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To cite this article: Oliver Bender & Andreas Haller (2017) The cultural embeddedness of population mobility in the Alps: Consequences for sustainable development, Norsk Geografisk Tidsskrift - Norwegian Journal of Geography, 71:3, 132-145, DOI: [10.1080/00291951.2017.1317661](https://doi.org/10.1080/00291951.2017.1317661)

To link to this article: <https://doi.org/10.1080/00291951.2017.1317661>



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Published online: 26 May 2017.



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The cultural embeddedness of population mobility in the Alps: Consequences for sustainable development

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ABSTRACT

This article investigates the impact of culture on population mobility, settled landscapes, and regional sustainability in the European Alps over the past c.1500 years. For older developments, the authors analysed existing research on specific areas in the Alps, and for developments that are more recent they analysed census, agricultural, and tourism data at municipal level. They find that, following immigration in Late Antiquity and early Middle Ages, different historical settlement and socio-demographic systems have evolved in the Alps as a result of various cultural traditions of the local population. These cultural differences have essentially persisted over centuries and still influence socio-ecology and regional development indirectly, especially via fundamentally different developments in agriculture and tourism. The way that culture affects the relationships between socio-demographic, economic, and even ecological sustainability is discussed. The authors conclude that the Alps may serve as a case in point to suggest that culture might be a steering component for regional sustainability, as different cultural practices lead to regionally diverse developments.



ARTICLE HISTORY

Received 23 September 2015
 Accepted 6 April 2017

EDITORS

Hannes Palang, Kerstin Potthoff, Catriona Turner

KEYWORDS

cultural landscape, cultural sustainability, European Alps, migration, socio-ecology

Bender, O. & Haller, A. 2017. The cultural embeddedness of population mobility in the Alps: Consequences for sustainable development. *Norsk Geografisk Tidsskrift–Norwegian Journal of Geography* Vol. 71, 132–145. ISSN 0029-1951.

Introduction

Concepts of culture, cultural sustainability, and spatial mobility

Cultural differences between human groups and communities contribute to different forms of behaviour in the use of space and land, and result in variations in cultural landscapes. Along this cultural geographical chain of effects, our concept of culture (cf. Kroeber & Parsons 1958; Dessein et al. 2015) means *the way of thinking, the ideas, experiences, values, and norms (mental dimension), which influence the practices and organizations of a certain population group (behavioural dimension), and that thereby shape the cultural landscape (material dimension).*

COST IS 1007 Investigating Cultural Sustainability (n.d.) stated: ‘Culture already plays many roles in (un)sustainability but the scientific, policy-making and

societal spheres lack understanding ... and how it influences sustainability. Cultural differences may influence the mechanisms of regulation that control the maintenance of livelihoods, either directly through, for example, conceiving and applying rules for sustainable spatial development, or indirectly through persistence and the after-effects that influence the degree of sustainability of spatial development in the longer term:

We see a ... role (‘culture for sustainable development’), however, which offers culture as a more influential force that can operate beyond itself. This moves culture into a framing, contextualising and mediating mode, one that can balance all three of the existing pillars and guide sustainable development between economic, social, and ecological pressures and needs. [Furthermore], we argue that there can be an even a more fundamental role for culture (‘culture as sustainable development’) which sees it as the essential foundation and structure

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for achieving the aims of sustainable development. In this role, it integrates, coordinates and guides all aspects of sustainable action. (Dessein et al. 2015, 15) (cf. Soini & Birkeland 2014)

Implementation and retention of specific cultural patterns should depend on the presence and possibly dominance of the relevant population groups. At the same time, culture and culture-based sustainability might influence spatial population movements, such as immigration and/or outmigration, or circulation. Thus, spatial mobility and sustainable spatial development can affect each other, either directly or indirectly, according to the dominance or recession of certain cultural patterns (cf. Bottomley 1992).

