the Lengadocian dialect is singled out as particularly conservative, emphasising the structural parallels between the Gascon dialect and Catalan.

2.3 Glottonyms and orthographical conventions

A wide variety of glottonyms are used to refer to southern Gallo-Romance, with native speakers often attesting simply that they speak *patois* or, sometimes, they will refer to the name of the local variety, e.g. *le béarnais* or *le montpelliérain* (cf. 2.1). The term “Provençal” was widely used in the medieval period and was revived by Romanists in the 19th century; this term is still used by some English speakers today, to designate the entire *langue d’oc* continuum (Harris 1988, 16). In modern usage, this term only refers to the main Provençal dialect area. The modern use of the term “Occitan” was born of the Occitanist movement which began largely with the establishment of the *Institut d’Estudis Occitans* after the Second World War. The term “Occitan” is the modern reflex of the Latin word *occitanus*, attested as early as 1286 in the Testament of Lancelot d’Orgemont (“*more partiae occitane*”), referring to the “*lingua de hoc*” (‘*langue d’oc*’). The Occitanist movement considers “Occitan”, the unifying name used to designate all *langue d’oc* dialects, to be a single language. The standardization of modern Occitan began in the early 20th century and the orthographical standard is based on medieval representations of central *langue d’oc* dialects together with some modern Lengadocian: “today Occitan is mostly written using the so-called ‘classical orthography’ as defined by Louis Alibert (Alibert [1935] 1976; 1965; Lafont 1971; see also Kremnitz 1974 for a historical perspective on Occitan writing systems)” (Oliviéri/Sauzet 2016, 319). The term “Occitan” and the orthographical standard are frequently a source of ideological conflict between Occitanist organizations and grass-roots movements in the regions that focus on individual varieties, often considering them to be languages in their own right, e.g. The *Institut Béarnais et Gascon* in Béarn or The *Unioun Provençalo*. Nonetheless, I will use the term ‘Occitan’ and the standard ‘classical’ orthographical system here, without their associated ideological implications, as they are the most commonly employed in the academic sphere.

3 Linguistic background

Occitan displays many historical developments in its linguistic evolution that distinguish it in phonological terms from the other Romance languages and, in particular, from Catalan and French. This section will serve to summarize these developments and, in 3.1–3.4, to outline the major phonological developments, from a historical perspective, within the main supra-dialectal areas.

Occitan exhibits the following phonological characteristics in its phonological structure when compared with the other Romance languages (adapted from Bec 1963, 24; cf. Ronjat 1937):

- The rounded mid-vowels /ø/, /œ/, and /o/, and the low vowel, /ɑ/, are largely absent from the phonological inventory;
- Palatalization of stressed Latin U has resulted in a close front rounded vowel phoneme /y/, common to other varieties of Gallo-Romance, e.g. DURUS > *dur* /dyr/ ‘hard’;
- Latin VN sequences are largely maintained as a partially nasalized oral vowel with a following consonantal segment, e.g. TEMPUS > *temps* /tens/ ‘time’;
- Diphthongization, during the Middle Ages, of stressed Latin E and O in specific environments (primarily before palatal consonants and less commonly before velar consonants ([w] or [k]), e.g. VETULU > *vielh* /bjeʎ/ ‘old_{M.SG}’; LECTU > *lieit* /ʎejt/ ‘bed’;
- No diphthongization of Vulgar Latin /e/ and /o/, e.g. DEBERE > *déver* /‘debe/ ‘have_{TOINF}’; FLORE > *flor* /flu/ ‘flower’;
- Vulgar Latin /o/ closes to [u], e.g. DOLORE > *dolor* /du‘lu/ ‘pain’;
- Latin stressed A is maintained, e.g. PRATU > *prat* /prat/ ‘meadow’; CAPRA > *cabra* /‘kabrɔ/ ‘goat’;
- Retention of Latin final unstressed -A (lost in standard French), e.g. PORTA > *pòrta* /‘pɔrtɔ/ ‘door’;
- No syncope in phrase-internal or phrase-final syllables (cf. French), e.g. *une petite femme sur la fenêtre* /yn.ptit.fam.syβ.la.fnɛtɐ/ ‘a little women in the window’ (6 syllables); *una petita femna sus la finèstra* /y.nɔ.pe‘ti.tɔ.‘fennɔ.sys.la fi‘nɛs.trɔ/ (12 syllables);
- No proparoxytons (words stressed on the antipenultimate syllable); stress usually on the penultimate syllable (cf. 5.1): “l’occitan, sous cet aspect, s’oppose essentiellement à l’espagnol et à l’italien” (Bec 1963, 28), e.g. Oc. *pagina* /pa‘dʒinɔ/, It. *pagina* /‘padʒina/ ‘page’;

- /ɔ/ closes to [u] in pre-tonic position, e.g. *pòrc* /'pɔrk/ 'pig' vs. Gasc. *porqueria* /purke'rijɔ/ 'mess' or 'pig shed'.

In addition to these eleven phonetic/phonological traits that characterize Occitan, Bec (1963, 24–30) also details five morphological, one syntactic, and two lexical features (as described by Ronjat 1937). While Occitan is commonly grouped with French as a Gallo-Romance variety, it is clear that, in some ways, it shares more linguistic affinity with the other Romance languages (cf. 2.2).

3.1 Northern Occitan

This section describes the key historical phonological developments in the northern Occitan supra-dialectal grouping, or what Bec (1963) has called *nord-occitan*, including Lemosin, Auvergnat, and Vivaro-Alpin. These three dialects exhibit common features that justify their supra-dialectal classification (adapted from Bec 1963, 37):

- Palatalization of Latin CA and GA sequences to /tʃa/ and /dʒa/ respectively, e.g. CANTAT > *canta* [tʃanta] 'sing_{3SG.PRS}'; GALLINA > *galina* [dʒa'lina] 'chicken';
- Deletion of Latin intervocalic -D- (via [z]) in Vivaro-Alpin (cf. Francoprovençal), e.g. CREDEMUS > *credem* [kre'jɛm] 'believe_{1PL.PRS}'; VIDEMUS > *vedem* [ve'jɛm] 'see_{1PL.PRS}', with subsequent epenthesis of [j] to avoid hiatus. This development also affects past participles with intervocalic [d] < Latin -T-, e.g. *cantada* [tʃan'tajɔ] 'sing_{PTCP-PST.F.SG}';
- Retention of /v/ as a contrastive phoneme, distinct from /b/, except in southern Auvergne, e.g. LAVARE > *lavar* [la'va] 'wash_{INF}', not *[la'ba];
- Noun pluralization not marked or marked by vowel length and/or quality rather than by /-s/ morpheme, except in Vivaro-Alpin, e.g. Lim. *vacha* [vatʃɔ] 'cow_{SG}'; *vachas* [vatʃa:] 'cow_{PL}', not *[vatʃɔs].
- /l/ vocalization in final position, which also occurs in Provençal and Gascon, e.g. SALEM > *sal* [saw] 'salt'; intervocalic /l/ may be realized as [r], [ʎ], or [w], e.g. PALA > *pala* ['paɾɔ], ['paʎɔ], or ['pawɔ] 'blade';
- /s/ is deleted in pre-tonic syllables when followed by the voiceless plosives /p t k/, e.g. CASTELLUM > *chastèl* [tʃa'tɛw] 'castle'; SPIARE > *espiar* [e'pja] 'look_{INF}'; SCHOLA > *escòla* [e'kɔlɔ] 'school';
- First person singular inflectional morpheme /-i/ is realized as [-e] in Lemosin and Auvergnat, e.g. *chante* [tʃante] 'sing_{1SG.PRS}', and as [-u] in Vivaro-Alpin, e.g. *chantu* [tʃantu].

In *bas-limousin*, the Latin CT > /tj/ change, e.g. FACTU > /fatj/ ‘do_{PTCP-PST.M}’, has largely taken place, with /tj/ commonly realized as [ts], e.g. *fach* [fats]. In *marchois*, however, in the extreme north of the Lemosin area, /tj/ is realized as [jt] (Bec 1963, 41; cf. 3.3). Lemosin also maintains plural marking, especially for feminine nouns, with /-ɔs/ realized as [-ɑ:], involving a change in vowel quality and compensatory lengthening due to the loss of final /-s/, e.g. *la jalina* [dʒa'liɔ:] ‘hen_{SG}’; *las jalinas* [dʒa'liɔ:] ‘hen_{PL}’. In some varieties, plural marking involves a change in the stressed syllable, e.g. *galinas* [dʒali'na:] ‘chicken_{PL}’.

Auvergnat is said to be less conservative than Lemosin (Bec 1963, 42), primarily due to palatalization of /s z t d l n k g/ before /i/ and /y/ and the palatalization of /p b f v/ before /i/, e.g. *libre* [ljibre] ‘book’; *dire* [djire] ‘say_{INF}’. In *bas-auvergnat*, diphthongs are reduced, e.g. *paire* [‘pere] ‘father’; *aiga* [‘igo] ‘water’, and fully nasalized vowels from Latin VN are common (cf. 4.2.4). In *haut-auvergnat* varieties, /s/ is maintained in medial pre-tonic codas before the voiceless plosives, e.g. CASTELLUM > *chastèl* [tsas'tɛ(r)] ‘castle’.

Finally, Vivaro-Alpin varieties distinguish themselves from other *nord-occitan* dialects by exhibiting some Francoprovençal features (e.g. deletion of Latin intervocalic -t-) and the realization of /l/ as [r] or [r̥] before labial consonants and intervocalically (Bec 1963, 43), e.g. *balma* [‘barmɔ] ‘cave’. Final consonants are frequently maintained and /s/ is variable in pre-tonic syllable codas before /p t k/. Extremely rare in the Occitan domain is the retention of final [-r] in verbal infinitives, e.g. *cantar* [tʃantar] ‘sing_{INF}’ making Vivaro-Alpin, in this respect, one of the most conservative Occitan dialects vis-à-vis Latin.

3.2 Southern Occitan

Southern Occitan, or *occitan moyen*, includes the Lengadocian and Provençal dialects. This supra-dialectal area is noted to include the most conservative varieties (Bec 1963, 44), and is characterized by the following phonological developments (adapted from Bec 1963, 44):

- Latin CA and GA sequences are not palatalized, e.g. CAPRA > *cabra* [‘kabɔ] ‘goat’; GALLU > *gal* [gal] ‘rooster’;
- /s/ is maintained in clusters with /p t k/, with some realizations as [h] in the north of the Lengadocian domain;
- Pre-tonic Latin A maintains its quality as [a], with some velarization to [ɔ] in the north of the domain, e.g. *castèl* [kas'tɛl] ‘castle’, but [kɔs'tɛl] in Rouergue;
- No consonantal palatalization, including /s/, except in the Périgord;

- Diphthongs and triphthongs are often maintained, e.g. *paire* [pajre] ‘father’; *puei* [puej] ‘then’ (cf. *puei* [pej] in Toulouse);
- Intervocalic /l/ is maintained, e.g. *bèla* ['bɛlɔ] ‘beautiful_{F,SG}’.

These examples demonstrate that the features that characterize southern Occitan involve primarily the maintenance of traditional phonological forms, making this supra-dialectal area one of the most conservative from a structural perspective. Bec (1963, 44) notes that the Lengadocian dialect is most conservative and labels this dialect “l’occitan moyen par excellence”. The following examples illustrate the primary differences between Lengadocian and Provençal from a historical phonological perspective (adapted from Bec 1963, 45–47):

- Retention of final /-s/ as the noun pluralization morpheme in Lengadocian, e.g. *pòrtas* ['pɔrtɔs] ‘door_{PL}’, but loss in Provençal, e.g. ['pɔrtɔ];
- Final /-n/ < Latin intervocalic -N- is frequently deleted in Lengadocian, e.g. *pan* [pa] ‘bread’, but is maintained in Provençal, e.g. [pãn];
- Final /-l/ is not vocalized, e.g. *ostal* [u'stal] ‘house’, which distinguishes Lengadocian from Gascon and Provençal, e.g. [u'staw];
- Labio-dental /v/ has merged with /b/ in Lengadocian, e.g. *lavar* [la'βa] ‘wash_{INF}’, but is maintained in Provençal, e.g. [la'va];
- Final consonants are largely realized in Lengadocian, e.g. *vengut* [beŋ'gyt] ‘come_{PTCP-PST.M.SG}’, but dropped in Provençal, e.g. [veŋ'gy].
- Definite articles are *los* [lus] ‘the_{M,PL}’ and *las* [las] ‘the_{F,PL}’ in Lengadocian, but polyvalent *lei* [li] or [lej] in Provençal.

