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Moving up and down throughout the seasons

Winter and summer grazing between Provence and the southern Alps (France) AD 1100–1500

SYLVAIN BURRI, VANESSA PY-SARAGAGLIA AND ROXANNE CESARINI

INTRODUCTION

‘Transhumance’ is a key component of the cultural identity of south-eastern France, as evidenced by the organisation of just such a movement as a celebration of Marseille’s nomination as 2013’s European Capital of Culture in 2013. Today transhumance is considered more as a timeless and fixed phenomenon or an ancient and perpetual activity. The ‘Great Transhumance’ occurred between eighteenth and mid-twentieth centuries and was routed between the plains of western Provence (especially the Crau) and the southern French Alps and Italian Piedmont (Clapier, 1838; Fournier, 1900; Guillaume, 1908; Rouquette, 1913; Truchot, 1936; Fabre, 1997; Musset, 2006; Pichard, 2006; Lebaudy, 2000, 2006, 2011; Lebaudy & Albera, 2001). However, the origins of this phenomenon are usually assigned to medieval and ancient times and applied to all the Provençal territory, thereby creating a real historical, geographic and cultural paradigm. For these reasons, it is critical to define transhumance. In the Mediterranean area, ‘transhumance’ refers to the seasonal migration of animal herds between different (but complementary) ecological and climatic regions with various availabilities of grass according to the season. This is especially true in the Provençal lowlands and the Alpine uplands. Seasonal migration is not only an adaptation to environmental constraints, but also an economic strategy used to optimise animal husbandry and whose character, extent and magnitude also depend on social, economic and institutional conditions. Seasonal migration becomes necessary only when the number and the size of herds exceed the fodder capacities of the area in which they are kept, i.e. when animal husbandry becomes speculative (Coulet, 1986, 1996; Moriceau, 2005: 325–71).

The transhumance history must be written step by step. In order to begin to overcome the Great Transhumance paradigm, we use the term ‘transhumance’ with caution and only when we feel genuinely justified. Since it is associated with modern scholarly classification (Rendu, 2006), we prefer medieval terminologies of summering (migration for summer grazing) and wintering (migration for winter grazing)

rather than ‘*transhumance normale*’ (a practice in which livestock from the plains and hills of Provence summer in the Alps) and ‘*transhumance inverse*’ (a practice in which Alpine flocks winter in the plains and hills of Provence). Other expressions one finds in the literature which further muddy the waters include “Mediterranean transhumance” and “Alpine transhumance” (Davis, 1941). Indeed, the latter refers to seasonal vertical mobility between valley and upland pastures in a single territory or neighbouring territories regulated by common rights or *compascuité* agreements. The livestock which graze in the high mountains in summer are kept in stables in nearby valleys during the winter. “Alpine transhumance” therefore does not refer to a mid-to-long-distance migration between complementary grazing areas (a movement which would not have to involve vertical mobility). Geographers have studied pastoral migration between the southern Alps and Provence since the early twentieth century (Arbos, 1915, 1922; Blanchard, 1950; Artaud, 1961–1962; Gardelle, 1965). T. Sclafert pioneered the historical study of animal husbandry in southern France (Sclafert, 1926, 1934, 1939, 1959). While some historians dealt with this topic in broader rural studies (Février, 1959; Durbec, 1967; Paillard, 1968; Malausséna, 1969; Stoff, 1986; Struyf, 1977), specific research was completed by P. Coste (1972, 1977; Coste & Coulet, 1994) and N. Coulet (1978, 1986, 1988, 1990, 1996, 1998, 2001a, 2001b) in Provence and later by H. Falque-Vert (1997, 2006) in Dauphiné. There are relatively few further studies (Kaiser-Guyot, 1974; Besson, 1977; Leydet, 1982; Boyer, 1990; Venturini, 1997; Lassalle, 1997, 2001, 2006; Lassalle & Palmero, 2010; Mouthon, 2007; Carrier & Mouthon, 2010). By contrast, archaeologists started to study pastoral settlements in the mountainous environments of the Pyrenees in the 1980s (Rendu, 1998, 2000, 2003; Rendu et al., 2016). In the French southern Alps, research started in the Ecrins Massif in the 1990s (Mocci et al., 2005; Walsh, 2005; Walsh et al., 2003, 2011; Walsh et al., 2010) and then continued, albeit to a lesser extent, in other areas: Vercors and Dévoluy-Buëch (Morin & Picavet, 2006; Morin et al., 2010), Champsaur and Ubaye Valley (Palet-Martinez et al., 2003; Garcia et al., 2007)

and Mercantour (Geist, 2006; Suméra & Geist, 2010). Despite the diachronic nature of these investigations, the majority focused on human occupation and upland pasture uses during prehistory and how those phenomena evolved up to Roman times (Jospin & Favrie, 2008). Specific attention was paid to the environmental impact of human activities in those areas (Court-Picon et al., 2007; Walsh et al., 2007, 2014; Brisset, et al., 2012; Segard, 2009). Those studies which focused on the medieval period centred around the exploitation of natural resources (mainly woodlands) and mining activities (Py et al., 2014; Py-Saragaglia, et al., 2015). Although archaeoenvironmental and archaeological studies demonstrate the continuity of human activities in upper mountain areas already from the Bronze Age and their strong intensification during the medieval period, very few focused on medieval pastoral structures. Moreover, in direct contrast with high mountain archaeology, lowland pastoral archaeology is almost non-existent. The only data available were derived from excavations in the Crau plain (Badan et al., 1995; Henry et al., 2010) and central Provence (Burri, 2012, 2014).

Despite the fact that archaeologists have demonstrated the prehistoric origin of Alpine vertical mobility in the French southern Alps, the origin of the mid- and long-distance seasonal migration of flocks is still a hot topic. Since the discovery of several large Roman sheep pens in the Crau Plain in western Provence (Badan, et al., 1995, 2006; Leveau & Segard, 2004; Leveau, 2006a, 2006b), discussion of this topic has increased exponentially. Archaeozoological studies have shown that these sheep pens were occupied in winter (Congès & Leguilloux, 2012). After consultation with the ancient records (Strabon, Pliny the Elder), Italian models of Roman transhumance and the organisation of the modern Great Transhumance, scholars concluded that the seasonal long-distance migration of flocks from the Crau to the southern Alps existed during the Roman era. However, archaeological and archaeoenvironmental data from the southern Alps did not show important human occupation evidence in upland pastures during this period. To the contrary, they even suggested their abandonment in some areas (Mocci et al., 2005, 2010; Walsh, 2005; Walsh & Mocci, 2011; Walsh et al., 2013, Walsh et al., 2010, 2016; Palet-Martinez et al., 2003; Garcia et al., 2007; Segard, 2009). Historical studies demonstrated that even in the late medieval period (fourteenth–fifteenth centuries), only the largest flocks from the Arles-Crau area (more than 500 animals) migrated to Alpine valleys during summer, while the others stayed in the Crau or were moved to the neighbouring wetland pastures of the Camargue and the surroundings marshes and hills of Alpilles and Luberon (Stouff, 1986: 450–51; Coste & Coulet, 1994). Both elements

either mitigate or bring into question the existence of a Roman summering migration to the Alps (Badan et al., 2006; Leveau & Segard, 2004; Leveau, 2006a, 2006b). Recent inferences from ethno-archaeological studies have caused the reinterpretation of the lack of Roman pastoral remains as a result of an economic “shift from a dairying-focused Alpine pastoralism to a wool/meat-focused transhumance” (Carrer, 2015:16). However, the dichotomy between wool- and meat-focused and dairying-focused husbandry has not been proven in antiquity and did not exist during the medieval period: long-distance migrant herds were also exploited for dairy products and local Alpine flocks were also bred for their meat, wool and skins (Arnaud d’Agnel, 1908; Sclafert, 1926, 1959; Paillard, 1968; Kaiser-Guyot, 1974: 64–66; Struyf, 1977; Leydet, 1982; Coulet, 1988a; Carrier & Mouthon, 2010). Data are still insufficient to prove the existence of an ascending animal migration from Provence to the Alps during the Roman period. Obviously, this does not mean that pastoral husbandry was not largely practised during Roman and early medieval periods. Whereas the use of the Crau sheep pens ended in the fifth century AD, five upland pastoral sites (huts and enclosures) attest to Alpine pastoral activities during the early medieval period (Palet-Martinez et al., 2003; Segard, 2009; Mocci et al., 2005). The few early medieval written sources which address this topic also confirm the use of Alpine upland pastures (Geary, 1985: 52; Carrier & Mouthon, 2010: 59–61; Durand, 2014, 2016) but do not reference an actual seasonal migration of herds from another region. This paper focuses on the period from AD 1100 to 1500, which is characterised by the first evidence of seasonal migration, its development, structuring and globalisation. In particular, it aims to create a better understanding of medieval mid- and long-distance herding between the Provence and the southern Alps. Furthermore, it proposes the first synthesis of previous and current historical and archaeological investigations (which are unpublished, at least in part) as a milestone for future research (Figure 10.1). This is addressed with the caveat that this paper deals only with the seasonal migration of sheep and goats as they represent the majority of animal husbandry in late medieval Provence. The mobile herding of cattle, horses and swine were more or less significant across different areas (Sclafert, 1928, 1959; Stouff, 1966; Malausséna, 1969; Coulet, 1978; Struyf, 1977). Moreover, this paper highlights the chronology and geography of both wintering and summering migration systems and their gradual fusion. It also explores their economic, social and logistical organisation (schedules, structure, actors and routes). Finally, by blending historical and archaeological data, it examines the daily life of the shepherds on summer and winter pastures.