Aims and hypotheses

Starting with the broad understanding of culture and the possibly fundamental role of ‘culture as/for sustainable development’ pointed out in the COST Action IS1007 publication *Culture in, for and as Sustainable Development* (Dessein et al. 2015), we explore and discuss the influence of culture on population mobility, settled landscape, and regional sustainability, taking the

development of the European Alps over the last 1500 years as a case in point. The wealth of available research (discussed below in the section ‘Literature review’) was decisive in our choice of this region. Our study design was based on the following four hypotheses:

1. Different historical settlement and socio-demographic systems can be observed between the northern and southern Alps
2. The historical systems created persistent structures that are still powerful today
3. Recently, the historical systems have begun to influence the sustainability of populations and regional development.
4. Mobility is mainly influenced by culture and culture shapes the pillars of sustainability.

Study area

In an increasingly globalized world, mountain areas, with their problems of access and small-scale structure, are seen as spatially peripheral, where cultural differences may persist rather longer than elsewhere (Grötzbach & Stadel 1997). This is especially true of mountain areas

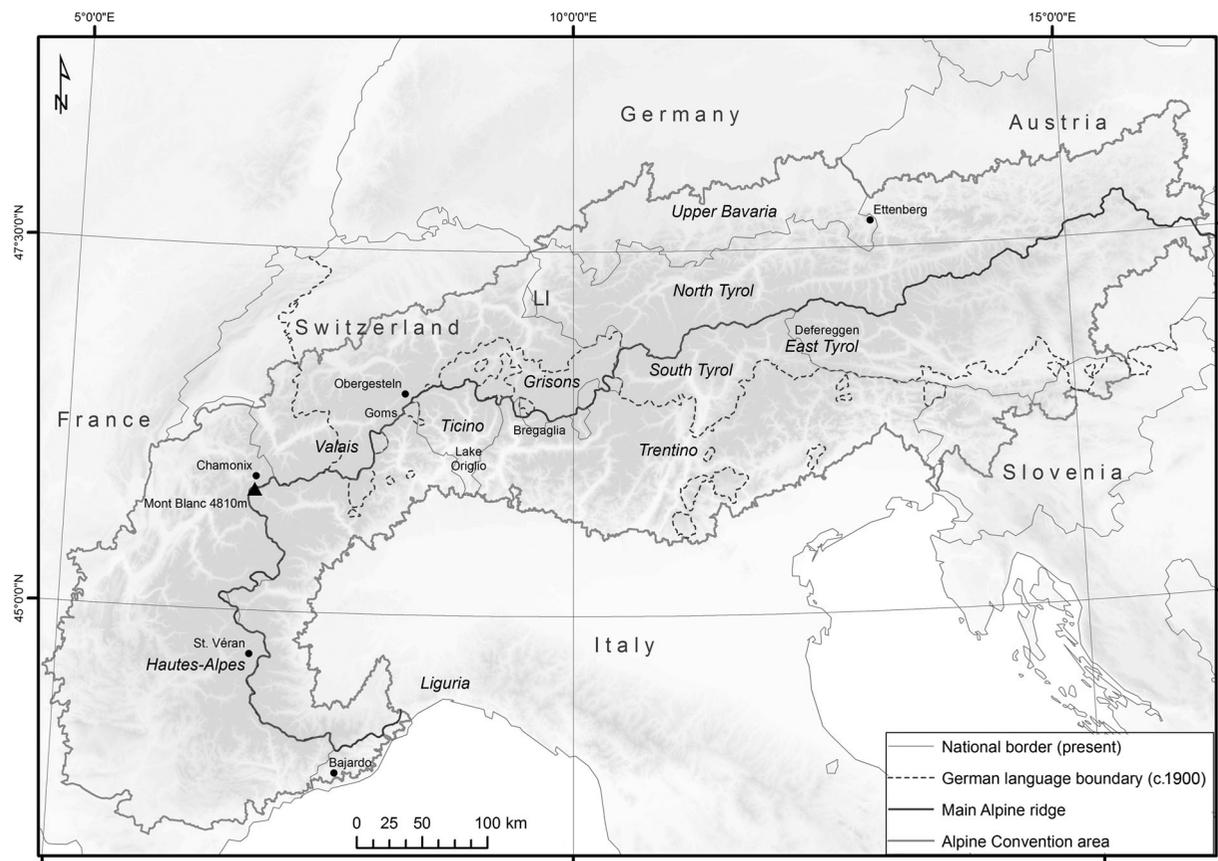


Fig. 1. The study area defined on the basis of SRTM data, GALPIS, and EuroGeographics; the German language boundary shows the extent of the main language used in c.1900 in relation to present-day municipalities' boundaries; former German-language 'islands' outside the Alpine Convention area are not included