3.3 Gascon

Gascon is the most divergent of the Occitan dialects; it exhibits a wide range of phonological and morphosyntactic developments that distinguish it from the rest of southern Gallo-Romance. The key phonological developments will be dealt with in this section, with more detailed information on sub-dialectal variation in Gascon reserved for Section 4 (adapted from Bec 1963, 48):

- Latin F became a fully aspirated glottal fricative, [h], in Gascon, word-initially before a vowel and in intervocalic position, where it remained [f] in other dialects, e.g. FARINA > *haria* [ha'rijɔ] ‘flour’; CALEFACERE > *cauhar* [kaw'ha] ‘heat_{INF}’;
- Latin intervocalic -n- in (primarily) late-closed syllables is lost in Gascon, e.g. FENESTRA > *hièstra* ['hjestrɔ] ‘window’;

- Latin -LL- becomes an apical tap or trill [r r] in Gascon feminine nouns where it becomes [l] in other dialects (Molyneux 2002, 26), e.g. PULLA > *pora* [pu'rɔ] 'chicken'; in masculine nouns, -LL- becomes a palatalized affricate [tʃ] when it occurs in coda position as a result of apocope (Grosclaude 1986, 9), e.g. CASTELLUM > *castèth* [kas'tetʃ] 'castle'; in most modern varieties of Gascon, this has further simplified to [t], e.g. [kas'tet], with more conservative varieties using [tʃ], e.g. [kas'tetʃ] in Couserans and Comminges, or [tʰ], e.g. [kas'tetʰ] in Béarn.
- Latin -MB- and -ND- sequences became [m] and [n] respectively in Gascon while they remained [mb] and [nd] in the rest of the Occitan dialects, e.g. CUMBA > *coma* ['kumɔ] 'valley'; RETUNDA > *arredona* [ar:e'dunɔ] 'round';
- For Latin R- in word-initial position, the syllable onset is strengthened in Gascon to a trill prefixed by [a-], which does not occur in Occitan, e.g. REGEM > *arrei* [a'rej] 'king'. This is suspected to be due to contact with Basque, e.g. *errege* 'king', and is also comparable to Spanish, where Latin R- is always realized as a trill [r], not a tap [r̄].
- Final /-l/ is not vocalized, e.g. *ostal* [us'taw] 'house';
- Latin QU- sequences are maintained as /kw/ and do not evolve to simplex /k/, e.g. QUATTUOR > *quatre* ['kwate] 'four'; note also that /r/ is frequently elided in final post-tonic clusters when it precedes the unstressed vowel /e/, e.g. ALTER > *autre* ['awte] 'other_{SG}'.

3.4 Occitano-Romance supra-dialects

The two major supra-dialectal groupings within Occitano-Romance, proposed by Bec (1963; 1973), *alverno-méditerranéen*, including northern Occitan, Provençal, and parts of Lengadocian, and *aquitano-pyrénéen*, including Pyrenean Lengadocian, Gascon, and Catalan are characterized primarily in terms of their differing phonological developments (adapted from Bec 1973, 18–19):

- Latin -CT- evolved to [jt] in *aquitano-pyrénéen*, e.g. FACTU > *fait* [fajt] 'do_{PTCP-PST.M.SG}' or [hejt], but palatalized to [tʃ] in *alverno-méditerranéen*, e.g. *fach* [fatʃ];
- The Occitan diphthong /aj/ is realized as [ej] in the majority of *aquitano-pyrénéen* dialects, e.g. *qu'ei* [kej] 'have_{1SG.PRS}' in Gascon;
- The *alverno-méditerranéen* (and standard Occitan) phoneme /dʒ/ is realized variably as [ʒ] or [j] in *aquitano-pyrénéen*, e.g. *getar* /dʒe'ta/ 'throw_{INF}' is pronounced [ʒe'ta] or [je'ta];

- The phonemes /b/ and /v/ have merged (to /b/) in *aquitano-pyrénéen*, e.g. *vaca* ['bakɔ] ‘cow’, but remain distinct in much of *alverno-méditerranéen*, e.g. ['vakɔ];
- Stable word-final and intervocalic consonants in *aquitano-pyrénéen*, e.g. *cantat* [kan'tat] ‘sing_{PCTP-PST.M.SG}’ in Gascon, but [kan'ta] in Provençal; *cantada* [kan'taðɔ] ‘sing_{PCTP-PST.F.SG}’ in Gascon, but [tʃan'tajɔ] in Vivaro-Alpin;
- Palatalization intervocalically of /s/ to [ʃ] in words such as *paréisser* /pa'rejse/ ‘appear_{INF}’, e.g. *paréisher* [pa'reʃe] in Gascon; *parèixer* [pa'reʃe] in Catalan; some varieties of Lengadocian palatalize the fricative but maintain the preceding glide which triggered the palatalization, e.g. [pa'rejʃe].
- First person singular inflection morpheme is /-i/ in *aquitano-pyrénéen*, e.g. *canti* ['kanti] ‘sing_{1SG.PRS}’, but /-e/ is more common in *alverno-méditerranéen*, e.g. ['kante], with the exception of *provençal maritime*, e.g. ['kanti], and Vivaro-Alpin, e.g. ['tʃantu].

The Lengadocian dialect has the unique quality of containing a mix of *alverno-méditerranéen* features (e.g. /tʃ/ and /dʒ/, /-e/_{1PS.SG} in northeastern area) and *aquitano-pyrénéen* forms (e.g. loss of /v/, stable final consonants, /-i/_{1PS.SG} in southwestern area). In fact, the only feature that it does not share with another dialect area is the final /-l/ which is not vocalized to [w] in Lengadocian, e.g. *sal* [sal] ‘salt’, not *[saw].

4 Modern phonological inventory

Lengadocian is often considered to be the most conservative dialect (Wheeler 1988, 246), the center of the Occitan-Romance area – a lowest common denominator of sorts. It is for this reason that it was selected as the basis for the standard: “le languedocien a vraiment, dans l’ensemble occitanophone, [...] vocation de parler directeur et référentiel” (Bec 1973, 20). The Occitan orthographical system, known commonly as the *grafia classica*, is based on the principle of a phonological diasystem. A diasystem is essentially an abstract, standardized phonological reference point against which we can compare variation observed in the dialects. The aim of the diasystem, in short, is to at once represent all of the dialects and none of the dialects in particular: “La graphie occitane [...] n’a pas pour but essentiel de noter tel ou tel dialecte [...], mais de fixer par l’écrit un *diasystème* phonologique, qui en est comme l’abstraction paradigmatique, l’ossature structurale dans laquelle chaque parler se retrouve et se définit” (Bec 1973, 24). As we have seen, there are problematic ideological constructs associated with this diasystemic approach (cf. 2.3) but, nonetheless, the phonological analysis presented

in this overview will use the diasystem and its standard orthography throughout as a means of facilitating detailed comparison between and across dialectal areas.

4.1 Consonants

The Occitan diasystem contains 20 distinct consonantal phonemes (cf. Table 1), including /v/ which is only found in some varieties of *alverno-méditerranéen*, and excluding the glide phonemes, /j/, /w/, and /ɥ/, which are discussed below (cf. 4.3). There is some debate over the phonemic status of /t͡s/, /t͡ʃ/, /ɲ/, and /β/ (Wheeler 1988, 248), which will be dealt with in the discussion below.

	Bilabial	Labio-dental	Alveolar	Post-alveolar	Palatal	Velar
Plosive	p b		t d			k g
Affricate			t͡s	t͡ʃ d͡ʒ		
Nasal	m		n		ɲ	
Trill			r			
Tap			r			
Fricative		f (v)	s z	(ʃ)		
Lateral			l		ʎ	

Table 1. The consonantal phonemes of Occitan.

Bec (1973, 51) considers the inventory in Table 1 to represent the maximum consonantal diasystem, while also proposing a minimum diasystem of 15 phonemes that results from the following common phonological mergers in some major dialect varieties: /ʃ/ ~ /t͡ʃ/ > /ʃ/ or /t͡ʃ/; /t͡ʃ/ ~ /d͡ʒ/ > /t͡s/; /ʎ/ ~ /j/ > /j/; /r/ ~ /r/ > /β/; /v/ ~ /b/ > /b/. Bec (1973, 51) also makes reference to the voiceless alveolar affricate /t͡s/ which merges with /s/ in dialects with a reduced phonological inventory.

The Occitan voiceless plosives /p t k/ derive from Latin word-initial voiceless plosives and Latin syllable-initial voiceless plosives in medial position, e.g. *campu(m)* > *camp*, and from geminate voiceless plosives in intervocalic position,

e.g. CUPPA(M) > *copa* /'kupa/ 'champagne glass', while the voiced plosives /b d g/ have evolved from intervocalic Latin voiceless plosives (or from voiced geminate plosives), e.g. LUPA(M) > *loba* /'luba/ 'wolf_{F.SG}' (Olivieri/Sauzet 2016, 325). In final position, voiced plosives originally occurred word-finally, e.g. CAPUT > *cab* /kab/ 'head', but final devoicing became established from the 12th century onwards, e.g. *cap* [kap] (Olivieri/Sauzet 2016, 325). Latin CA and GA sequences gave rise to /k/ and /g/ respectively, but these phonemes vary in their phonetic realization over geographical space. In northern Occitan dialects, /k/ is palatalized to [tʃ], e.g. *chabra* [tʃabrɔ]; the affricate /dʒ/ occurs initially, e.g. *jalina* [dʒa'liɔ] 'hen', and after a consonant, e.g. *longa* ['lundʒɔ] 'long_{F.SG}', but is realized as [j] after a vowel, e.g. *païar* [pa'ja] 'pay_{INF}' (Wheeler 1988, 250–251). In Vivaro-Alpin, and more specifically in the *albonnais* sub-dialect, these initial palatalized forms are alveolar, rather than post-alveolar, e.g. CANTARE > *chantar* [tʃɔn'tɛ] 'sing_{INF}'; GALLUM > *gal* [dʒar] 'rooster' (Quint 1999, 14). In fact, Vivaro-Alpin displays a system of palatalization that results in the neutralization of phonemic contrast between some plosive pairs. The /t/ ~ /k/ contrast is neutralized to [c] before /i/ and /y/, e.g. *qui* [ci] 'who'; *tu* [cy] 'you_{2SG}'; the /d/ ~ /g/ contrast is neutralized to [ʒ] in the same phonological context, e.g. *dina* ['ʒiɔ] 'dyne'; *guida* ['ʒidɔ] 'guide' (Quint 1999, 8). Coustenoble (1945, 76) notes that [ʒ] also occurs as an allophone of /g/ before [i e je je] in *rhodanien* Provençal, e.g. *seguida* [se'ʒidɔ] 'follow_{PTCP-PST.F.SG}'. In Gascon, /b d g/ have contextually conditioned approximant allophones [β ð ɣ] when they occur intervocalically or intervocalically in a consonant cluster with [r r l z], e.g. *saba* ['saβɔ] 'know_{2SG.PRS}', *marga* ['maryɔ] 'sleeve' (Olivieri/Sauzet 2016, 325). This also occurs across word boundaries, e.g. *lo buòu* [lu'βjɔw] 'ox'. In western Gascon, the /b/ phoneme, realized as [b], derives from Latin B and V and Latin intervocalic P. In Eastern and Central Gascon, Latin initial B and V also converge to [b] (alternating allophonically with [β] after a vowel) but intervocalic Latin P yields [β], e.g. SAPERE > *saber* [sa'βe] ('to know'). Intervocalic /b/ that derives from Latin B or V, however, yields [w], e.g. LAVABAT > *lavava* [la'wawɔ] ('(s)he was washing'). In some Pyrenean valley varieties, these contextually conditioned allophonic variants of intervocalic /b d g/ are replaced by their corresponding voiceless plosives [p t k] when they occur before [a ɔ y u] (Moreux/Puyau 2002, 25), e.g. *cabra* ['kraβɔ] 'goat' is pronounced ['krapɔ]. There is also considerable variation in southwestern varieties between voiced and voiceless plosive pairs, [p b], [t d], [k g], when following nasal consonants [m] and [n], e.g. *cambra* ['krampɔ] 'bedroom' or ['krambɔ].