DOUBTS AND THE FIRST EVIDENCE OF SEASONAL PASTORAL MIGRATION BETWEEN PROVENCE AND THE SOUTHERN ALPS AD 1100–1300

The winter grazing of Alpine herds in Provence: a customary practice

Before the thirteenth century, the documentary records (which are almost exclusively produced by monastic communities) deal with monastic herds. From the mid-twelfth century onwards, the livestock of the chartreuse of Durbon was moved down either to Forcalquier or Vienne and Albon counties near the Rhône Valley. The abbeys of Vercors (Leoncel and Les Ecouges) took their animals to the north (Wullschleger, 1994). At the same time, the abbey of Boscodon had the right to send its flocks to Provence and to Forcalquier counties, although no further details can be gleaned from the archives (Figure 10.2). The abbeys of Lure and Cruis on Lure Mountain had some grazing rights in Mouriès on the Crau Plain (Nicollet, 1925; Sclafert, 1959). However, the downwards migration of herds for the winter

did not concern monastic herds alone. Indeed, flocks from the high Roya Valley over-wintered in the Ligurian lowlands in the mid-eleventh century and on the Provence coast during the late twelfth century (Février, 1959; Coulet, 1978; Lassalle, 2001). In contrast, Alpine herds from the Queyras usually went down to the Po Valley in winter (Falque-Vert, 1997; 2006). Fiscal documents from the mid-thirteenth century relating to tax collection on migrating herds (*pasquerium*) define a spatial boundary between upper and lower Provence. This boundary fits well with the limits of summer and winter pastures (Guichard, 1846; Durbec, 1967; Barattier, 1969; Coste, 1972; Coste & Coulet, 1994; Venturini, 1997). These documents not only prove the antiquity, but also the customary nature of the downward migration of upland flocks in Provence. The customary nature of this wintering is confirmed by the first preserved accounting registers which date from 1299. These documents concern the *baillies* of Brignoles, Saint-Maximin and (to a lesser extent) Barcelonnette and record the number and size of wintering flocks coming from the Bléone, Asse, Ubaye, Var and Verdon Valleys (Sclafert, 1959; Coulet, 1978).

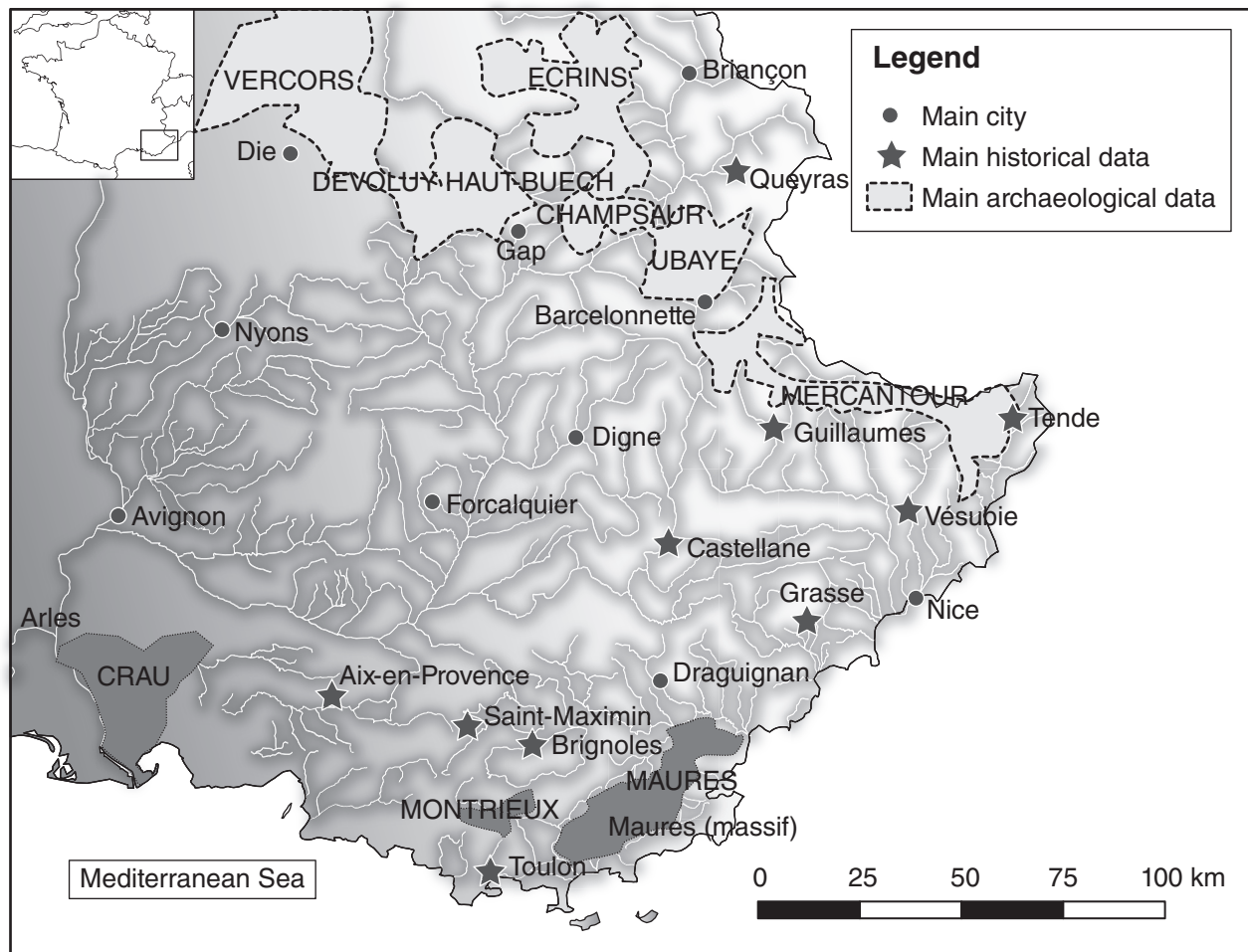


Figure 10.1. Study area
Source: R. Cesarini

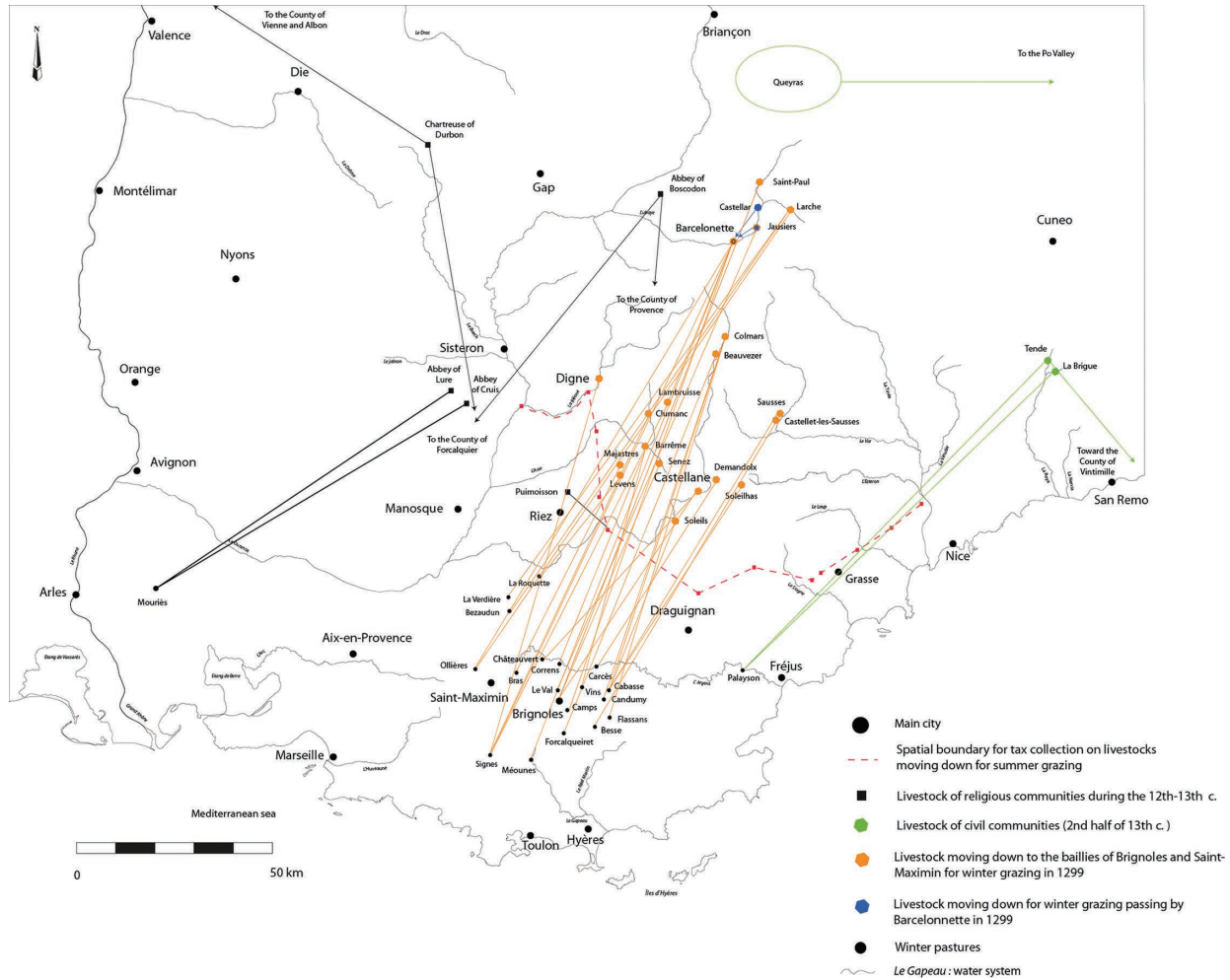


Figure 10.2. Wintering flows of Alpine herds (AD 1100–1300)
Source: S. Burri

Summer ascending migration of flocks from Provence to the southern Alps

From the eleventh century onwards, Provençal monasteries acquired pastures both in the mountains and lowlands, suggesting the establishment of complementary pastoral areas composed of winter and summer pastures. That being said, the possession of these pastures did not necessarily imply the migration of flocks from one to the other. For example, during the eleventh century, the abbey of Saint-Victor de Marseille acquired pastures in the middle and upper Verdon Valley in the Saint-Geniez-Dromon Massif as well as in the Var Valley and the Pre-Alps of Riez. While T. Sclafert (1939, 1959) interpreted the formation of this vast pastoral domain as evidence of the herds' summer migration, H. Bresc (Abbé et al., 1996: 6) is more cautious and warns us against the absence of concrete evidence for migration. The first concrete documentary evidence of summer migration describes the presence of flocks from the