where settlement and territorial development have had marked spatial differences over long periods; the European Alps are our case in point (Fig. 1).

The European continent features a multitude of mountain ranges, some of them with the characteristics of high mountains. With an area covering nearly 190,000 km² (according to the Alpine Convention (Permanent Secretariat of the Alpine Convention 2010, 43)) and a maximum altitude of 4810 m (Mont Blanc), the Alps are not only the largest but also the highest mountain region situated entirely in Europe. Nevertheless, the nature of a high mountain range is evident not only from its absolute altitude level reached, but also from the intense dissection of the ranges, particularly in the steepness of relief and the associated morphological processes and natural hazards, as well as generally in the extreme altitudinal difference between valley and summit levels (the maximum in Chamonix is almost 3800 m).

During the Neolithic period, between 5500 BC and 4000 BC, the Alps were colonized almost simultaneously by two migrant groups with different land use types, initially 'from above' by sheep breeders practising transhumance and then 'from below' by peasant societies with mixed subsistence farming (Bätzing 2015). In Roman times, from c.200 BC, the settlement density increased considerably, first on the southern slopes of the Alps and later in the large inner Alpine valleys. During the great migrations (4th–8th centuries AD), the homogeneous territorial sovereignty collapsed and the Roman vernacular, Vulgar Latin, gradually differentiated into the Romance languages. In the northern part of the Alps, the sparsely romanized population retreated to a few isolated settlements, most of the cultural landscape lay fallow, and traditions died. From the 5th century and onwards, Germanic immigrants from the north invaded a partly populated area, which is evident today in for example Rhaeto-Romance toponyms. However, they also settled in areas that earlier had been totally abandoned or never claimed for settlement (Wopfner 1951; Bätzing 2015).

Data and methods

Literature review

Since the mid-1860s, intensive research on historical settlements, population, and economic developments from various disciplines such as geography, ethnology, anthropology, history, and archaeology, has meant that the Alps are probably the best studied mountain range in terms of historical cultural development. To identify key literature from these disciplines, we used both systematic and non-systematic approaches. We searched

electronic library catalogues, bibliographic databases, and indexes of scholarly texts, without any restrictions on the date of publication, and we used the following key terms: Alps, settlement, history, cultural landscape, population, mobility, sustainability (in the different Alpine languages). Texts in English, French, German, and Italian were examined. By applying a snowball technique, the references of relevant monographs, chapters, and journal articles were then analysed to find additional literature. The resulting list of relevant scholarly sources was complemented by other literature known to us from experience. In this article, we aim to trace the developments from the great migrations in Late Antiquity to current population trends in migration, using older literature for the historical part of our analysis. In discussing this literature we sometimes diverge from the views on ethnic and/or cultural influences on landscape development expressed by geographer Werner Bätzing (2003; 2015)¹ and historian Jon Mathieu (1998) in the overall picture they have drawn.

Census analyses and qualitative studies in selected municipalities

Census data on population figures at municipal level have been available for the Alpine space since c.1870 and have been analysed by Bätzing (2015). Since about the mid-20th century, census data have enabled the calculation of migration balances for particular territorial units from the population figures and numbers of births and deaths in most countries, without any further indications of the spatial mobility of the populations. Around the turn of the new millennium, central registration of residents was introduced, and this now captures migration at municipal level by geographic origin and destination (place and country), as well as by socio-demographic traits (gender, age, nationality, and sometimes also birthplace) of the people on the move. No central registration of residents seems to exist in France and Switzerland, and in the censuses migration is still dealt with by asking for a person's place of residence at an earlier point in time.