The Occitan diasystem has three nasal consonant phonemes: /m/, /n/, and /ɲ/, e.g. *lama* ['lamɔ] 'blade'; *lana* ['lanɔ] 'wool'; *lanha* ['lanɔ] 'grief' (Olivieri/Sauzet 2016, 326). The velar [ŋ] and labiodental [ɱ] nasals exist as allophones of the other nasals when followed by a velar or labiodental consonant respectively (Coustenoble 1945, 82), e.g. *longa* ['luŋɔ] 'long_{F.SG}'; *comfortable*

[kumfʁ'ʁable] ‘comfortable’. In word-final position, the dialects show considerable variability (Wheeler 1988, 249; Oliviéri/Sauzet 2016, 326): word-final /m n ŋ/ are realized as [n] in Lengadocian (Salvat 1973, 7; Sampson 1999, 149), e.g. *fum* [fyn] ‘smoke’, but to [ŋ] in Provençal (Ford 1921, 31; Coustenoble 1945, 1), e.g. *banh* [baŋ] ‘bath’. Provençal [ŋ] is long in stressed syllables when it is preceded by [e ε ø], e.g. *novembre* [nu'veŋ:bre] ‘November’, but short elsewhere, e.g. *camin* [ka'miŋ] ‘pathway’ (Coustenoble 1945, 67). In Lengadocian, *nord-occitan*, and some varieties of Gascon (e.g. Biarnés and Bigordan), word-final /n/ is frequently deleted, e.g. *vin* [bi] ‘wine’ and, in *nord-occitan*, this often leads to the development of nasal vowels (cf. 4.2.4). Some, but not all, Vivaro-Alpin dialects, e.g. *albonnais* (Quint 1999, 18), also delete /n/ word-finally, e.g. *camin* [tso'mi] ‘pathway’. In Gascon, /m/, /n/, and /ŋ/ can all occur word-finally, e.g. *fum* [hym] ‘smoke’, but the reflex of Latin intervocalic -N- is lost, e.g. LUNA > *luna* [lʏɔ] ‘moon’; this deletion also frequently involves the development of nasal vowels (cf. 4.2.4) and has also occurred in Galician-Portuguese, Alpine dialects of south-eastern France and north-western Italy, dialects of Sardinian and Corsican, and early Romanian (Sampson 1999, 145). Sampson (1999, 153) notes that the Gascon varieties spoken in the *département des Landes* has the maximum number of nasal consonants that may appear in word-final position: [-m -n -ŋ -ŋ]. In these dialects, Latin intervocalic N yields [ŋ] (after apocope) whereas final [n] derives from Latin ND and NT clusters which has become final, e.g. VENIT > *ven* ['beŋ] ‘(s)he comes’ versus VENTUM > *vent* ['ben] ‘wind’.

The voiced apical trill /r/ and voiced apical tap /r/ are in contrastive distribution in intervocalic positions, e.g. *poret* /pu'ret/ ‘chicken’ ~ *porret* /pu'ret/ ‘leek’, but not contrastive in other contexts such that “an archiphoneme could be set up for all other positions” (Cardaillac Kelly 1973, 32). Some analyses choose to treat this contrast as a single coronal rhotic phoneme with a long-short length contrast (Oliviéri/Sauzet 2016, 326). The apical rhotics are not, however, in strictly complementary distribution in non-intervocalic contexts: the distribution of [r] and [r̥] is somewhat constrained by their position within the syllable and with respect to word boundaries with a tendency for [r] to occur word-initially and as an onset after [n], and [r̥] to occur in onset clusters and in the syllable coda, but this distribution is by no means categorical (Cardaillac Kelly 1973, 32; Mooney 2014, 345). This distribution is most prevalent in “the conservative west” (Wheeler 1988, 250), or in *aquitano-pyrénéen* Occitan, and, in other varieties, such as Provençal and its sub-dialects, both /r/ and /r̥/ are traditionally realized as [ʁ] or [ʁ̥], neutralising contrasts in intervocalic positions (Bec 1973, 48). In some sub-dialects, however, such as *rhodanien*, only the trill is replaced by a uvular consonant and the intervocalic contrast is maintained (Coustenoble 1945, 93), e.g. *pòre* ['pɔre] ‘pore’ ~ *pòrre* ['pɔʁe] ‘leek’. The uvular realization of the rhotic consonant has been attested in Provençal varieties since at least the eighteenth century (Stéfanini 1969, 167, cited in Oliviéri/Sauzet 2016, 326) and as such it is un-

likely that this feature is the result of transfer from French since at this time the apical rhotic most likely constituted the French norm. In other varieties, such as Gascon, however, there is evidence to suggest that apical rhotics are being replaced by uvular rhotics as a result of contact with French (Mooney 2018), with various constraints on transfer such as phonological environment, position in the syllable, and the speakers' place of origin within Gascony. Finally, Proto-Occitan word-final [r] is systematically deleted in infinitives (and some suffixes such as *-ièr* < -ARIUS), e.g. *cantar* /kan'ta/ 'sing_{INF}', though this is often retained in Vivaro-Alpin, e.g. [tʃan'tar].

Latin F evolved to /f/, realized as a labiodental fricative [f] throughout the Occitan area, e.g. FERRUM > *fèr(re)* ['fɛr(e)] 'iron', with the exception of Gascony, where it is realized as a fully aspirated voiceless glottal fricative [h], e.g. *hèr* [hɛr]. When [f] occurs in Gascon, it is due to borrowing from French, e.g. *fresa* ['frɛzɔ] < Fr. *fraise* 'strawberry'. When the F > [h] change occurs in an onset cluster with a rhotic consonant, the [h] is deleted, giving the sequence F > [h] > 0 (Wheeler 1988, 250), e.g. FORMATICUM > Oc. *formatge* [for'madʒe] 'cheese', Gasc. *hromatge* [ru'madʒe]; in fact, /h/ in initial position is also subject to (variable) deletion (Field 1978, 83). In some Occitan varieties, the Latin B ~ V contrast is maintained, e.g. *vin bon* /vin bun/ 'wine good_{M.SG}', but in many others, these phonemes have merged to /b/, a process called 'betacism': "today, the betacizing area covers all of Gascony, almost all of Languedoc, and a large portion of Auvergne" (Olivieri/Sauzet 2016, 325). The /v/ phoneme is more common in varieties of *alverno-méditerranéen* (Bec 1973, 37) and is attested in *rhodanien* Provençal (Ford 1921, 55–56), *albonnais* (Quint 1999, 13) and Chiomonte (Sibille 2012, 2235) Vivaro-Alpin, and in Lemosin (Olivieri/Sauzet 2016, 325). Ford (1921, 79) also notes that in *rhodanien*, words beginning with [u] or [ʉe] have a tendency to develop an initial [v], e.g. *onze* /'undze/ ['vunʒe] 'eleven'. In Gascon generally, /b/ is the modern reflex of Latin initial B- and V-, and intervocalic -P-, -B-, and -V- (Olivieri/Sauzet 2016, 325), e.g. *que trobava lo vin bon* [ke tru'βaβɔ lu βĩ βũ] 'he used think the wine was good'. In some varieties of Gascon, intervocalic -P- > /b/ and intervocalic -B- and -V- evolved to [w], leading to an opposition between /b/ and /w/ between vowels, with the latter corresponding to *alverno-méditerranéen* /v/ (Olivieri/Sauzet 2016, 325), e.g. [ke tru'βawɔ lu βĩ βũ]. The spread of betacism from Gascon means that Lengadocian is now predominately betacizing as well.

The fricatives /s/ and /z/ are usually apico-alveolar [s] and [z] in Occitan; the /s/ ~ /z/ contrast is neutralized in preconsontal position, with [s] before voiceless consonants and pauses and [z] or [ʒ] before voiced consonants (Bec 1973, 42; Field 1978, 82), e.g. *mesclar* [mes'kla] 'mix_{INF}'; *esdracar* [ezdra'ka] 'wring out_{INF}'. /s/ and /z/ may be post-alveolar in *nord-occitan* varieties (Wheeler 1988, 248), e.g. *saison* /se'zun/ [ʃe'ʒũ] 'season', where, additionally, pre-consonantal /s/ is subject to weakening and is frequently realized as [x], [h], [j], vowel length-

ening, or zero, with [j] as the majority variant (Wheeler 1988, 251), e.g. *escòla* [eh'kɔlə] ‘school’, [ej'kɔlə], [e'kɔlə], etc. In Vivaro-Alpin, and more specifically in the sub-dialect of *albonnais*, /s/ is realized as [ʃ] in word- and syllable-initial position, as well as intervocalically, e.g. *sopa* [ʃupɔ] ‘soup’; *perseguier* [per'ʃje] ‘peach tree’; *caçaire* [tso'ʃajre] ‘hunter’, and as [h] pre-consonantly and pre-pausally, e.g. *chasque* [tʰsahke] ‘every’; *cantas* [tʰsɔntɛh] ‘sing_{2SG.PRS}’. In word-final position, /s/ is realized as [z] before a vowel, e.g. *los arbres* [luz arbreh] ‘the trees’, as [h] before /p t ts k/, e.g. *los chals* [luh tʰɔwh] ‘the cabbages’, and as [j] before other consonants, e.g. *los libres* [luj libreh] ‘the books’. In Lengadocian, word-final /s/ is realized as [j] before consonants other than voiceless plosives (Field 1978, 101; Wheeler 1988, 252), e.g. *las claus* [las klaws] ‘the keys’; *la femnas* [ləj fennɔs] ‘the women’; before voiceless plosives, word-final /s/ may be realized as [h], e.g. [lah klaws]. The phonemic status of /ʃ/ is not established for the majority of Occitan dialects; as we have seen, [ʃ] primarily occurs as a geographical and/or allophonic variant of /s/. Equally, [z] is attested as a variant of /z/ but the sound is not contrastive. [z] in Gascon can correspond to an affricate, and in some cases to /z/, in other dialects, e.g. Oc. *jamès* /dʒa'mɛs/ ‘never’ and Gasc. [ʒa'mɛs]; Oc. *càiser* /'kajzɛ/ < *càser* /'kaze/ ‘to fall’ and Gasc. [kaze]. In southwestern Lengadocian (i.e. *aquitano-pyrénéen*), [ʃ] appears as a contextually conditioned allophone of /s/ following /j/, e.g. *peis* /pejs/ [pejʃ] ‘fish’ (Olivieri/Sauzet 2016, 325). In Gascon, however, /ʃ/ is a phoneme; *peis* is realized as [pejʃ], without contextual conditioning and minimal pairs can be found to establish the /ʃ/ ~ /s/ contrast, e.g. *peis* /pejʃ/ ‘fish’ ~ *pes* /pes/ ‘weight’. [ʃ] also occurs as an allophone of /s/ in Gascon, following palatal consonants (Field 1978, 90), e.g. *uelhs* /weʎs/ [weʎʃ] ‘eye_{PL}’. The voiced fricative /z/ only occurs in intervocalic position in standard Occitan, and derives from Lat. intervocalic -D-, -C-, and -S- (Wheeler 1988, 251), e.g. AUDIRE > *ausir* /aw'zi/ ‘hear_{INF}’; RACEMU > *rasim* /ra'zim/ ‘grape’; CAUSA > *causa* /'kawzɔ/ ‘thing’. Some dialects, such as Gascon, have [d] for /z/ < -D-, e.g. *ausir* [aw'di], and sometimes for /z/ < -C-, *rasim* [ara'zim]. Intervocalic /z/ has largely been lost in Provençal, CAMISIA > *camisa* /ka'mizɔ/ [ka'mjɔ] ‘shirt’.