abbey of Saint-Pons de Nice which grazed in the Val-debllore during the mid-eleventh century (Boyer, 1990: 60–1). Things became clearer during the twelfth and thirteenth centuries through the acquisition of grazing and passage rights by several monasteries. The abbey of Le Thoronet obtained pasture rights in Saint-Auban (1146) and in Soleilhas (1184). During the first part of the thirteenth century, monks extended their pastoral area to the middle Verdon Valley (Aiguines, Bagarry, Bauduen, La Palud and Rougon), the Pre-Alps of Digne (Levens and Creisset), the north of the *viguerie* of Draguignan (Châteaueux and La Martre) and to the plateaus of the Grasse hinterlands (Séranon and Gourdon). In addition, their pastoral activity was supported by their exemption to the *pasquerium* granted by the Count (Barbier, 1994). During the thirteenth century, the Carthusians of Montrieux obtained grazing rights over the territory of Castellane and in the Durance Valley (Oraison). Over time, they became gradually exempt from toll payments in Castellane, La Roquette, Oraison,

Gaubert and Barjols. The Castellane toll road led to the pastures of the upper Verdon Valley and to the middle and upper Var Valley, while those in Barjols and Quinson gave access to the lower and middle Verdon Valley. The Gaubert toll station opened the way to the Digne Pre-Alps and, finally, through Oraison, the herds travelled up the Durance Valley. During the same period (1244), the Chartreuse of La Verne obtained grazing rights to the entirety of Castellane territory and was then exempted from all grazing taxes and toll payments therein (1328). The grazing area of the Valbonne abbey's livestock was smaller and was confined to the Grasse hinterlands: La Malle, Gourdon and Caussols (Coulet, 2001a). Finally, the sheep of the Hospitallers of Puimoisson were moved up over a very small distance to Aiguines (Maurel, 1897; Sclafert, 1959: 23). In legal documentation, conflicts related to the presence of Provence herds in pastures belonging to Boscodon-Les Crottes and Saint-Paul-sur-Ubaye demonstrate that peasant communities' flocks already shifted between the Provencal lowlands and Alpine uplands during the late thirteenth century (Sclafert, 1959; Coulet, 1978). The accounting register of Barcelonnette (1299) confirm the summer migration of flocks coming from La Verdère and Castellane to Ubaye Valley via Barcelonnette (Coulet, 1978).

WINTERING AND SUMMER MIGRATION FLOWS FROM AD 1300 TO 1500

In the fourteenth century, written documents (deeds, accounting registers and other legal documentation) increased. Their preservation allows us to shed some light on mid- and long-distance mobile herding. A gradual increase in Provencal sheep husbandry occurred from the mid-fourteenth century onwards. It intensified during the second quarter of the fifteenth century with the rise of free upland pasture areas due to a decline in Alpine demography. This was compounded by the development of the wool market and a rise in meat consumption¹ (Stouff, 1970; Coulet, 1986, 1988a; Carrier & Mouthon, 2010). This economic dynamism was accompanied by an increase in herd size; large herds of several thousands of animals exceeded the summer fodder capacity of Provencal pastures. This change in the scale of animal husbandry required increased mid- and long-distance migration in order to obtain adequate fodder for the animals. From 1430 onwards, summer ascending migration seems to have become more prominent at the expense of inverse movements. However, the growing complexity of the pastoral economy is reflected by the use of a herding contract – called a '*mégerie*' – between Alpine and Provence herders. Through this, they bring together their respective livestock. This led to the fusion of wintering and summering

systems as was recorded in the Castellane accounts from the early sixteenth century (Besson, 1977; Coulet, 1978; Burri, 2012: 291–307; 351–62). Despite being incomplete, fourteenth and fifteenth-century written sources provide enough information for seasonal flows to be mapped relatively accurately (Capus, 1681; Guichard, 1846; Arbos, 1915; Nicollet, 1925; Sclafert, 1926, 1934, 1939, 1959; Février, 1959; Durbec, 1967; Paillard, 1968; Birrell, 1968; Baratier, 1969; Malausséna, 1969; Coste, 1972, 1977; Stouff, 1966, 1986; Struyf, 1977; Leydet, 1982; Royer, 1988; Coste & Coulet, 1994; Coulet, 1978, 1986, 1988a, 1988b, 1990, 1996, 2001a, 2001b; Boyer, 1990; Falque-Vert, 1997, 2006; Barbier, 1994; Wullschleger, 1994; Venturini, 1997; Lassalle, 2001; Lassalle & Palmero, 2010; Ghersi, 2004; Musset, 2006; Burri, 2012, 2014; Blanc, 2014.² The distribution of both summering and wintering areas resulted from gradual competition between herding areas as well as between herders themselves (Coulet, 1978, 1988a: 373–84). What is presented here is only the general trend.

Wintering flows

Winter grazing flows can be mapped for all areas other than western Provence.³ Sheep coming from the Bleone and Asse valleys mainly moved down to the *baillies* of Saint-Maximin and Brignoles (Figure 10.3). Flocks from the Ubaye Valley grazed only on small area west of Brignoles, while those from the Verdon and Var valleys wintered in the whole of central Provence from Saint-Maximin in the west to Fréjus in the east. In eastern Provence, sheep from the Grasse hinterlands and the Roya Valley were moved either within the Grasse hinterlands or to central Provence. On the contrary, livestock from the high Vésubie Valley seemed to have stayed in the base of valley and around Nice (Figure 10.4). The movements of flock from the *viguerie* of Draguignan were characterised by the short distances they covered within the *viguerie*. Here, it is very interesting to highlight the existence of winter pastoral migration conducted by lowland communities. However, this practice was recorded neither in common rights nor in *compascuité* agreements. Instead, it was the subject of wintering contracts. The distance travelled ranged from less than 10 km to more than 140 km (Figure 10.8a). N. Coulet (1978) has defined three scales of migratory flows for wintering: small scale from 1 to 40 km, medium scale from 40 km to 80 km and large scale over 80 km.⁴ Using this classification, we can characterise the scale of migratory flows from each area of origin: small-scale migration for flocks from the Vésubie Valley and upper and lower Provence; medium-scale mobility for those from the high plateaus and the Asse Valley and large-scale migration from the Verdon, Var, Bleone

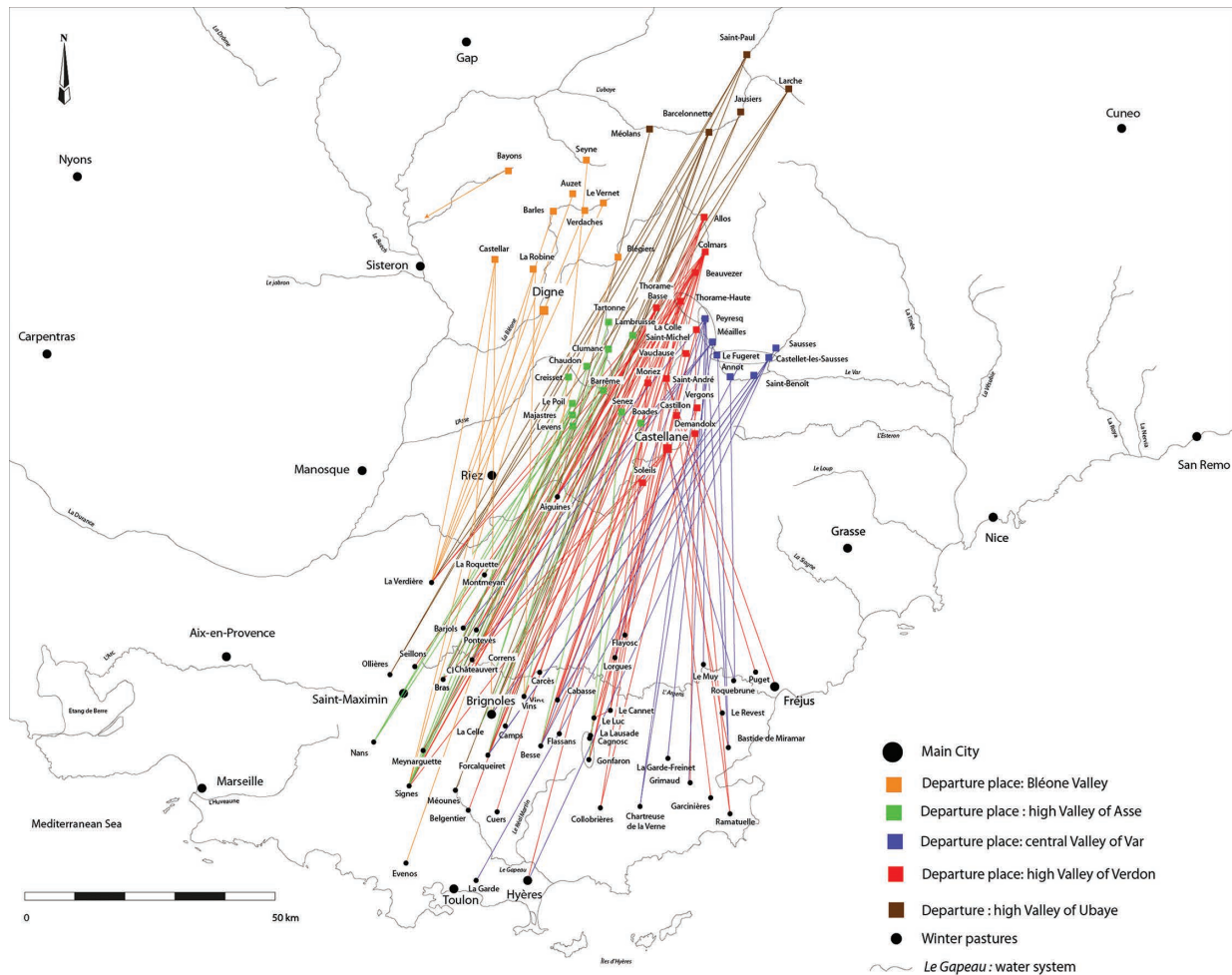


Figure 10.3. Winterring flows of western and central Alpine herds (AD 1300–1500)
 Source: S. Burri

and Roya valleys. A fourth scale may be suggested here: very large-scale migration for movements over 120 km, as was the case for flocks from the Ubaye Valley. Obviously, these categories show a general trend and do not express the idiosyncratic variability of each case.