In the course of contributing to the fifth Report on the State of the Alps (Bender 2015), we obtained migration data relating to all Alpine countries from the national statistics authorities. The data were used in a quantitative analysis of migratory movements by demographic and regional characteristics, and qualitative investigations ongoing since 2008 in selected municipalities in the area covered by the Austrian, French, German, and Italian Alps. They were combined with the results obtained from mapping the use of buildings and more than 100 guided interviews with experts and in-migrants.

In addition, we drew on official data relating to population circulations (i.e. to and from second homes, and commuting) and updated agriculture and tourism data from the Data Infrastructure of the Alps – Mountain Oriented Network Technology (DIAMONT) project (Tappeiner et al. 2008).

Alpine settlements and agriculture: reflections on a north–south divide

Different settlement and agrarian systems

In the Romance areas of early settlements (*Altsiedelland*, only intermittently ruled by Germanic tribes), the *Villikationssystem* – imported from the Frankish kingdom and characterized by the farmers being subjects of a landlord – could not prevail permanently against the quite large and long-established peasant population and their traditional privileges. The Alpine farmers were usually much more independent than those in other parts of the German empire (Bätzing 2003, 110). The local community acted as the social foundation and often possessed the legal title to a large part of the municipal area, the common land, which was jointly used by entitled members of the community. Freedom to dispose of family property was restricted by the collective arrangement of many working processes and by municipal terms of use. In addition, the traditional

partible inheritance right, in which property is divided between heirs, weakened the family network. In most cases, the communities were characterized by very egalitarian structures if the peasant families had the same rights and duties. Typical features were cluster villages and small strip plots (cf. Zimpel 1962).

In the areas settled later (*Jungsiedelland*), predominantly in the northern and eastern part of the Alps, the landlords granted colonists' privileges to the farmers, namely tax privileges as well as more rights and liberties for the difficult cultivation of the formerly unsettled areas, which extended as far as electing their own mayor and handling lower levels of jurisdiction. In the initially sparsely populated new settlement areas, especially in the eastern Alps, the farms remained subordinate to clerical or secular landlords. In these areas, a different social structure evolved, with the individual farm and the family as a unit playing a much more important role and agricultural society a minor one. Typically, settlements were dispersed and farms were isolated (Wopfner 1951, 87).

During the Middle Ages, economic differences evolved between the ancient Romance settlements and the newly settled Germanic mountain farming areas. In the former, arable farming and animal husbandry (the *Acker-Alp* system) were on a par. Particularly the south-facing slopes were tilled up to the upper altitudinal limit of cereal growing, on terraces, where crops were



Fig. 2. Settlements in the southern and northern Alps: a) Bajardo (Liguria, Italy), 900 m a.s.l., a cluster village with terraced, small strip plots and mixed farming, with emphasis on arable farming (Photo: Oliver Bender, 1996); b) Ettenberg (Bavaria, Germany), 900 m a.s.l., a dispersed settlement with block plots and 'meadows-pasture' farms, with emphasis on livestock farming (Photo: Oliver Bender, 2004)

grown in rotation (Fig. 2a). Given the relative relief in the south-western Alps, the peasant population developed a system of pronounced, altitudinally stratified cultivation, combined with seasonal migration (cf. Zimpel 1962). As a result of the de facto splitting of farms on inheritance, the number of farming families increased over time. For this reason, forests were significantly reduced. However, the higher pastures were usually worked by the community. In the northern regions, livestock farming was far more important. Cultivation was sparse and took the form of field and grassland rotation. Silviculture was an important economic complement, and even the high pastures usually belonged to an individual farm. This form of land use has been called the meadows-pasture system (*Wiesen-Alp* system) (Weiss 1959) (Fig. 2b).