The Occitan diasystem has two post-alveolar affricates, /tʃ/ and /dʒ/, e.g. *chicar* /tʃi'ka/ ‘chew tobacco_{INF}’; *jamai* /dʒa'maj/ ‘never’, which vary widely across dialects both in terms of their phonetic realization and their phonemic status. In northern varieties, especially Lemosin, Auvernhat, and northern Lengadocian, /tʃ/ and /dʒ/ are depalatalized to [tʰs] and [dʰz]; in the northernmost part of the Occitan area, the affricates are realized as [s] or [θ] and [z] or [ð] respectively (Wheeler 1988, 248; Olivieri/Sauzet 2016, 325). In areas where /tʃ/ is realized as [s] and /dʒ/ is realized as [z], the phonemes /s/ and /z/ are palatalized to [ʃ] and [ʒ] (Wheeler 1988, 248), e.g. Lim. *cerchar* /ser'tʃa/ [ʃersa] ‘look for_{INF}’. In varieties that preserve both phonemes, such as Provençal, /tʃ/ may be realized as [tʃ] or [tʰs] and /dʒ/ as [dʒ] or [dʰz] (Coustenoble 1945, 86; Bec 1973, 44); in *rhodanien*,

Coustenoble (1945, 86) notes that the affricates are depalatalized to $[\widehat{ts}]$ and $[\widehat{dz}]$. In much of the Lengadocian dialect, the affricates are merged to $[\widehat{ts}]$ (Bec 1973, 44), e.g. *chicar* $[\widehat{tsi}'ka]$ ‘chew tobacco_{INF}’, *dotze* $['d\widehat{ut}se]$ ‘twelve’. Olivieri/Sauzet (2016, 326) note considerable variation within Lengadocian: in Béziers, for example, $[\widehat{tj}]$ and $[\widehat{dʒ}]$ merge in terms of voicing, but do not depalatalize. The phonemic status of $[\widehat{ts}]$, as distinct from $/t/ + /s/$ or from $[\widehat{tj}]$ is marginal (Wheeler 1988, 248); $[\widehat{ts}]$ is primarily involved in a morphophonological alternation with $[z]$, e.g. *crotz* $[kr\widehat{ut}s]$ ‘cross’ ~ *crosar* $[kru'za]$ ‘cross_{INF}’. In western Lengadocian varieties, $[\widehat{dʒ}]$ may be realized as $[ʒ]$ (Field 1978, 80; Wheeler 1988, 248); this is due to the fact that Gascon realizes $[\widehat{dʒ}]$ as $[ʒ]$ or $[j]$, e.g. *jamai* $[ʒa'mej]$, $[ja'mej]$ ‘never’. Latin -CT- became $[\widehat{tj}]$ in most of the Occitan area, but is realized as $/jt/$ in Gascon, western Lengadocian, Auvernhat, and Vivaro-Alpin (Wheeler 1988, 251; Quint 1999, 17) (cf. 3.4). Some varieties of Gascon, such as *béarnais*, have two palatalized affricate phonemes: voiceless $[\widehat{tʃ}]$ and voiced $[\widehat{dʒ}]$. In masculine nouns, Latin root-final -LL- became voiceless $[\widehat{tʃ}]$ when it occurred in coda position as a result of apocope (Grosclaude 1986, 9), e.g. CASTELLUM > *castèl* $[kas't\widehat{et}\widehat{tʃ}]$ ‘castle’; within Gascony, $[t]$ and $[\widehat{tj}]$ are common as variants of $[\widehat{tʃ}]$ (Mooney 2014, 348). Castet 1895, 16) notes that palatalized $[\widehat{tʃ}]$ may occur as a variant of $/t/$ in past participles in the mountain dialect of Couserans, e.g. *cantat* $[kantat\widehat{tʃ}]$ ‘sing_{PTCP-PST.M.SG}’, perhaps by analogy. Lat. -TC- sequences, on the other hand, which occurred as result of elision, developed into $[\widehat{dʒ}]$ in Gascon, e.g. VILLATICUM > *vilatge* $[bi'l\widehat{ad}\widehat{je}]$ ‘village’. Finally, in loanwords from French, $/ʃ/$ is often rendered as an affricate in Occitan, e.g. *cheval* > *chabal* $[tʃa'\beta al]$ ‘horse’ in Lengadocian; *chivau* $[tʃi'vaw]$ in Provençal, but as $/ʃ/$ in Gascon (Olivieri/Sauzet 2016, 325), e.g. *chivau* $[ʃi'\beta aw]$, perhaps due to the phonemic status of $/ʃ/$ in Gascon.

Occitan $/l/$ is a dental lateral approximant, which may be velarized in coda position (Bec 1973, 46) where it commonly vocalizes to $[w]$ in dialects other than conservative Lengadocian, e.g. CALET > Leng. *cal* $[kal]$ ‘be necessary_{3SG.PRS}’; Gasc. *que cau* $[ke kaw]$. Within Lengadocian, however, some sub-dialects show the $/l/ > [w]$ change in codas before dentals, while others exhibit the change before consonants other than dentals (Wheeler 1988, 249). There is also evidence for contextual conditioning in other dialects. For example, in the *rhodanien* dialect of Provençal, vocalization occurs in all contexts except after $/u/$ and $/y/$, e.g. *lo sol* $[lu sul]$ ‘the sun’ (with the suffixed form *solèu* also occurring); note, however, that *lo só* $[lu su]$ occurs in other dialects, including Gascon. In the *albonnais* sub-dialect of Vivaro-Alpin, $/l/$ is preserved in singular nouns, but vocalized in plurals, e.g. *castèl* $[ts\widehat{h}'t\epsilon r]$ ‘castle.SG’; *castèls* $[ts\widehat{h}'t\epsilon w]$ ‘castle_{PL}’; these examples also demonstrate the common realization of $/l/$ as $[r]$ or $[r]$ in Vivaro-Alpin (Wheeler 1988, 253). In Auvernhat, intervocalic, syllable-initial $/l/$ may vocalize, e.g. *pala* $['paw]$ ‘shovel’, or be realized as a velar $[g]$ or labiodental $[v]$, e.g. *paga* $['pag\widehat{o}]$, $['pav\widehat{o}]$, and in Gascon final $/l/ <$ Latin -LL- is realized as $[\widehat{tʃ}]$, $[\widehat{tj}]$, or $[t]$,

e.g. *castèl* [kas'tetç] ‘castle’. Gascon /tç/ in masculine nouns alternates morphophonologically with [r] in feminine nouns, e.g. *bèth* [betç] ‘beautiful_{M.SG}’; *bèra* [berɔ] ‘beautiful_{F.SG}’ (Field 1978, 79).

Finally, the palatal lateral may occur word-initially, intervocalically, and word-finally in the Occitan diasystem, but not medially in coda position and is subject of a variety of constraints in the dialects themselves. Gascon traditionally preserves /ʎ/ in all positions, e.g. *lhevàr* [ʎe'βa] ‘raise_{INF}’; *tribalhar* [triβa'ʎa] ‘work_{INF}’; *uelh* [weʎ] ‘eye’. There are relatively high rates of retention in intervocalic position across dialects (with the exception of Provençal), but the palatal approximant [j] frequently emerges as an allophone of /ʎ/ in intervocalic position, e.g. *tribalhar* [triba'ja]. In final position, /ʎ/ is realized as [l] in Lengadocian (Field 1978, 102) and as [j] or [w] in Provençal, e.g. *genolh* > Leng. [dʒe'nul] ‘knee’, Prov. [dʒe'nuj]; *filh* > Leng. [fil] ‘son’, Prov. [fjew] (Wheeler 1988, 249). The [w] variant in Provençal is the result of first depalatalization to [l] and then vocalization to [w] (Ford 1921, 20). In Vivaro-Alpin, the [ʎ] variant is preserved with high rates intervocalically, and palatal laterals may arise from the palatalization of /l/ in initial /gl/ and /kl/ clusters, e.g. *la glèisa* [la 'gʎejzɔ] ‘church’; *la clau* [la 'kʎaw] ‘key’.

4.1.1 Syllable- and word-final consonants

In standard Occitan, based on Lengadocian, obstruents other than /s/ are not permitted in non-final syllable codas (Oliviéri/Sauzet 2016, 326), e.g. *factor* [fa(t)'tu] < Fr. *facteur* /fak'tœʁ/ ‘postman’, where /k/ assimilates in place or is omitted. In word-final position, /j/, /w/, /r/, /N/, /s/ and, sometimes, /f/ are permitted in codas; there is a strong tendency in *nord-occitan* and Provençal to delete word-final obstruents (Wheeler 1988, 252–253). In Lemosin, /s/ in coda position is deleted with compensatory lengthening or it debuccalizes to [h], /l/ vocalizes to [w], and nasal consonants are deleted, with only [j] and [r] permitted in coda position (Oliviéri/Sauzet 2016, 326); similarly, Vivaro-Alpin only allows five consonants, [h ʋ n j w] (Quint 1999, 8). In word-final codas, Bec’s (1963; 1973) distinction between *alverno-méditerranéen* and *aquitano-pyrénéen* Occitan best accounts for the distribution of final consonants (cf. 2.2; 3.4). In *aquitano-pyrénéen* dialects, words can end in obstruents and in clusters, e.g. *lo còp* [lu kɔp] ‘the time’, *la sèrp* [la sɛrp] ‘the snake’; in *alverno-méditerranéen* dialects, final obstruents are deleted and deleted from clusters, e.g. *lo còp* [lu kɔ], *la sèrp* [la sɛr]. Eastern Lengadocian allows final obstruents, e.g. [lu kɔp], but not final clusters, e.g. [la sɛr], except in nominal plurals with the morpheme /-s/, e.g. *las sèrps* [las sɛrs] ‘snake.PL’ (Oliviéri/Sauzet 2016, 327); some Gascon varieties allows triple consonants clusters with plural /-s/, e.g. [las sɛrps]. The *nissart* Provençal dialect permits diasystemic consonant clusters by moving the obstruent into the onset of

a syllable whose nucleus is a paragogical vowel (Olivieri/Sauzet 2016, 327), e.g. *la sèrp* [la 'serpe].

Where they are retained, final voiced plosives /b d g/ are devoiced to [p t k] (Field 1978, 80), e.g. *saber* /sa'be/ 'know_{INF}', *sap* /sap/ 'know_{3SG.PRS}'; *amic* /a'mik/ 'friend_M', *amiga* /a'migɔ/ 'friend_F'. Before vowels, final fricatives are voiced, e.g. *los arbres* [luz arbres] 'the trees', /tʃ/ can be voiced or voiceless, while /v/ is commonly vocalized in final position, e.g. *nòu* [nɔw] 'new_M', *nòva* ['nɔβɔ] 'new_F' (Bec 1973, 36, 40; Field 1978, 115; Wheeler 1988, 252). Only Gascon maintains full contrast between the laterals /l/ and /ʎ/ and the nasals /m n ɲ/ in final position, with Lengadocian and Provençal neutralizing these contrasts to [l] and [n], and [w] and [ŋ], respectively (Coustenoble 1945, 1; Bec 1973, 45; Wheeler 1988, 252). Quint (1999, 8) notes that final /m/ does occur in verbal paradigms in Vivaro-Alpin, e.g. *avèm* [ɔ'vɛm] 'have_{1PL.PRS}', but that it is increasingly replaced by [n], e.g. *aurem* [ɔw'βɛn] 'have_{1PL.FUT}', and that there is no /m/ ~ /n/ contrast in final position. Place contrasts for coda obstruents /p t tʃ k/ are maintained, especially in Lengadocian and Vivaro-Alpin (Wheeler 1988, 252), before vowels, but before consonants these contrasts are generally neutralized, e.g. *còps* [kɔts] 'time_{PL}', *occitan* [utsi'ta] 'Occitan', except for the contrast between /s/ and /f/ (Wheeler 1988, 252). In dialects with /ts/, it is common for [ts] to simplify to [s]; [ts] can arise in coda position from /tʃs/, /t/+s/, /p/+s/, and /k/+s/, leading to a predominance of syllable final [s]. Final stops also assimilate in manner to following consonants, e.g. *ròc mòl* [rɔm mɔl] 'soft rock', triggering a geminate, and consonants between consonants are frequently deleted (Wheeler 1988, 252), e.g. *bèls miralhs* [bɛl mi'ralɔ] 'beautiful_{M.PL} mirror_{PL}'.