Summering flows

Sheep and goats from Provence moved up to various summering areas depending on their place of origin. First, the flocks from western Provence moved up to a wide area situated between the mountains of the Vercors and the Tinée Valley (Figure 10.5). Within this group, there was competition between herds from Arles, Salon-Berre and Aix in the Vercors, Diois, Lure Mountain and the Asse and Bléone valleys. On the contrary, flocks from Aix seemed to be the only Provencal ones in the Champsaur, Valgaudemar and Devoluy (Dauphiné). Some of them (Aix and Salon) even crossed the

border into Piedmont. In contrast, some herds from Arles crossed the Rhône River to go to Mont Lozère, in the Kingdom of France. The short-distance migration of herds from upper Provence was probably due to the closeness of the lowlands to the uplands. The flocks which migrated from central Provence to an area between the Digne region and Tinée Valley or to the Ubaye Valley were in competition with those from western Provence (Figure 10.6). There was no significant difference in the destinations of flocks from lower and central Provence. In eastern Provence, the closeness of the coast and the mountains explains the short distances travelled. Excluding the Var and Tinée valleys and the high plateaus of Grasse hinterlands, flocks from eastern Provence were not in competition with other Provencal herds. By contrast, livestock from Provence, Liguria and Piedmont competed in the Roya Valley.

In all, there were considerable differences in the distances travelled (Figure 10.8b), ranging from less than 10 km to more than 180 km. In short, the present writers characterise four migration scales from textual

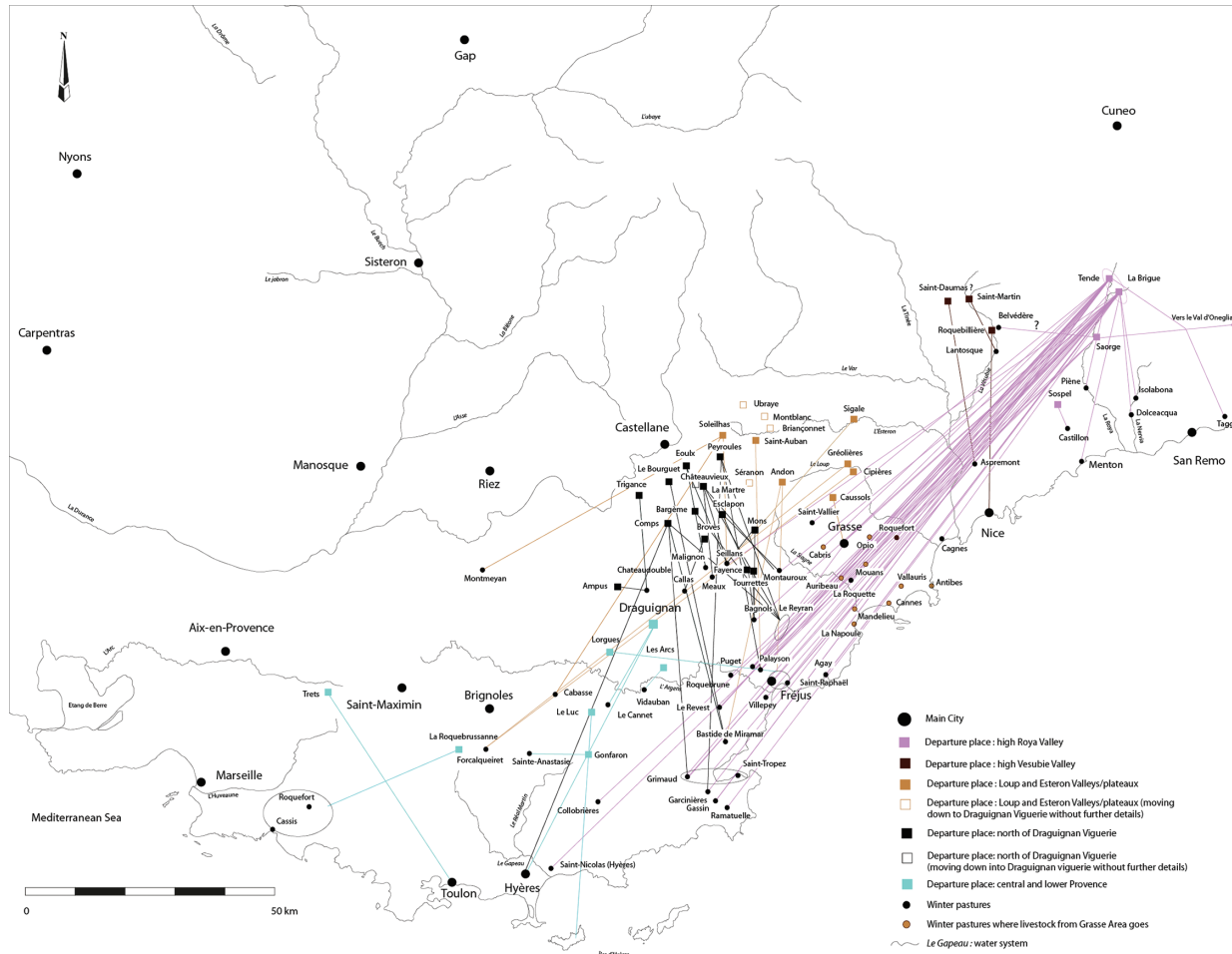


Figure 10.4. Winterring flows of eastern Alpine and Provencal herds (AD 1300–1500)
 Source: S. Burri

data: the small-scale migration of flocks coming from eastern Provence; a medium scale for those from central and northern Provence; a large-scale for those from western Provence and a very large scale for those from Arles, Marseille and Salon. Once again, these general trends hide significant variability, which we cannot explore in more detail here.

THE ROAD AND DAILY LIFE ON SUMMER AND WINTER PASTURES

Forms of seasonal pastoral migration organisation

Moving herds of more than one hundred animals up and down over long distances and crossing various environmental and political entities required a specific kind organisation (Arnaud d’Agnel, 1908; Paillard, 1968; Kaiser-Guyot, 1974: 56–60; Coulet, 1986,

1988a, 1988b, 1996, 2001b; Royer, 1988, 2003; Blanc, 2014). This is largely unknown before the fourteenth century, as the available sources only provide information about tax collection on the passage of herds and grazing rights. During the fourteenth and most of the fifteenth century, the intensification and generalisation of sheep husbandry resulted in a very structured business (Paillard, 1968; Malausséna, 1969; Sclafert, 1959; Coulet, 1986, 1988a, 1988b, 1996, 2001b; Royer, 1988, 2003; Blanc, 2014). Deeds (herding contracts, pasture rental agreements, etc.) reveal different kinds of more or less complex organisation that could be classified into five different categories. Categories 1, 2 and 3 concern both summer and winter grazing systems, while categories 4 and 5 deal exclusively with summering systems. In category 1, the herder (alone or in association with another party) leased his flock to another herder for a determined period. Profits were often divided equally. In the second category, the herder entered into a herding agreement with a shepherd for one season in return for wages. Both types of contracts sometimes

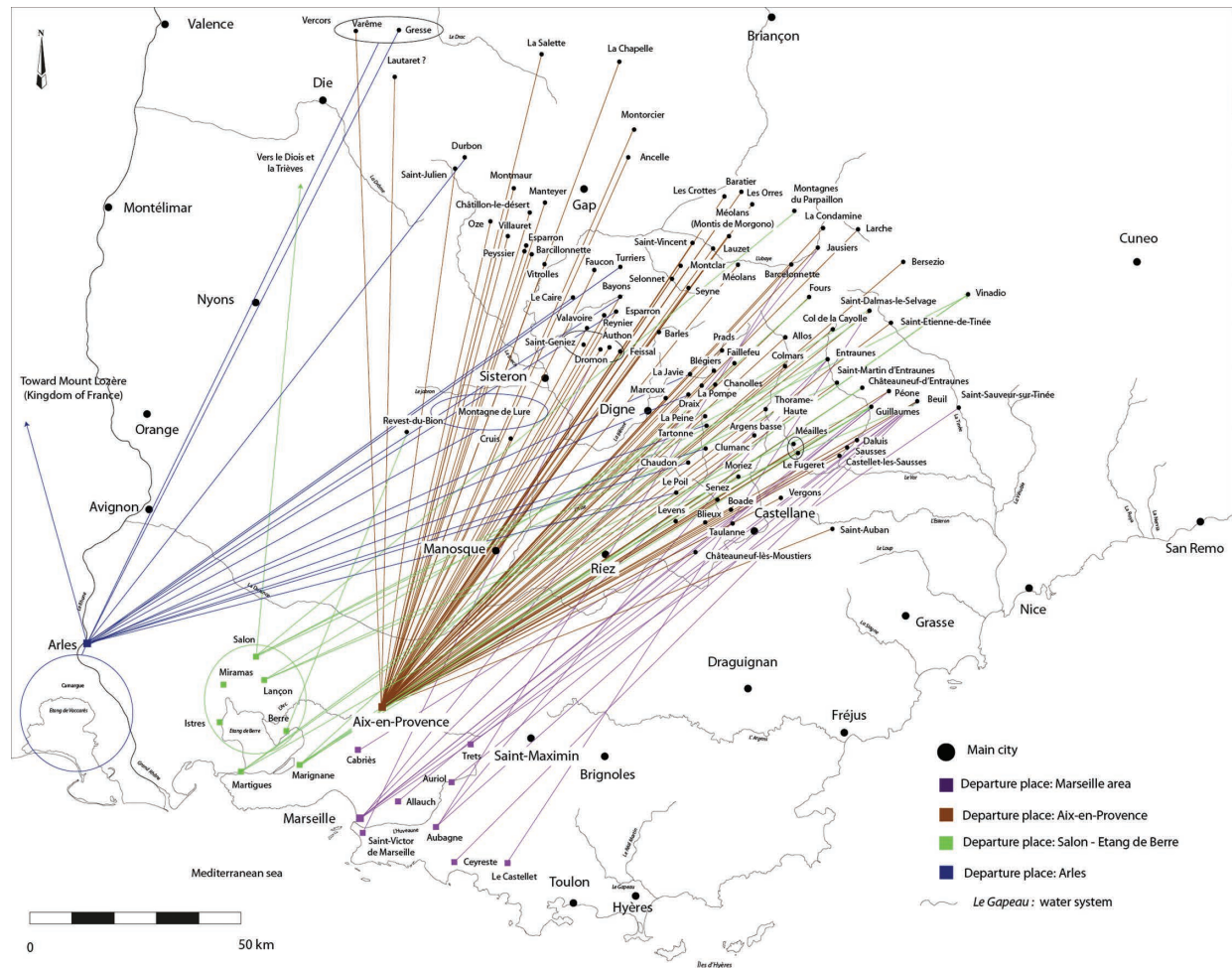


Figure 10.5. Summering flows of western Provencal herds (AD 1300–1500)

Source: S. Burri

contained a clause regarding animal summering migration but, unfortunately provided no further information. In the third case, the herder contracted a rental agreement with the pasture owner (either an individual or a community). The contract specified the duration of the rental duration, the date of entry and exit and the maximum number and type of livestock (sheep, goats, cattle or mixed herds). The owner was expected to provide enough grass, salt and sometimes medicinal ointment (juniper oil) for the animals. In addition, he was expected to furnish the dogs' food supplies and to ensure the safety of the animals on his pasture. These clauses were usually more detailed for summer pastures than for winter pastures. A higher level of structuring characterises the fourth and fifth cases. They show the professionalisation of stakeholders and the intervention of specialised intermediaries, i.e. pasture dealers and flock drivers). Pasture dealers could rent and resell pastures to herders, whereas flock drivers worked as middlemen between owners or pasture dealers and herders. While not a shepherd, the flock driver drove flocks from one point to another. In order to optimise

his activity, he could often gather flocks from different herders into a single herd. The pasture dealer was often also a flock driver. The legal terms of a sub-rental agreement did not change compared to a 'direct' rental agreement. Driving agreements specified the respective obligations of the parties, such as the payment of tolls and passages, to ensure the safety of the animals on the road to and from the mountains and to compensate the herder in the case of an animal's loss. The reality behind this general overview was much more complex, as evidenced by the rare accounting registers of the 'transhumance entrepreneur'. The Noé de Barras notebook shows the whole complexity of the organisation of flock driving through the relationships between the flock driver, his shepherds and the lords and landowners along the road. The notebook reports the payment of a multitude of passage rights, the negotiation of places to stay for the night, grazing relays, watering places and conflict management related to damage caused by animals (Royer, 1988; Blanc, 2014). Some communities of the Roya Valley had a specific way of

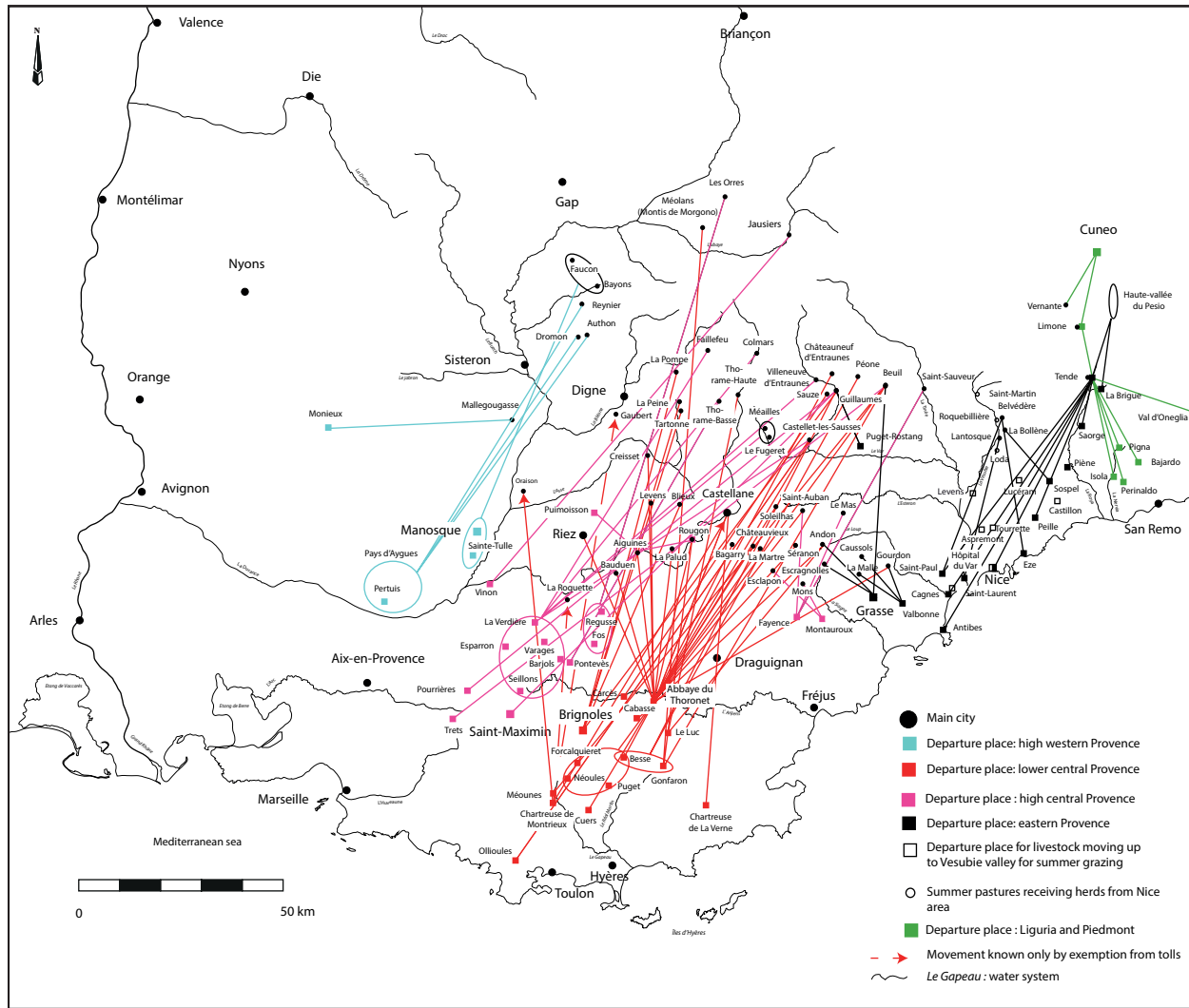


Figure 10.6. Summering flows of central and eastern Provencal herds (AD 1300–1500)
 Source: S. Burri

directly managing their common pastures, which were divided into large parcels called *bandites*. Every year, the municipal council leased these *bandites* to herders. Their use was clearly regulated: certain parcels were reserved for local or external herders, cattle or sheep and goats and for spring or summer grazing (Struyf, 1977).

On the road

Some accurate documents provide key milestones to reconstruct medieval routes from Provence to the southern Alps (Paillard, 1968; Coulet, 1988a: 368–73; Royer, 1988, 2003; Musset, 2006; Burri, 2012: 362–5; Blanc, 2014). We assume that shepherds used the same routes in both directions, thus, that wintering and summering routes were the same (Figure 10.7). In most cases, only a few stops are known: the place where livestock came

into the driver’s care, toll stations and sometimes salt supply places. The flock drivers’ and herders’ notebooks allow us to precisely reconstruct the routes and their crossing points, such as in the case of the road from western Provence to Ubaye Valley. It should be noted that the multiplicity of roads leads to the same point. Therefore, it is almost impossible to accurately assess journey times which depended on the routes chosen as well as on the nature and size of the flock, weather conditions and the relief of the landscape. These aspects are known and documented only from the eighteenth century (Clapier, 1838; Fournier, 1900; Guillaume, 1908; Rouquette, 1913; Compan, 1961; Pichard, 2006). It is impossible to model medieval shepherds’ mobility on the road to pastures as well as on the pasture itself.⁵

The calendar of summering and wintering was mainly defined by environmental and weather conditions (drought, snow) and their effects on the availability of grass (Schippers, 1986a, 1986b). The start and

end dates determined the dates of the trade fairs at which shepherds sold a part of their products (animals, wool, hides and dairy products). According to pasture rental agreements and the accounts of the Castellane tolls from the early sixteenth century, herds' entry into summer pastures occurred from the beginning of May to the end of June. While most exit dates ranged from early to late September, some were even later (October 24th) or earlier (August 24th), depending on the areas and years concerned. The duration of summer grazing can sometimes be assessed and shows a great variability of practice. It could range from 69 to 205 days. In contrast, the winter grazing season usually began during September. Some pastures were opened later (October to January). Similarly, May was the most common month for departure away. That being said, some herds left in April, while others waited until June (Burri, 2012: 290–313).