4.2 Vowels

The full Occitan vowel system is presented in Table 2 and contains seven phonemic oral vowels in stressed syllables: /i y e ε a ɔ u/, preserving the common Western-Romance vowel system (Sampson 1999, 140). This vowel system has arisen from two unconditioned changes, /u/ > /y/ and /o/ > /u/, which have occurred in all dialects (Wheeler 1988, 247), e.g. *comun* /ku'myn/.

oral	front		back
	unrounded	rounded	rounded
close	i	y	u
close-mid	e		
open-mid	ε		ɔ
open	a		

Table 2. Stressed oral vowels in Occitan.

In pre-tonic syllables, this system is reduced to /i y e a u/ and, in post-tonic syllables, it is reduced to /i e ɔ u/. Some analyses consider stressed /ɔ/, e.g. *sòl* /sɔl/ ‘ground’, as distinct from post-tonic word-final /ɔ/, e.g. *sòla* /'sɔlə/ ‘sole’, preferring to use the symbol /o/ for the latter (Coustenoble 1945, 4; Wheeler 1988, 247; Quint 1999, 5) or /ə/ (Bec 1973, 35) for the latter; the analysis presented will not consider them to represent independent phonemes but the variability in each context is considered in detail in 4.2.1 and 4.2.3 respectively. For *rhodanien*, Coustenoble replaces /y/ with /ø/ (cf. 4.2.1) and adds /œ/ to the inventory; for Vivaro-Alpin, Quint (1999) also includes /œ/, both giving an eight-term vocalic inventory.

In most Occitan varieties, the tonic syllable of lexical words may be final or penultimate, though proparoxytons are permitted in *nissart* Provençal, e.g. *di-menge* /di'mendʒe/ ‘Sunday’ > Nissart [di'menege]. The position of tonic stress on the final or penultimate syllable is subject to interdialectal variation (cf. 5.1), though the general pattern can be described as follows (Mooney 2014, 347–348): (i) stress is lexically defined for any word ending in a vowel other than /a/; (ii) words ending in /a/ are always oxytonous, e.g. *cantar* /kan'ta/ ‘sing_{INF}’; (iii) words ending in post-tonic /-ɔ/ are paroxytonous, e.g. *cambra* /'kambɔ/ ‘bed-room’. Words ending in a consonant are oxytonous, with the following exceptions: (a) verb conjugations ending in 3rd person plural /-n/ are paroxytonous, e.g. *cantan* /'kantɔn/ ‘sing_{3PL.PRS}’; (b) verb conjugations ending in 2nd person singular /-s/ are paroxytonous in the majority of tenses, e.g. *venes* /'benes/ ‘come_{2SG.PRS}’; (c) for nouns and adjectives, the plural morpheme /-s/ does not modify the stress pattern found in the singular form, e.g. Gasc. *la gojata* /la gu'jatɔ/ ‘the young girl_{SG}’; *las gojatas* /laz gu'jatɔs/ ‘the young girl_{PL}’.

4.2.1 Stressed oral vowels

The /i/ phoneme remains relatively stable across dialects; /y/, however, demonstrates some variability. The /y/ phoneme evolved from Latin tonic U, but the date of change from /u/ to /y/ is not known (Coustenoble 1945, 14). This development occurred throughout Gallo-Romance, including French, but did not take place in Catalan. The /y/ vowel is known to be involved in free variation with /i/ and /e/, and to replace /ø/ in phonological integrated loanwords from French (Müller/Martin 2012, 158). The acoustic quality of /y/ is said to be highly variable, showing some lowering and centralization (Müller/Martin 2012, 158). Indeed, the most frequent variant of this phoneme is [ø], e.g. *muscle* /myskle/ ['møskle] ‘mussel’: “this system is found from Arles to an area on the edge of Catalan-speaking domains which has neither [y] nor [ø]” (Oliviéri/Sauzet 2016, 322). Coustenoble (1945), working on the *rhodanien* Provençal dialect of Arles, chooses to use the symbol /ø/ for the phoneme, noting that /y/ can be realized as [e]

before a nasal consonant, e.g. *un* /yn/ [eŋ] ‘one’, demonstrating both lowering (to [ø]) and unrounding (to [e]) in this context. As mentioned above, Coustenoble (1945) also cites /œ/ as a phoneme of *rhodanien*; this corresponds to /ɥɛ/, e.g. *vuèja* /vɥɛdʒɔ/ [vœ:dʒɔ] ‘empty_{F.SG}’. When /ɥ/ finds itself in a stressed syllable closed by /j/ or /r/, it is realized as [œ] in Auvernhât (Field 1978, 119), e.g. *durmir* [dyr'mi] ‘sleep_{INF}’, *duerm* [dœr] ‘sleep_{3SG.PRS}’. The third high vowel /u/ is relatively stable in stressed position. There are some Occitan varieties, however, where all high vowels diphthongize to falling diphthongs such as in Saint-Agnès, near the Italian border (Olivieri/Sauzet 2016, 323), e.g. *fil* [føj] ‘thread’.

The /e/ ~ /ɛ/ contrast is largely maintained in final closed syllables, e.g. *set* /set/ ‘thirst’ ~ *sèt* /set/ ‘seven’, and in non-final syllables, e.g. *crema* /kremɔ/ ‘burning’ ~ *crèma* /krɛmɔ/ ‘cream’ (Olivieri/Sauzet 2016, 322). Bec (1973, 57) notes that maintenance of this contrast is more robust in *aquitano-pyrénéen* varieties, weak in *alverno-méditerranéen*, and near absent in Provençal. In *nord-occitan*, the /e/ ~ /ɛ/ contrast is largely dephonologized, with [e] and [ɛ] functioning as contextually conditioned allophones of the same phoneme (Bec 1973, 57; Wheeler 1988, 247; cf. 4.2.3). In *rhodanien*, stressed /e/ may be rounded to [ø] before nasal consonants, e.g. *femna* [fø:mɔ] ‘woman’ (Coustenoble 1945, 22); this may involve neutralization of the diasystem’s /e/ ~ /ɥ/ contrast, e.g. *fen* /fen/ [føŋ] ‘hay’ ~ *fum* /fym/ [føŋ] ‘smoke’. In the so-called *parlar negre* of Gascon, in the *département des Landes*, stressed /e/ is realized as [œ], such that the /e/ ~ /ɛ/ contrast is maintained by rounding rather than by vowel height, e.g. *set* [sœt] ~ *sèt* [set] (Olivieri/Sauzet 2016, 322). In Auvernhât, /e/ may be raised to [i], e.g. *cercle* [‘sirkle] ‘circle’.

Stressed /a/ is frequently labialized to [ɔ] before nasals in *nord-occitan* and northern Lengadocian dialects (Field 1978, 114; Quint 1999, 9; Olivieri/Sauzet 2016, 322), e.g. *chanta* [tʃɔntɔ] ‘sing_{3SG.PRS}’. There are some lexicalized exceptions to this in Vivaro-Alpin (Quint 1999, 9), in particular the words for multiples of ten in the numeral system, e.g. *cinquanta* [ʃiŋ'kantɔ] ‘fifty’. Word-final stressed /a/ is also routinely realized as [ɛ] in the *albonnais* sub-dialect of Vivaro-Alpin, e.g. *donar* [du'nɛ] ‘give_{INF}’; this feature is systematic in *albonnais* but also frequently found in the variety of Lemosin spoken around the town of Nontron and in *briançonnais*, but only in verbal infinitives (Quint 1999, 10). In *rhodanien* Provençal, /a/ is realized as [æ] in final open syllables, e.g. *cofar* [kwi'fæ] ‘style hair_{INF}’; in non-final stressed syllables, the realization is frequently [ɑ:] (Coustenoble 1945, 27–30), *cofada* [kwi'fa:dɔ] ‘styled_{F.SG}’. The /ɔ/ shows little variability in stressed syllables, though it is usually longer in monosyllabic words (Müller/Martin 2012, 157), e.g. *còp* [kɔ:p] ‘time’, and, in Provençal and Rouergat, is diphthongized in closed syllables, e.g. *pòrc* [pɔwɔrk] ‘pig’, [pɔwɛrk], [pɔwark] (Olivieri/Sauzet 2016, 322); in Vivaro-Alpin, /ɔ/ is also frequently diphthongized to [wɔ] (Quint 1999, 10; Müller/Martin 2012, 157).

4.2.2 Vowel length

In Lemosin and Auvernhat, phonemic vowel length has developed as a result of the loss of the plural /-s/ morpheme (Olivieri/Sauzet 2016, 323); the deletion of /-s/ for plural nouns has resulted in compensatory vowel lengthening, such that singular and plural nouns are distinguished by vowel length, e.g. *pè* [pe] ‘foot_{SG}’ ~ *pès* [pe:] ‘foot_{PL}’. Vowel length also serves to distinguish second and third person singular in verbal paradigms, e.g. *cantas* [‘sãtɔ:] ‘sing_{2SG.PRS}’ ~ *canta* [‘sãtɔ] ‘sing_{3SG.PRS}’; this may be accompanied by stress reassignment, e.g. *cantas* [sã’ta:] ~ *canta* [‘sãtɔ] (Olivieri/Sauzet 2016, 323). In *rhodanien* Provençal, vowel length is phonetically conditioned, not contrastive (Coustenoble 1945, 98–100): in final open syllables, stressed and unstressed vowels are short, e.g. *dormir* [‘durmi] ‘sleep_{INF}’; in medial syllables (open and closed), stressed vowels are long and unstressed vowels are short, e.g. *divina* [di’vi:nɔ] ‘divine_{F.SG}’; in final closed syllables, vowels are short before [-ŋ] and long before /-s/ and /-r/, e.g. *partirés* [pɑrti’ɛ:s] ‘leave_{2SG.COND}’, *mar* [ma:r] ‘sea’, particularly in verbal inflection morphemes for person and in oral narratives. In the Vivaro-Alpin dialect of Chiomonte, Italy, when the stressed vowel in the sequence 'VCV is long, the following consonant is singleton; when the stressed vowel is *short*, the consonant is geminate (Sibille 2012, 2234–2235): “la gémination est automatique après une voyelle brève, impossible après une voyelle longue” (Sibille 2012, 2234–2235), e.g. *pasta* [‘pa:tɔ] ‘pastry’, *pata* [‘pat:ɔ] ‘paw’.

4.2.3 Unstressed oral vowels

Post-tonic /i/ occurs primarily in 1st person singular verbal morphology (Wheeler 1988, 247), e.g. *canti* /‘kanti/ ‘sing_{1SG.PRS}’; it is frequently realized as [-e] in *al-verno-méditerranéen* dialects and as [-u] in Vivaro-Alpin. Post-tonic /i/ also occurs in a large number of learned words, borrowed from Latin (Ford 1921, 66), e.g. *memòri* /me’mɔri/ ‘collective memory’. In unstressed syllables, both pre- and post-tonic, the phonemic contrast between /e/ and /ɛ/ is neutralized to /e/ (Bec 1973, 31), e.g. *pèl* /pɛl/ ‘skin’, *pelar* /pe’la/ ‘skin_{INF}’. In Vivaro-Alpin, pre-tonic /e/ is realized as [ə] (Sibille 2012, 2235) or [œ] (Field 1978, 126), frequently leading to syncope in the dialect of Chiomonte, Italy, e.g. *semana* [sə’mɑnɔ] ‘week’ > [‘smanɔ]. In *albonnais* Vivaro-Alpin, [ɛ] occurs in post-tonic syllables as an allophone of /e/ before [h] < /s/ (Quint 1999, 6), e.g. *ères* [ɛrɛh] ‘be_{2SG.IPFV}. In *rhodanien* Provençal, post-tonic /e/ is often realized as [ə], particularly in the Vaucluse sub-dialect (Coustenoble 1945, 24); in the same dialect, final /e/ is deleted when followed by a vowel (Coustenoble 1945, 122), e.g. *un brave ome* [øŋ bʁa:v ɔ:me] ‘a courageous_{M.SG} man’. In the *parlar negre* of Gascon, post-tonic /e/ is realized [œ] (Mooney 2014, 348), e.g. *càser* [‘kaðœ] ‘fall_{INF}’ (cf. 4.2.1).

Post-tonic /u/ has a relatively restricted distribution, occurring primarily in third person plural verb forms (Wheeler 1988, 247), e.g. *lièjon* /'ljɛdʒun/ 'read_{3PL.PRF}'.

Pre-tonic /a/ has the majority variant [a], but in dialects including Lemosin, northern Lengadocian and Vivaro-Alpin, this is frequently realized as [ɔ] (Quint 1999, 9; Olivieri/Sauzet 2016, 324) (cf. Section 3.2), e.g. *parlam* [pɑr'lan] 'speak_{1PL.PRS}'. The post-tonic /a/ phoneme of Old Occitan has, in the modern language, evolved to /ɔ/; note that some analyses choose to treat final post-tonic /ɔ/ as distinct from stressed /ɔ/, preferring the notation /a/ (Olivieri/Sauzet 2016, 324), /o/ (Coustenoble 1945, 33), or /ə/ (Bec 1973, 35), because of the high level of variability in the phonetic realization of the former, though there is no phonological basis (e.g. the existence of minimal pairs) to do so (Coustenoble 1945, 33). /ɔ/ cannot occur in pre-tonic syllables, where it alternates with /u/, e.g. *pòrc* [pɔrk] 'pig', Gasc. *porqueria* [purke'rijɔ] 'mess' or 'pig shed', though it does occur in some borrowings from French (Bec 1973, 33), e.g. *auto* /ɔ'tɔ/ 'car'. The realization of post-tonic /ɔ/ varies geographically, with the following variants: [ɔ] is found in the majority of Occitan dialects, e.g. *pòrta* ['pɔrtɔ] 'door'; [a] or [ɑ] is found in *lodévois* and *montpéliérain* Lengadocian (Bec, 1973, 34), *nissart* Provençal (Olivieri/Sauzet 2016, 324), and in the Gascon of Pontacq, Asson (Bouzet 1928, 9) and the Biros valley (Caster 1895, 15), e.g. ['pɔrta]; [u] is found in Couserans Gascon (Castet 1895, 15) and in "certains parlers du Médoc et de l'Ariège, prov. du sud des Alpilles, vaudois" (Bec 1973, 34), e.g. ['pɔrtu]; [ə] is found in *rhodanien* Provençal (Ford 1921, 24; Coustenoble 1945, 34) e.g. ['pɔrtə]; [œ] is found in *parlar negre* Gascon (Mooney 2014, 348), e.g. ['pɔrtœ]. In the *parlar negre*, therefore, the contrast between word-final post-tonic /-e/ and /-ɔ/ is neutralized as both are realized as [-œ], e.g. *càser* ['kaðœ] 'fall_{INF}' ~ *cada* ['kaðœ] 'every'. Other dialects present a more complex array of variants in final position. In Lemosin, [ɔ] occurs in singular feminine nouns and 3rd person singular verbal morphology, while [a:] occurs in plurals and 2nd person singular verbal endings (Bec 1973, 35), e.g. *filha* ['fijɔ] 'daughter_{SG}', *filhas* ['fija:] 'daughter_{PL}'; *canta* ['tʃantɔ] 'sing_{3SG.PRS}', *cantas* ['tʃanta:] 'sing_{2SG.PRS}'. The same pattern can be observed in Vivaro-Alpin but, additionally, stressed /a/ can also be realized as [ɔ] in singular nouns when it finds itself in an open syllable as a result of word-final consonant deletion (Field 1978, 123), e.g. *prat* [prɔ] 'meadow_{SG}'; this [ɔ] alternates with [a:], which marks feminine plurality, as in Lemosin, e.g. *prats* [pra:] 'meadow_{PL}'. In Lunel Lengadocian, post-tonic /ɔ/ is realized as [ɔ] after phrasal stress and otherwise as [a] (Olivieri/Sauzet 2016, 324), e.g. *la taula lònga* [la ,tawla 'lɔŋɔ] 'the long_{F.SG} table', but *la lònga taula* [la ,lɔŋa 'tawlɔ]. In Bessan Lengadocian, post-tonic /ɔ/ is realized as [ɔ] in closed syllables and as [a] in open syllables (Roque-Ferrier 1878, cited in Olivieri/Sauzet 2016, 324), e.g. *las taulas lòngas* [las ,tawlɔs 'lɔŋɔs] 'the long_{F.PL} table_{PL}', but *la taula lònga* [la ,tawla 'lɔŋga] 'the long_{F.SG} table_{SG}'.

4.2.4 Vowel nasalization

Standard Occitan does not have any phonemic nasal vowels; Latin VN sequences are generally preserved as a phonemic oral vowel followed by a nasal consonant, e.g. FEMU > *fum* /fym/ ‘smoke’. In southern Occitan, there are no phonological nasal vowels (Olivieri/Sauzet 2016, 326), with Lengadocian being particularly conservative in this respect (Sampson 1999, 147). Phonemic oral vowels do, however, have nasalized allophonic variants when they appear before nasal consonants (Sampson 1999, 139). The degree of nasalization of vowels in this context is attested to be at most partial and “only really perceptible in the latter part of the vowel” (Sampson 1999, 147; Olivieri/Sauzet 2016, 326). In Provençal, both Coustenoble (1945, 66) and Ford (1921, 22) note that nasalization is only allophonic, but there is more evidence for the weakening of nasal consonant codas than in Lengadocian, particularly following /a/, leaving behind an unconditioned nasal vowel, [ã] (Sampson 1999, 150), e.g. *grand* /gran/ [grã] ‘big_{M.SG}’. In fact, in southern Occitan, final /-n/ frequently drops, but typically leaves an oral vowel in an open syllable (Field 1978, 101; Sampson 1999, 151), e.g. PANEM > /pan/, Leng. [pa] ‘bread’.

In some dialects of *nord-occitan*, such as Lemosin, phonemically nasal vowels have developed in open syllables as a result of the weakening and loss of nasal consonant codas (Sampson 1999, 147; Olivieri/Sauzet 2016, 151); this is frequently accompanied by vowel lowering such that /iN yN uN/ are realized as [ẽ œ õ] respectively (Sampson 1999, 151). In Lemosin, nasal vowels are “systematically long” and the absence or presence of nasality is involved in morphophonological alternations, e.g. *chantan* [ˈsã:tã:] ‘sing_{3PL.PRS}’, *chanta* [ˈsã:tc] ‘sing_{3SG.PRS}’ (Olivieri/Sauzet 2016, 323). In Auvernhat, Sampson (1999, 152) notes that non-low vowels are more resistant to nasalization than low vowels. In Vivaro-Alpin, retention of nasal consonant codas is the norm (Sampson 1999, 150; Quint, 1999, 6) and as such there are no phonemically nasal vowels in this variety. In the Vivaro-Alpin sub-dialect of Chiomonte, Italy, nasality is preserved in post-tonic position in words with a Latin etymon ending in -INE(M), -ENE(M), -INU(M) (Sibille 2012, 2235), e.g. HOMINE > *ome* [ˈomã] ‘man’; IUVENE > *jove* [ˈʒuvã] ‘young_{M.SG}’; FRASSINU > *fraise* [ˈfrɛjsã] ‘ash tree’.

In Gascon, the dropping of Latin intervocalic -N- has led to the existence of a phonemic nasal vowel system, /ĩ ỹ ù ẽ ã/, in some sub-dialects, such as *béarnais* (Mooney 2014, 346), e.g. VINUM > *vin* /bĩ/ ‘wine’; CATA-UNUM > *cadun* /kaˈdỹ/ ‘everyone_{M.SG}’; MATIONEM > *maison* /ˈmajzũ/ ‘house’, PLENUM > *plen* /plẽ/ ‘full_{M.SG}’; PANEM > *pan* /pã/ ‘bread’ (Sampson 1999, 154). In other varieties of Gascon, however, these vowels have denasalized, e.g. *vin* [bi], while in others, there has been restructuring as a nasal vowel +[-ŋ] (Sampson 1999, 154), e.g. *vin* [biŋ].

4.3 Glides and diphthongs

Standard Occitan has three glide phonemes, /j w ʎ/. Minimal pairs that show /j/ to be in contrast with /i/ are readily available (Wheeler 1988, 250), e.g. *trairà* /traj'ra/ ‘pull out_{3SG.FUT}’ vs *traïra* /trai'ra/ ‘betray_{3SG.FUT}’. In the Gascon of west-central Bearn and the Pyrenean valleys and, to a lesser extent, the central Pau region, /j/ is replaced by [ʒ] in all positions (word-initially, intervocally and postconsonantly), e.g. *jo* [ʒu] ‘me’. The phonemic status of /w/ is not as clear (Wheeler 1988, 250); in the Occitan diasystem, it occurs rarely in syllable onsets and when it appears in codas, it is usually the result of vocalization of /l/, /ʎ/, or /v/. In Gascon, initial /kw/ and /gw/ are retained, where these are simplified to /k/ and /g/ in other dialects, e.g. *quatre* /katre/ ‘four’ > Gasc. ['kwate]. The /ʎ/ phoneme is absent in Gascon; in other dialects, it never occurs in coda position (Bec 1973, 49). Wheeler (1988, 250) notes that the phonemic status of /ʎ/ is ‘very dubious’ and the sequences such as /yj/ and /ʎi/ are not consistently distinguished. In some varieties, such as Rouergat Lengadocian and Vellave Auvernhât (Field 1978, 108, 116–117), glides in stressed syllables alternate with corresponding vowels when stress is shifted in inflected forms, e.g. *dona* [ˈdɔɲɔ] ‘give_{3SG.PRS}’, *donar* [du'na] ‘GIVE_{INF}’; *dobrir* [dur'bi] ‘open_{INF}’; *duèrb* [dʁɛr] ‘open_{3SG.PRS}’. In Vivaro-Alpin, final glides in singular nouns, e.g. *pomièr* [pumej] ‘apple tree_{SG}’, often alternate morphologically with rhotics to mark pluralization, e.g. *pomièrs* [pumer] ‘apple tree_{PL}’ (Field 1978, 123).

In the diasystem, rising and falling diphthongs are formed with a vowel preceded by /j/, /w/, or /ʎ/, or with a vowel followed by /j/ or /w/. The following rising diphthongs are possible: /je/, e.g. *sobrietat* /subrije'tat/ ‘sobriety’; /jɛ/, e.g. *ièr* /jɛ/ ‘yesterday’; /ja/, e.g. *embestiar* /embes'tja/ ‘annoy_{INF}’; /ju/, e.g. *violon* /vju'lun/ ‘violin’; /jɔ/, e.g. *iòga* /jɔ'ga/ ‘yoga’; /ji/, e.g. *saunegi* /saw'neji/ ‘dream_{1SG.PRS}’; /jy/, e.g. *jumpar* /jym'pa/ ‘rock/swing_{INF}’; /ʎe/, e.g. *cuer* /kʁɛr/ ‘leather’; /ʎi/, e.g. *aduire* /a'duire/ ‘bring_{INF}’; /ʎɔ/, e.g. *fuòc* /fʁɔk/ ‘fire’; /ʎu/, e.g. *cuol* /kʁul/ ‘arse’. The diphthong /je/ is used in the standard Occitan suffixes *-ièr/-ièra* [-jɛ/-jɛrɔ] which may be realized as [-ɛ/-ɛrɔ] in Gascon and Auvernhât or as [-ej/-ejrɔ] in northern sub-dialects Gascon (Oliviéri/Sauzet 2016, 323); in Auvergne, this /je/ > [ɛ] realization is also attested in stems, e.g. *mièlhs* [mɛj] ‘better’. /jy/ is realized as [jø] in *rhodanien* Provençal (Coustenable 1945, 58). Even in dialects that retain /ʎ/, Bec (1973, 54–55) notes that /ʎɔ/ and /ʎu/ have the majority realizations of [jɔ] and [ju] respectively, across dialects, e.g. *fuòc* [fjɔk] ‘fire’; *cuol* [kjul] ‘arse’, but Quint (1999, 10) documents *fùoc* [fʁɔ] ‘fire’ in Vivaro-Alpin. In dialects, such as Gascon, where /ʎ/ is absent, the following rising diphthongs are attested: /we/, e.g. *uelh* [weʎ] ‘eye’; /wɛ/, e.g. *cuèlher* ['kwɛʎɛ] ‘fetch_{INF}’; /wa/, e.g. *quatre* ['kwate] ‘four’, /wi/, e.g. *guidar* [gwi'da] ‘guide_{INF}’; /wɔ/, e.g. *coïcar* [kwi'ka] ‘whine_{INF}’, since /ʎ/ is lost. The diphthongs

[wɔ], [wa], and [wɛ] can also arise from the diphthongization of /ɔ/, e.g. *pòrta* ['pɔwɔrtɔ] 'door'.