It is impossible to reconstruct the whole density of winter and summer grazing flows and their development during the late medieval period. However, some documents allow us to assess the number of transhumant flocks for a particular period and place. Winter grazing flows are well documented thanks to the *pasquerium* account registers of the Count of Provence and the Bishop of Fréjus (Sclafert, 1959; Février, 1959; Coste, 1972; Coulet, 1978; Burri, 2012: 370–407). The overall evolution of the pattern of wintering flows in the *baillies* of Saint-Maximin and Brignoles does not reflect the complexity of the evolution of each flow (Figure 10.8c–e). There are significant differences concerning their origin, amplitude and evolution. As regards the period prior the sixteenth century, the absence of Alpine accounting registers makes the assessment of summering flows rather difficult. Based on deeds, N. Coulet (1986) suggested that c. 40,000–50,000 sheep from the Aix area summered annually in the Alps during the mid-fifteenth century. The accounts of Castellane's toll station show the increase of the transhumant flow by tens thousands of animals per year from 1504 to 1510 (Besson, 1977; Coulet, 1978; Burri, 2012: 352–61) (Figure 10.8f–h). For the second part of the sixteenth century, similar information is available on the flows of herds passing through the village of Guilaumes in eastern Provence (Gourdon & Gourdon, 2014). Different scales of analysis show the complexity of the flows. These fluctuations are difficult to interpret consistently as a result of the lack of data concerning other areas and time spans. P. Coste (1972) interpreted the significant decrease of the number of wintering animals in the *viguerie* of Draguignan between 1346 and 1374 (from 60,000 to less than 23,000) as a consequence of the general insecurity of the period. This conclusion is confirmed by the absence of the passage of summering animals through Barcelonnette in 1358 (Coulet, 1978).

Shepherds' lifestyle and activities on pastures

Medieval shepherds' daily life on pastures is still an unknown aspect (Kaiser-Guyot, 1974; Le Roy Ladurie, 1975). Texts provide specific but inadequate information about the mobile shepherd's lifestyle on summer Alpine pastures (Arnaud d'Agnel, 1908; Canestrier, 1952; Lombard, 1962; Leydet, 1982; Kaiser-Guyot, 1974; Royer, 1988, 2003; Burri, 2012: 449–53). Often the pasture owner had to provide a good and sufficient hut (*cabanna*) for shepherds during the summer grazing season. Sometimes, shepherds used only half of a hut. The rent was either paid in cash or in kind (with cheese). If the hut was not in good condition, the pasture owner was obliged to repair it before the shepherd's arrival. Such huts were built of stone with timber frames and wooden roofing (wood shingles). Sometimes specialised craftsmen (such as masons or carpenters) built this type of structure (Royer, 1988, 2003). Usually, the pasture owner supplied the shepherds' bread (*apanagium*) and, sometimes, the dressing (*calciamentum*). The shepherd's hut may be accompanied by other structures, i.e. an enclosure, sorting enclosure, cellar for the shepherds' equipment (*cellerio pro negotia*) or dairy (*cella or frederius*). Sometimes, the shepherds used a common *cella* which was owned by the village community and which they were allowed to access only upon payment of a special tax on dairy products called *cellagium*. In return, the community maintained the building. Notebooks and accounting registers provide some accurate information on shepherds' *instrumentum*: the tools of daily life as well as the items required for cheese-making and other paraphernalia (dog collars, flock bells, etc.) (Arnaud d'Agnel, 1908; Royer, 1988, 2003).

Archaeology also documents material aspects of the shepherd's life in mountain pastures. In accordance with a published dataset, we have identified five late antique-early medieval pastoral occupation centres (four in Vercors, four in Champsaur and two in Ecrins), thirteen from the eleventh to the thirteenth century (four in Champsaur, four in Ecrins and five in Mercantour) and six late medieval sites (one in Champsaur, four in Ecrins and one in Mercantour) (Mocci et al., 2005; Walsh, 2005; Walsh, et al., 2003, 2010, 2016; Pal-et-Martinez et al., 2003; Garcia et al., 2007; Segard, 2009; Py & Durand, 2010; Py-Saragaglia et al., 2015; Geist, 2006; Suméra & Geist, 2010; Morin & Picavet, 2006; Morin et al., 2010). However, this inventory reflects mostly the state of research rather than the extent of medieval settlement. On the basis of morphological and size criteria, archaeological structures are usually classified into two main types: huts and pens.⁶ Those structures may be insulated. This is particularly the case for small huts whether or not they were associated with a pen. They can be also grouped into hamlets with few or several huts with or without other

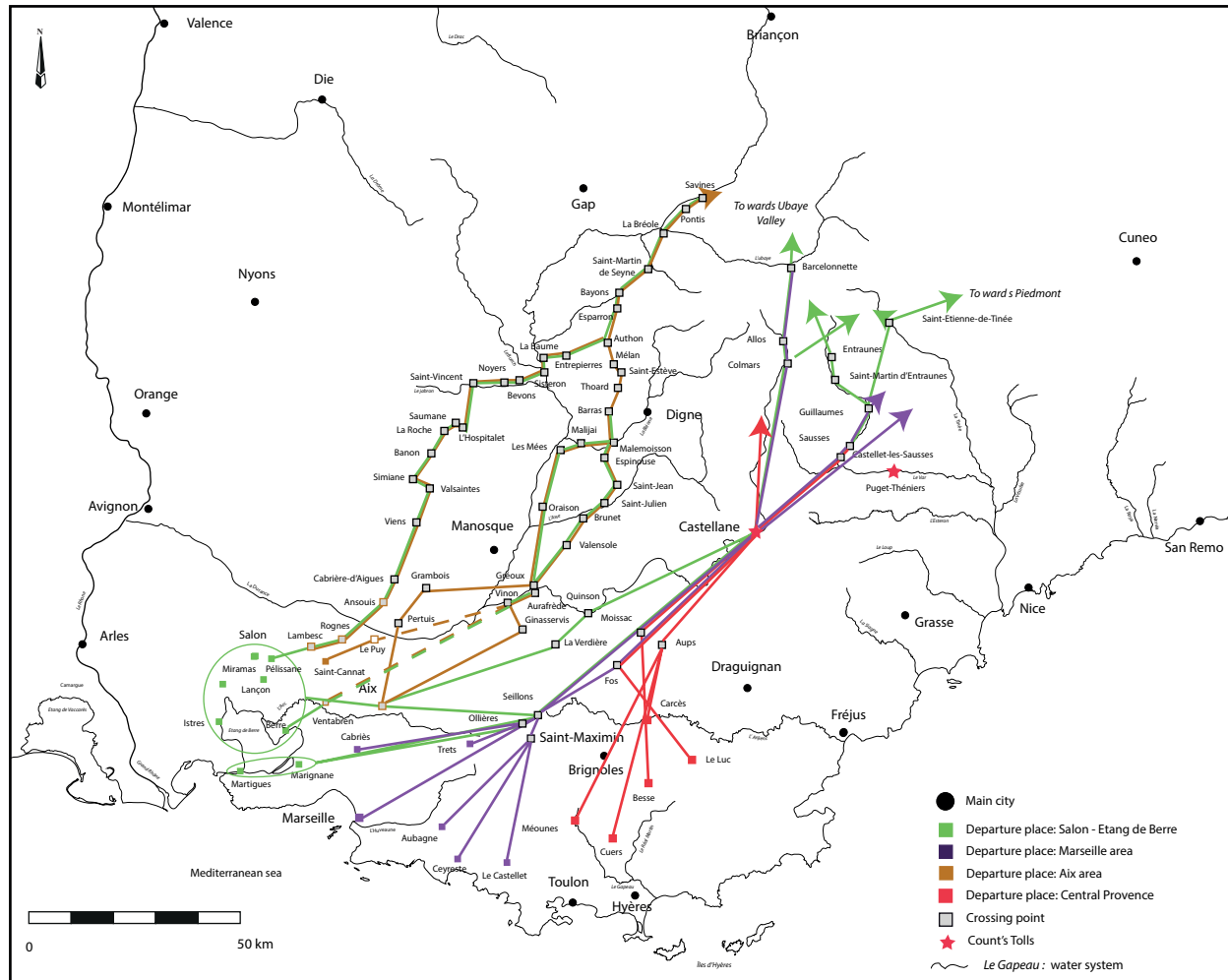


Figure 10.7. Reconstruction of shepherds' routes (AD 1300–1500)