Possible falling diphthongs are (Bec 1973, 54–55): /ej/, e.g. *veire* /'vejre/ 'see_{INF}'; /ɛj/, e.g. *pèira* /'pɛjɔ/ 'stone'; /aj/, e.g. *maire* /'majre/ 'mother'; /uj/, e.g. *coire* /'kujre/ 'copper'; /ɔj/, e.g. *còire* /'kɔjre/ 'cook_{INF}'; /ew/, e.g. *beu* /bew/ 'drink_{3SG.PRS}'; /ɛw/, e.g. *nèu* /nɛw/ 'snow'; /aw/, e.g. Gasc. *nau* /naw/ 'nine'; /iw/, e.g. *viu* /biw/ 'lively_{M.SG}'; /ɔw/, *nòu* /nɔw/ 'new_{M.SG}'. In *rhodanien* Provençal, /ej/ is variably realized as [i] (Coustenoble 1945, 44), e.g. *èime* ['i:me] 'spirit', /ew/ is variably realized as [ew] (Coustenoble 1945, 37), e.g. *solèlh* [sulew] 'sun', /aw/ as [aw] or [ɔw] in stressed syllables and as [ow] or [u] in unstressed syllables (Coustenoble 1945, 50), e.g. *faudau* [fu'daw] 'apron', and /ɔw/ is variably realized as [ɔw], [ow], or [u] (Coustenoble 1945, 43, 50). However, Coustenoble also posits phonemic /ow/ for *rhodanien*, which contrasts with /ɔw/ and /u/, e.g. *pòutra* ['pɔwtrɔ] 'young female donkey' ~ *pautra* ['powtrɔ] 'burgundy'; *sosleu* [sou'lɛw] 'raising' ~ *solèu* [su'lɛw] 'sun'. The /aj/ diphthong is frequently realized as [ɛj] in *aquitano-pyrénéen* dialects; [ɛj] is attested in Vivaro-Alpin (Quint 1999, 12). /aw/ preserves the same falling Latin diphthong (Wheeler 1988, 247), but can also arise from vocalization, e.g. *sal* [saw] 'salt'; /aw/ is variably realized as [ow] or [ɔw] in unstressed position in Vivaro-Alpin (Quint 1999, 12), e.g. *se pausar* [ʃe pow'zɛ] 'stop oneself_{INF}'. /ɔw/ is realized variably as [ɛw] in Auvernhat (Field 1978, 118), e.g. *nòu* [nɛw], and as [aw] in Gascon, e.g. [naw]. To the series of falling diphthongs with /w/, Bec (1973, 54) adds /ɣw/ for Gascon, e.g. *cuol* [kyw] 'arse'.

Triphthongs are formed with both a pre- and post-vocalic glide. The following combinations are possible (Bec, 1973, 54–55): /ɥɔw/, e.g. *uòu* /ɥɔw/ 'egg'; /ɥej/, e.g. *nueit* /nɥejt/ 'night'; /ɥɔj/, e.g. *cuòissa* /'kɥɔjsɔ/ 'thigh'; /jej/, e.g. *fièira* /fjejɔ/ 'fair_{F.SG}'; /jaw/, e.g. *mial* [mjaw] 'honey' in *nord-occitan*. Bec (1973, 55) also notes that [jɔw] occurs as a variant of /ɥɔw/. For dialects, such as Gascon, without /ɥ/, /ɥ/ is substituted by [w] or sometimes [j]. Additionally, for *rhodanien* Provençal, Coustenoble (1945, 62) posits /jew/ and /jɛw/ as additional phonemes, e.g. *lo sieu* /lu sjew/ 'yours_{M.SG}', *lo fièu* /lu fjɛw/ 'fief', [jɔw] as a variant of /ɥɔw/, and [jej] or [jɔj] as variants of /ɥej/.

5 Suprasegmental phonology

5.1 Stress

The basic stress system of the Occitan diasystem is outlined in 4.2. In short, if the lexical word ends in a heavy syllable (i.e. a diphthong or a consonant), then the

stress is final; otherwise, the stress is penultimate. Therefore, closed syllables (i.e. words ending in consonants) attract primary stress, but many dialects of Occitan have a strong tendency to drop word-final consonants (cf. 4.1.1). This has led to a number of words ending in stressed monophthongal vowels (Wheeler 1988, 251; Olivieri/Sauzet 2016, 238), e.g. *donar* /du'na/ 'give_{INF}', Prov. *qualitat* [kali'ta] 'quality'. Synchronically, therefore, the general rule is that words ending in an underlying consonant are stressed on the final syllable: “les mots terminés par une consonne, articulée ou non, sont accentués sur la dernière syllable” (Bec 1973, 56). Lexical exceptions to the general stress pattern include words like *aquò* /a'kɔ/ 'that' and *aicì* /aj'si/ 'here' (Olivieri/Sauzet 2016, 238), loanwords such as *velò* [ve'lɔ] 'bicycle', and some words ending in *-ol* /-ul/ (Salvat 1973, 16), e.g. *apòstol* /a'pɔstul/ 'apostle'. Additionally, inflection morphemes do not alter that stress pattern of words to which they are affixed, e.g. *canta* /'kanta/ 'sing_{3SG.PRS}', *cantas* /'kanta/ 'sing_{2PS.PRS}'. In central Lemosin, however, stress is systematically re-assigned to the final long or closed syllable, even for inflectional morphemes (Olivieri/Sauzet 2016, 238), e.g. *cantas* [tʃan'ta:] 'sing_{2SG.PRS}' or [san'ta:]. While *nissart* Provençal allows antipenultimate stress in general, e.g. *pèrsegue* ['pesege] 'peach', Aranese Gascon only allows it in learned words (Olivieri/Sauzet 2016, 238), e.g. *musica* ['myzika] 'music'. In some dialects, such as *albonnais* Vivaro-Alpin, stress alone distinguishes grammatical person (Quint 1999, 5), e.g. *fenisse* [fe'nije] 'finish_{1SG.PRS}' ~ *fenissètz* [feni'je] 'finish_{2PL.PRS}'.

5.2 Prosodic organization

Sichel-Bazin/Buthke/Meisenburg (2015_351) define prosody as a “set of phenomena involving variations in pitch, temporal organization and intensity during the speech act”. Full empirical studies of Occitan are in short supply; Sichel-Bazin (2011, 2) cites three reference studies of Occitan prosodic organization, each of which uses a different prosodic transcription system and theoretical framework: Hualde (2003) on Lengadocian; Lai (2005) on Vivaro-Alpin; Dourdet (2006) on Lemosin. It is also worth noting the Coustenoble's (1945) study of Provençal is somewhat pioneering in the investigation of intonational patterns in Occitan. In order to address these disparities, both in terms of geographical breadth and analytical focus, the *Atlas interactiu de l'intonacion de l'occitan* (Prieto/Sichel-Bazin/Meisenburg 2007–2014) was created to survey all six main dialects within the same theoretical framework: Autosegmental-Metrical (AM) Theory. In the *Atlas*, participants were required to complete a map task and a sociolinguistic interview, as well as taking part in a role play (following Prieto 2001) which sought to document 47 ‘semi-spontaneous’ utterance types with different sociopragmatic functions including assertions, yes-no questions, wh-questions, imperatives and vocatives (Sichel-Bazin 2011).

The data from the *Atlas* has given rise to a series of studies of Occitan prosody which make use of the AM theoretical framework; this approach considers high (H) and low (L) tones (autosegments) to be the basic units of intonational structure. These tones (or combinations thereof) have phonemic value when they occur as pitch accents on metrically strong (stressed) syllables, which act as anchor points for these pitch accents. The theory distinguishes between prominent syllables, which bear pitch accents (indicated by *), and phrasal (or constituent) boundaries, which act as anchor points for boundary tones (indicated by %); both pitch accents and boundary tones can be simple, e.g. L*, H*, L%, H%, or complex (Sichel-Bazin 2011, 844), e.g. L+H*, L*+H, H+L*, LH%. In articulatory terms, prominent syllables are usually marked by clearer segmental articulation and an increase in fundamental frequency (f0), duration and/or intensity (Ladd 1996, 46–51). Boundaries, on the other hand, are marked by pre-boundary lengthening and/or tonal marking.

The intonational phrase (IP) is the highest constituent of prosodic structure in Occitan. The head of the IP is a prominent or ‘nuclear’ accent, which usually occurs as final lengthening; a boundary tone (T%) marks its right edge and is usually followed by a pause (Sichel-Bazin/Buthke/Meisenburg 2015, 359). The IP is made up of one or more accentual phrases (AP), which may contain more than one lexical item plus clitics; the AP is an important prosodic feature that Occitan shares with French. Essentially, it is APs that bear pitch accents, not just lexically stressed syllables; indeed, not all lexically stressed syllables bear a pitch accent (Sichel-Bazin/Meisenburg/Prieto 2015, 232). In both Occitan and French, an optional initial rise (Hi) can occur on syllables that do not bear lexical stress, and epistemic bias can be expressed by nuclear pitch accents that present a pre-accentual rise (Sichel-Bazin/Meisenburg/Prieto 2015, 200). The right edge of the AP is marked by a pitch accent on its last stressed syllable (either the final syllable or the penultimate syllable); the left edge is marked by an optional low boundary tone (aL) and/or an initial rise (Hi). The tonal structure of the AP is thus /(aL)(Hi)T*/, where T* is the pitch accent (Sichel-Bazin/Meisenburg/Prieto 2015, 232).

5.3 Nuclear configurations and applications

Sichel-Bazin/Meisenburg/Prieto (2015, 229) report that six types of pitch accent have been found in Occitan: L*, H*, L+H*, L+<H*, H+L*, and H+H* which may combine with boundary tones (L% or H%) in various ways to form specific nuclear configurations with associated sociopragmatic values. The following summary of these nuclear configurations draws on Sichel-Bazin/Meisenburg/Prieto (2015, 229–232), which should be consulted for full discussion and exemplification of the issues and variability involved; this analysis

compares Occitan spoken in France (Oc-F) with the Occitan subdialects Aranese (A) (in contact with Catalan and Spanish) and Cisalpine (C) (in contact with Piedmontese and Italian); phrasal examples for each configuration can be consulted in the methodology section of the *Atlas interactiu de l'intonacion de l'occitan* site (Prieto/Sichel-Bazin/Meisenburg, 2007–2014).

A progressive fall to the end of the utterance (L* L%) is used to indicate finality in broad (Oc-F, A) and narrow (Oc-F) focus statements, in post focal-sequences, in information seeking yes-no questions headed by *es que* (Oc-F), in information seeking wh-questions, and in gentle commands. A rise in the nuclear syllable followed by a fall (L+H* L%) is used for narrow focus statements, exclamations, confirmation-seeking yes-no questions, emphatic wh-questions, and echo statements with positive bias. A peak in the nuclear vowel followed by a fall (H* L%) is used for one-word commands, urgent commands, and vocatives. A rise, or a high plateau, in the preaccentual syllable and a fall in the nuclear syllable (H+L* L%) are used for categorical statements (Oc-F), exclamations (Oc-F), broad focus statements in Cisalpine, and confirmation-seeking yes-no questions in Aranese. A rise in the preaccentual syllable to a peak in the nuclear syllable, followed by a fall (H+H* L%) is used in the Occitan spoken in France for statements of the obvious, exclamations, confirmation-seeking yes-no questions, and requests.

A rise in the nuclear syllable that continues until the end of the utterance (L+H* H%) is used in all varieties for continuation, information-seeking yes-no questions, and echo questions with negative bias. A low pitch in the nuclear syllable followed by a rise (L* H%) is used for information-seeking yes-no questions (mainly in Aranese) and for contrastive topic in incredulity echo yes-no questions (mainly in Oc-F). A fall in the nuclear syllable followed by a rise (H+L* H%) is used in Aranese for incredulity echo yes-no questions and a rise in the nuclear syllable followed by a sustained mid-level plateau (L+H* !H%) is used for vocative chants in Aranese and Cisalpine, and for continuation in Cisalpine. Finally, a low pitch in the nuclear syllable followed by a rising-falling movement (L*HL%) is used for requests in Aranese.

5.4 Contact-induced prosodic change

Occitan is normally described as a stress-timed language (cf. 5.1), where lexical stress is central to prosodic organization. However, since Occitan finds itself in a situation of language contact with French in France, with Catalan and Spanish in Spain, and with Italian and other Italo-Romance dialects in Italy, it is no surprise that there is evidence of contact-induced prosodic transfer in Occitan from these more dominant languages. Focusing specifically on contact between Occitan and French, the *Intonation im Sprachkontakt: Okzitanisch und Französisch* (ISOF)

project has studied in depth the bilateral prosodic influence between these languages in contact. In contrast to Occitan, French is traditionally described as a syllable-timed language, where the primary metrical structure is the rhythmic group, the final syllable of which bears stress:

Qu'ei un mossur francés qui'v atend entà'v demandar un renshament
/ke.jỹ.mu'sy.fran'ses.ki.pa'ten.den'tap.de.man'da.ỹ.ren.se.na'men/

be._{3SG-PRS} a man French._{1.M-SG} who for you._{SG} wait._{3SG-PRS} to you._{SG} ask for._{INF} information.

C'est un monsieur français qui vous attend pour vous demander un renseignement
/sɛ.tœ.mə.sjø.fvã.'sɛ | ki.vu.za.'tã | puʁ.vu.dmã.'de | œ.vã.sɛn'mã //

Despite this, the nuclear configurations outlined in 5.3 are overwhelmingly similar in Occitan and French, except perhaps for statements of the obvious and vocatives. The ISOF project has demonstrated, however, that southern regional French displays features of traditional Occitan prosodic structure, notably lexical stress, while Occitan, in turn, appears to have adopted the rhythmic group from French. The rhythmic group corresponds, in the autosegmental metrical framework, to the AP (cf. 5.2) such that, in both languages, the final (or penultimate) syllable – the head – of the AP is marked (by f0, intensity, duration). Occitan also displays initial rises (Hi), characteristic of French prosody (Sichel-Bazin/Buthke/Meisenburg 2015, 355-356); these rises, however, align with the left edge of the first context word of the AP in French, but with the AP as a whole in Occitan (Sichel-Bazin/Buthke/Meisenburg 2015, 357). The outcome of Occitan adopting the AP from French is the (at least partial) deaccentuation of lexically stressed syllables and the concomitant accentuation of group-final syllable that may not traditionally bear stress (cf. 5.2):

/ke.jỹ.mu.sy.fran'ses | ki.pa'ten | en.tap.de.man'da | ỹ.ren.se.na'men //

While lexical stress has been shown to weaken in Occitan due to contact with French, it is not completely lost; Sichel-Bazin/Buthke/Meisenburg (2015, 361) found slight prominences on traditionally lexically-stressed syllables within the AP and these prominences were also found for southern regional French speakers, demonstrating transfer from Occitan to French as well. Outside of France, Sichel-Bazin/Meisenburg/Pietro (2015, 50–51) found that Aranese had adopted its default pre-nuclear accent – rising with a delayed peak (L+<H*) – and a bitonal boundary tone (HL%) from its contact languages, Catalan and Spanish.

6 References

- Alibèrt, Louis (1935), *Gramatica occitana segón los parlars lengadocians*, Toulouse, Societat d'Estudis Occitans.
- Alibèrt, Louis (1965), *Dictionnaire occitan-français, d'après les parlars languedociens*, Toulouse, Societat d'Estudis Occitans.
- Alibèrt, Louis (1976), *Gramatica occitana, segon los parlars lengadocians*, Montpellier, Centre d'Estudis Occitans.
- Bec, Pierre (1963), *La langue occitane*, Paris, Presses Universitaires de France.
- Bec, Pierre (1973), *Manuel pratique d'occitan moderne*, Paris, Picard.
- Bouzet, Jean (1928), *Manuel de grammaire béarnaise*, Pau, Marrimpouey Jeune.
- Cardaillac Kelly, Reine (1973), *A descriptive analysis of Gascon*, The Hague/Paris, Mouton.
- Castet, Abbé Guillaume (1895), *Études grammaticales sur le dialecte gascon du Couserans*, Foix, Gadrat aîné.
- Coustenoble, Hélène N. (1945), *La phonétique du provençal moderne en terre d'Arles*, Hertford: Austin.
- Dourdet, Jean-Christophe (2006), *Les systèmes accentuels et intonatifs dans le parler occitan de Montembœuf en Charente limousine*, Masters thesis, Université de Poitiers.
- Elcock, William, D. (1960), *The Romance languages*, London: Faber & Faber.
- Field, Thomas T. (1978), *Modern Occitan phonology and dialectology*, PhD dissertation, Cornell University.
- Ford, Harry E. (1921), *Modern Provençal phonology and morphology. Studied in the language of Frédéric Mistral*, New York, Columbia University Press.
- Grosclaude, Michel (1986), *La langue béarnaise et son histoire. Étude sur l'évolution de l'occitan du Béarn*, Orthez, Per Noste.
- Harris, M. (1988), "The Romance languages", in: Martin Harris / Nigel Vincent (edd.), *The Romance languages*, London/Sydney, Croom Helm, 246–278.
- Hualde, José I. (2003), "Remarks on the diachronic reconstruction of intonational patterns in Romance with special attention to Occitan as a bridge language", *Catalan Journal of Linguistics* 2, 181–205.
- Judge, Anne (2007), *Linguistic policies and the survival of regional languages in France and Britain*, Basingstoke, Palgrave Macmillan.
- Kremnitz, Georg (1974), *Versuche zur Kodifizierung des Okzitanischen seit dem 19. Jahrhundert und ihre Annahme durch die Sprecher*, Tübingen, Narr.
- Ladd, Robert (1996), *Intonational phonology*, Cambridge, Cambridge University Press.
- Lafont, Robert (1971), *L'ortografia occitana. Sos principis*, Montpellier, Centre d'Estudis Occitans.

- Lai, Jean-Pierre (2005), “Étude de l’intonation d’un parler occitan: Gap”, *Géolinguistique* 3, 65–86.
- Lodge, R. Anthony (1993), *French. From dialect to standard*, New York, Routledge.
- Molyneux, Roger-Gordon (2002), *Grammar and vocabulary of the language of Béarn. For beginners (abridged and translated from the works of Vastin Lespy)*, Monein, Éditions Pyrémone.
- Mooney, Damien (2014), “Illustrations of the IPA: Béarnais (Gascon)”, *Journal of the International Phonetic Association* 44, 343–350.
- Mooney, Damien (2016), *Southern Regional French: A Linguistic Analysis of Language and Dialect Contact*, Oxford, Legenda.
- Mooney, Damien (2018), “Quantitative approaches for modelling variation and change. A case study of sociophonetic data from Occitan”, in: Wendy Bennett / Janice Carruthers (edd.), *Manual of Romance Sociolinguistics*, Berlin/New York, De Gruyter, 59–87.
- Moreux, Bernard / Puyau, Jean-Marie (2002), *Dictionnaire français-béarnais*, Monein, Éditions Pyrémone.
- Müller, Daniela / Martin Mota, Sydney (2012), “A preliminary acoustic study of the Occitan vowel system”, in: Mario Barra-Jover / Guylaine Brun-Trigaud / Jean-Philippe Dalbera / Patrick Sauzet / Tobias Scheer (edd.), *Études de linguistique gallo-romane*, Vincennes: Presses Universitaires de Vincennes, 149–159.
- Olivieri, Michèle / Sauzet, Patrick (2016), “Southern Gallo-Romance (Occitan)”, in: Adam Ledgeway / Martin Maiden (edd.), *The Oxford guide to the Romance languages*, Oxford, Oxford University Press, 319–349.
- Posner, Rebecca (1996), *The Romance languages*, Cambridge, Cambridge University Press.
- Prieto, Pilar (2001), “L’entonacio dialectal del catala: El cas de les frases interrogatives absolutes”, in: August Bover / Maria-Rosa Lloret / Mercè Vidal-Tibbits (edd.), *Actes del Novè Colloqui de la North American Catalan Society*, Barcelona, Publicacions de l’Abadia de Montserrat, 347–377.
- Prieto, Pilar / Sichel-Bazin, Rafèu / Meisenburg, Trudel (coords.) (2007–2014), *Atlas interactiu de l’intonacion de l’occitan*, <http://prosodia.upf.edu/atlasintonacion/> (2018-23-03).
- Quint, Nicolas (1999), *Le parler occitan ardéchois d’Albon. Canton de Saint-Pierre-ville, Ardèche. Description d’un parler alpin vivaro-vellave du boutié-rot moyen*, Paris, L’Harmattan.
- Rohlf, Gerhard (1977), *Le gascon. Études de philologie pyrénéenne*, 3rd ed. Tübingen, Niemeyer (1st ed. 1935).
- Roque-Ferrier, Alphonse (1878), “Un fragment de poème en langage de Bessan (Hérault)”, *RLaR* 14, 24–31.

- Ronjat, Jules (1937), *Grammaire istorique des parlars provençaux modernes*, Montpellier, Société des Langues Romanes.
- Salvat, Joseph (1973), *Grammaire occitane des parlars languedociens*, Toulouse, Privat.
- Sampson, Rodney (1999), *Nasal vowel evolution in Romance*, Oxford, Oxford University Press.
- Sibille, Jean (2012), “Le parler occitan de Chiomonte (Italie). Situation linguistique et sociolinguistique”, in: Franck Neveu / Valelia Muni Toke / Peter Blumethal / Thomas Klinger / Pierluigi Ligas / Sophie Prévost / Sandra Teston-Bonnard (edd.), *3e congrès mondial de linguistique française*, EDP Sciences, Institut de linguistique française, 2231–2248.
- Sichel-Bazin, Rafèu (2011), “Oc-ToBI: un projècte d’estudi de l’intonacion de l’occitan e de sos dialèctes”, in: Angelica Rieger (ed.), *Actes du neuvième congrès international de l’Association Internationale d’Études Occitanes*, Aachen, Shaker, 843–849.
- Sichel-Bazin, Rafèu / Buthke, Carolin / Meisenburg, Trudel (2015), “The prosody of Occitan-French bilinguals”, in: Kurt Braunmüller / Christoph Gabriel (edd.), *Multilingual individuals and multilingual societies*, Amsterdam/Philadephia, Benjamins, 349–364.
- Sichel-Bazin, Rafèu / Meisenburg, Trudel / Prieto, Pilar (2015), “Intonational phonology of Occitan. Towards a prosodic transcription system”, in: Sónia Frota / Pilar Prieto (edd.), *Intonation in Romance*, Oxford, Oxford University Press, 198–234.
- Sumien, Domergue (2006), *La standardisation plucentrique de l’occitan. Novel enjeu sociolinguistique, développement du lexique et de la morphologie*, Turnhout, Brepols.
- Walter, Henriette (1988), *Le français dans tous les sens*, Paris, Robert Laffont.
- Wheeler, Max W. (1988), “Occitan”, in: Martin Harris / Nigel Vincent (edd.), *The Romance languages*, London/Sydney, Croom Helm, 246–278.