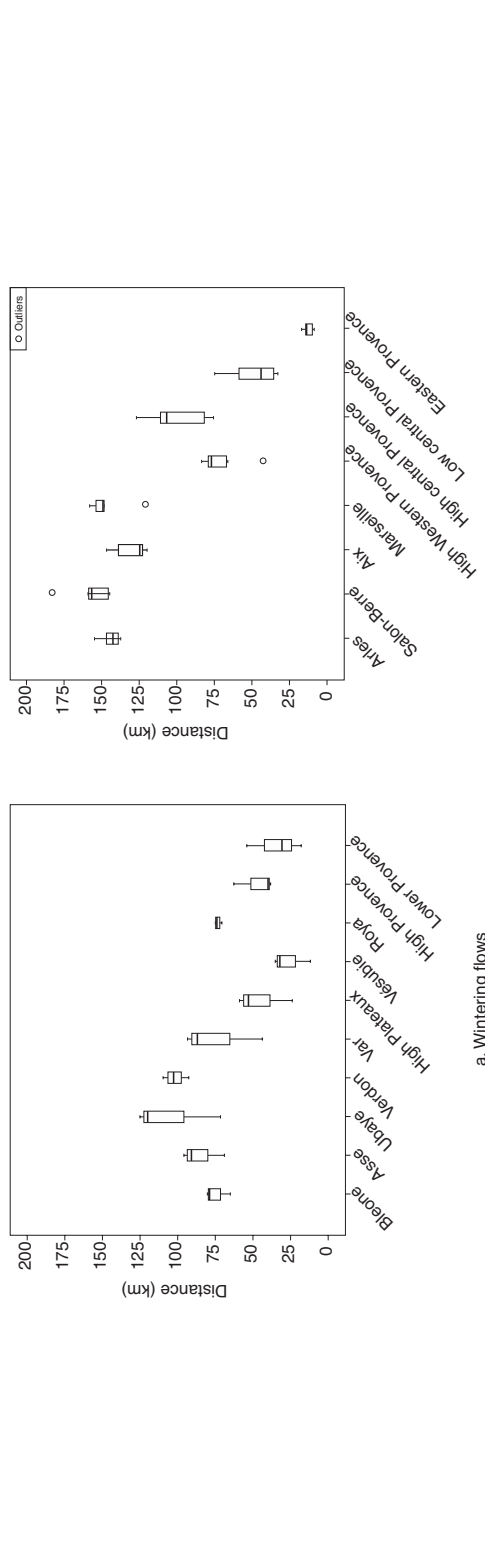
Source: S. Burri

arrangements (pens, irrigation canals, terraces, etc.) (Figure 10.9a). Most of the structures were entirely built of stone or were at least constructed with stone substructures (Figure 10.9b). Perishable materials were used for elevations. The roofs were covered with lauze or shake.⁷ The scarcity of archaeological material found in these sites provides little information on the shepherd's daily life (Figure 10.9c). The main challenges are to recognise archaeological evidence of wooden structures (i.e. mobile enclosures) and to discriminate the function of different structures (e.g. principal dwelling, shelter, dairy, etc.). In spite of a narrow spectrum of human activities in the high mountain environment, several other activities could create similar temporary dwellings and structures (such as mining in the Ecrins Massif or in the upper Roya Valley, forestry and haymaking (see Py-Saragaglia et al., 2015; Burri, 2014). At the site of Fangéas X (Freissinières, Hautes-Alpes), a two-room structure (48 m²) first occupied during the thirteenth century and reused in the fifteenth and sixteenth centuries seems to be related to haymaking and storage as

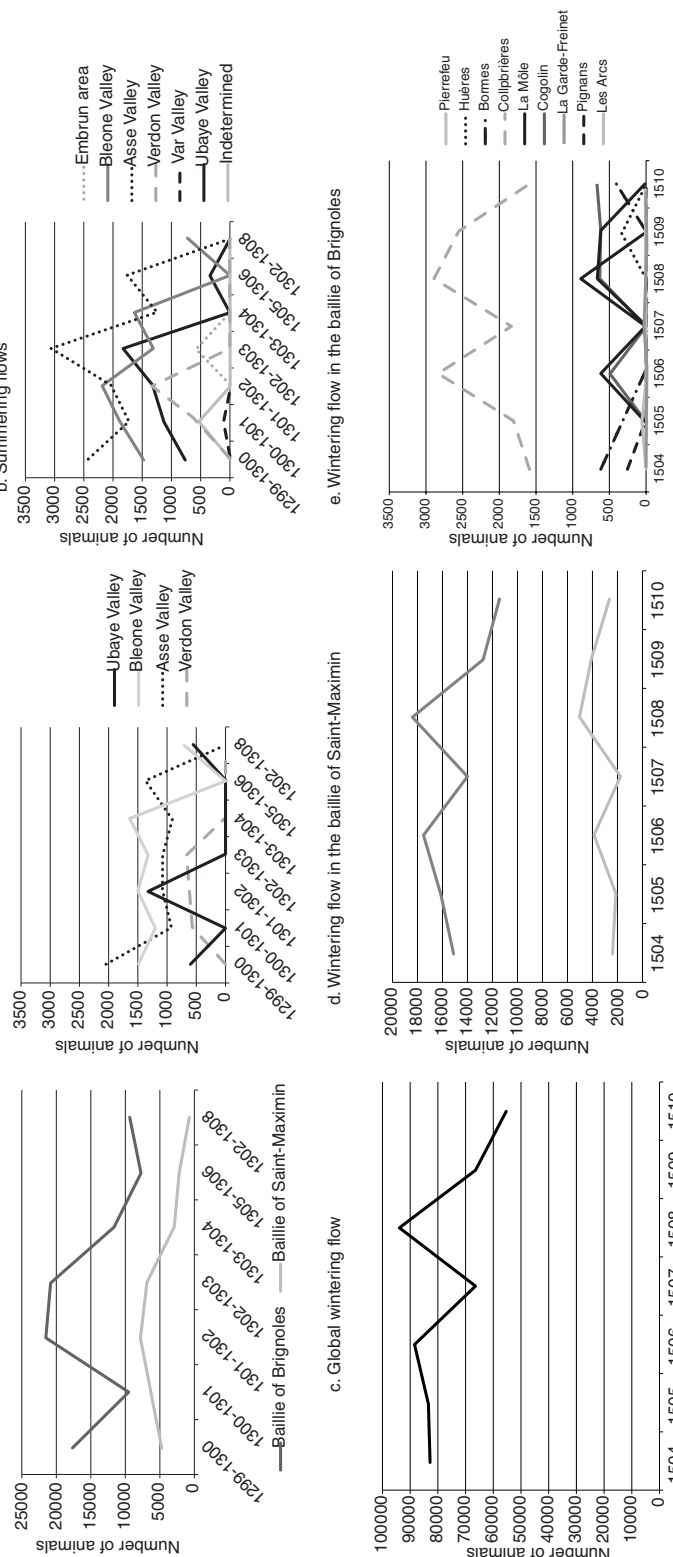
evidenced by two scythe stones (stones sharpened at both ends) (Figure 10.9c). Charcoal analyses reinforced this hypothesis insofar as they also indicated summer occupation (Py-Saragaglia et al., 2015). Hay production was closely tied to local animals' winter housing in sheds located in the valley and not to long-distance mobile herding (Falque-Vert, 1997; Carrier & Mouthon, 2010: 250–56).

Alpine and Provençal archaeological pastoral structures.

The main archaeological research took place on areas located on the margins or away from Provençal summer grazing areas. Thereby it is difficult to cross textual and archaeological data related to summering migrations of flocks from Provence. Moreover, a concentration on the archaeological evidence of migrant livestock requires discriminating structures related to the simple vertical mobility of Alpine flocks from those of mid- or long-distance mobile flocks in order to assess its real place. F. Carrer (2015, 2016) attempted to distinguish these two types of temporary settlements by suggesting



Figures 10.8a–b. Distances travelled for wintering and summering (AD 1300–1500)
Source: S. Burri



Figures 10.8c–h. Assessment of wintering and summering flows
Source: S. Burri

that local Alpine dairy-oriented herding structures were more complex and permanent than 'transhumant' wool- and meat-oriented herding sites. As mentioned above, these arguments cannot easily be transposed to medieval herding practices in southern France without a specialised herding system. Both local and migrant herding produced secondary products. We believe that it is clearly impossible to prove the presence of mid- and long-distance animal populations based on the shape of archaeological structures as the current knowledge base stands at present.

The same issues apply to shepherds' lifestyles during winters in the lowlands. Texts are also of little help, probably due to a lack of structure in the descending migration system. Winter pasture rental agreements never mention the fact that pasture owners had an obligation to provide housing for annuitants or their shepherds. Sometimes, they stipulate the right to cut some wood for the construction of pens and animal shelters (Burri, 2012: 453).⁸ The only reference to wintering housing concerns the right of the shepherds of the abbey of Léoncel, in Vercors to cut wood for the construction of their dwellings in Châteauneuf near the banks of the Isère (Sclafert, 1926). The pastoral use of caves for goat kids is documented at Dégoutaux cave (Belgentier, Var) in 1288 (Boyer, 1980: charter 381) but the local or foreign origin of the goats is not specified. Medieval pastoral sites in the Provençal lowlands are rare in the archaeological literature. Although a few open-air sites have been reported in unpublished field survey reports, none have yet been excavated. One of them, the Col de Barral site (Le Lavandou, Var), included a hut (*c.* 3.6 m²) connected to a large stone enclosure (*c.* 105 m²) which may date from the thirteenth or fourteenth century (Borréani, 1991)⁹ (Figure 10.9d). Medieval cave occupations are also known but have long been neglected in favour of prehistoric ones (Raynaud, 2001). For the thirteenth and fourteenth centuries, pastoral activities have been demonstrated in the Vieux Mounoi Cave (Signes, Var) by burnt manure layers and rock polishing (Acovitsioti-Hameau et al., 1993). However, most commonly, the characterisation of the type of activity which is carried out is impossible due to the lack of discriminating structures, artefacts and/or specific micro-morphological patterns, such as was the case at the sites of Roque Fadade and Castel Diol 2 (Le Muy, Var) (Figure 10.9e). These sites hosted temporary and repeated occupations which echoed the tempo of the occupancies of summering huts. Moreover, a very large spectrum of woodland activities (i.e. timber cutting, charcoal production, tar making, harvesting of bark and leaves and shifting cultivation) could have led to the construction of similar temporary settlements. Indeed, when space (distance travelled from the producer's residence to its place of production), time (duration of the operating season) and technical (operational time and monitoring)

constraints were too high, these activities led to the construction of temporary dwellings (Burri, 2012, 2014).

In all cases, even if the pastoral use of certain sites can be demonstrated, it is currently strictly impossible to discriminate archaeological sites related to mid- and long-distance mobile herding and/or to sedentary and short-distance vertical mobile herding in both lowland and upland environments.

CONCLUSION

The seasonal migration of flocks between summer and winter pastures was not only a response to environmental constraints but also a part of a complex socio-economic process that evolved in complementary territories. This synthesis shows the multi-faceted reality of the animal migration in both temporal and spatial dimensions. It flies in the face of the conventional and fixed picture painted by the Great Transhumance paradigm. We have highlighted the main chronological milestones of the medieval history of the seasonal shift of flocks between Provence and the southern Alps. This chronology must be specified through new historical survey in disregarded areas, especially in Alpine contexts. To analyse and characterise migration patterns, four levels of seasonal migration have been defined: close range (up to 40 km), medium-distance (up to 80 km), large distance (from 80 km to 120 km) and very large distance (over 120 km). We have observed a significant difference between the distances travelled for wintering (from Provence to the Alpine uplands) and summering (from the Alps to the Provençal lowlands). The relationship between the distances travelled and the size of the herds evidenced by N. Coulet (1978) must be studied further. The distribution of grazing area could result from a gradual competition between herding centres and herders themselves. The same variability can be observed in the duration of summering, which ranges from *c.* 70 to 210 days. Some medieval shepherds' routes can be reconstructed more or less accurately. The amplitude of wintering and summering animal flows can be assessed for only a select few areas during this period. This issue requires further investigation to better understand the fluctuations across space and time. From the fifteenth century onwards and following on the intensification and generalisation of sheep herding, seasonal migration became a real business led by specialised persons. The historical study of its social and economic structure must be continued at a regional scale. One of the less-known aspects involves the daily life of shepherds. Summer life is more documented by both historical and archaeological data. Notwithstanding the difficulties faced by pastoral archaeology, i.e. the bad preservation and invisibility of wooden structures

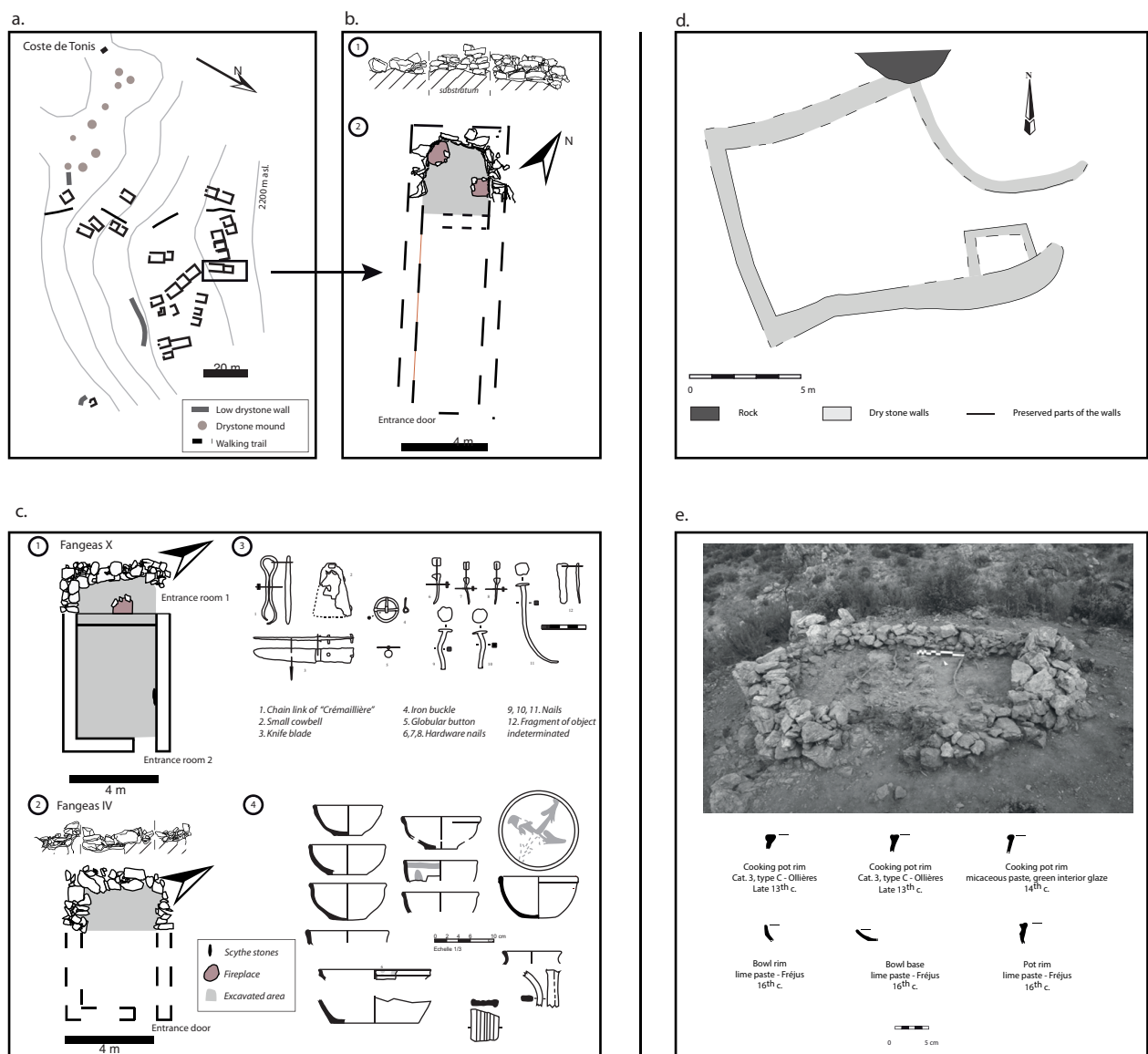


Figure 10.9a. Site of Coste de Tonis (Ecrins Massif), 2200 m.a.s.l. Topographic survey of noticeable remains of a large group of several agro-pastoral structures (2180–2200 m.a.s.l.)

Source: B. Ancel (Service culturel municipal de l'Argentière-la Bessée) and V. Py-Saragaglia

Figure 10.9b. Structure of Coste de Tonis 1 (fifteenth c.), 2200 m.a.s.l.: 1) Elevation of interior walls in the excavated area and 2) General plan of the structure comprised of two parts

Source: E. Dantec, V. Py-Saragaglia

Figure 10.9c. Structure of Fangeas X and IV (twelfth–thirteenth c. and fifteenth–sixteenth c.) – 2000–2010 m.a.s.l.: 1) General plan of Fangeas X comprising two rooms with independent entrances; 2) Elevation of interior walls in the excavated area of Fangeas IV and general plan of the structure; 3) Archaeological metal material from the two Fangeas X and IV and dated from thirteenth–sixteenth c.; 4) Archaeological ceramic material from Fangeas X dating from thirteenth–sixteenth c. (Guionova in press)

Source: V. Py-Saragaglia, O. Thuaudet (LA3M, UMR 7298 CNRS), G. Guionova (LA3M, UMR 7298 CNRS)

Figure 10.9d. Structure of Col de Barral (Le Lavandou, Var) (thirteenth–fourteenth c.) – plan

Source: M. Borréani (Centre Archéologique du Var)

Figure 10.9e. Structure of Roque Fadade 6 (Le Muy, Var) (twelfth–seventeenth c.) – picture and ceramic material

Source: S. Burri

or their functional characterisation, this approach is the only way to reconstruct shepherds' daily life. Moreover, the application of biosciences to archaeology can offer a variety of new research perspectives, i.e. the chemical analysis of residues and sediments (Dudd & Evershed, 1998, 2008; Craig, 2002), micro-morphology, and mineralogical examinations of mineral residues from manure¹⁰ (Brochier, 1991; Brochier et al., 2002; Goren, 1999).

To conclude, archaeology's current challenge is to develop new methods in order to discriminate structures related to long-distance mobile and local herding. Isotopic analysis is one of the most promising methods, especially the characterisation of strontium isotopes (⁸⁷Sr/⁸⁶Sr), which can provide excellent evidence for geographic mobility (Balasse et al., 2002; Balasse & Ambrose, 2005; Meiggs, 2007). Vertical mobility can be also documented by archaeozoology, archaeobotany (Martin, 2014; Py-Saragaglia et al., 2015) and by lake sediment DNA (Giguët-Covex et al., 2014). Late medieval and post-medieval sites could be a great testing ground for such improvements in the future. This implies a closer collaboration between historians and archaeologists. The relative richness and diversity of medieval and post-medieval historical and archaeological data allows us to test and assess the reliability of these new approaches in order to improve them, e.g. to cross data from strontium isotopic analysis with the detailed study of the standard practice of mixing Provence and Alpine flocks and the synchronic practice of wintering and summering.

NOTES

- 1 Mutton was the most requested and appreciated meat in late medieval Provence (Stouff, 1970, 180–81).
- 2 All maps are qualitative and do not reflect the amplitude of the flows. They were all made by Sylvain Burri according to previous research as well as our unpublished work.
- 3 For example, no data is available on the winter grazing of herds coming from mountainous areas in the Crau and Camargue before the sixteenth century (Stouff, 1986: 451; Merle-Comby, 1983).
- 4 All distances are calculated as the crow flies.
- 5 For current pastoral mobility modeling, see Cheylan et al., 1990; Le Couédic, 2010, 2012, 2016.
- 6 This paper does not discuss the issue of differentiating between sheepfolds and cattle corrals.
- 7 A thin section split from a bolt and used for roofing or weatherboarding.
- 8 As a general rule, according to common rights, every shepherd had the right to cut wood for his own use (i.e. the building of huts, enclosures and sheepfolds).
- 9 We thank Marc Borréani for his authorisation to publish the archaeological plan of this site.
- 10 E.g. spherulite and druzes (spherical fibrous crystal and star-shaped carbonate concentrations produced by animals' intestines) and phytoliths (opal skeletons of vegetal tissues).

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