Early explanatory interpretations of a north-south divide

From the end of the 19th century, when geographers and ethnologists investigated different historical settlement and agrarian systems (Table 1), they found that in the Alps the main divide was always between north and south (in Switzerland between north-east and south-west). The first attempt to explain the differences was an environmental deterministic one, which might have helped to explain at least economic sustainability: in the southern, warmer regions, the crops grew better, while in the north they were often replaced by meadows. In the north, for climatic reasons, the theoretical upper limits for arable farming are often lower than the levels of the valley floors, thus making it impossible for this customary Romance cultivation system to become established. However, the 'northern' system was also established south of the main Alpine ridge, in for example South Tyrol, thus rendering the explanation insufficient.

Table 1. Different traditional settlement and agrarian systems in the Alps during the agrarian age (Source: Bätzing 2003)

| Area | Southern and south-western Alps | Northern and north-eastern Alps |
|--------------------|--|--|
| Settlement density | Higher | Lower |
| Settlement genesis | Early settlement (pre-Roman) | Late settlement (Middle Ages) |
| Settlement form | Cluster villages with small strip plots | Dispersed settlements with block plots |
| Farm type | 'Field and pasture' farms with sheep and goats | 'Meadows and pasture' farms with cattle |
| Speciality crop | Sweet chestnut and grapes (for viticulture) | Mostly none |
| Inheritance type | Partible inheritance | Impartible inheritance |
| Community basis | Village community | Family |
| Social structure | Equality, liberty | Social stratification (manors, peasants, and servants) |

The second attempt at explaining the north-south differences was based on ethnicity, since in the migration period (4th-8th centuries) new settlers from the north had invaded the formerly pre-Roman and Roman settlement landscapes, and the idea was that they had brought new forms of settlement and farming because they were Germanic (e.g. Dörrenhaus 1933). This interpretation relied exclusively on the character of a 'Germanic' and 'Romance' popular culture, thus disregarding the many cultural variants. It has been refuted by more recent ethnological researchers, who no longer assume that there was solid immigration and cultivation by a completely evolved group defined by ethnicity. For example, it is now known that the Baiovarii did not form until the migration period (Winckler 2012).

Following a closer look at how the different settlement systems were established, a combination of both interpretations evolved, taking inspiration from the possibilistic paradigm of Vidal de la Blache (1903, 8). The younger system 'developed as a consequence of the special conditions on the northern rim of the Alps, which the Germanic tribes encountered first during their expansion and which was only sparsely settled in the 6th and 7th century' (Bätzing 2003, 61; our translation). Therefore, Bätzing labelled this type of farming 'Germanic' mountain agriculture, in contrast to the 'Romance' type with 'field-pasture' farms in the south-west Alps. In this context, the population's nutrition was (and still is) of crucial importance. The Germanic tribes in the northern part of Central Europe were much better adapted to consuming milk and dairy products than the inhabitants of the southern Alpine regions, who originated from the Mediterranean and were used to a diet based on cereals, oil, and wine (Bätzing 2015, 64).

However, the areal boundaries of the northern and southern systems are not at all clear and, as scholars learned later, they are not completely congruent between their various elements (e.g. Weiss 1947). Deviations from the popular north-south allocation (Table 1) on either side of the linguistic boundaries are 'functionally' attributed to the variants of individual impact factors (cf. Weiss 1959). Today, we know that some of the north-south allocations were wrong. For example, clustered villages were not so much bound to ethnic or regional affiliations, but instead may be explained with reference to processes of settlement developments (increasing population density over a longer period) (Lutz 1966; Loose 1976).

The socio-ecological approach – stagnating population numbers versus emigration

Socio-ecological researchers have questioned whether and how the local societies could have achieved a

homeostatic equilibrium in order to sustain maximum possible population numbers over a long period (Netting 1981; Viazzo 1989). Examples of self-regulation include the great efforts undertaken to maintain cultivated land, such as the construction of land terraces, mainly in the southern Alps (Scaramellini & Varotto 2008), and a system of channels to irrigate meadows and increase hay production, mainly in the Central Alps (Bundi 2000). In the northern Alps, land use often alternated between meadows and fields. Therefore, the slopes were not terraced and the peasants had to move eroded soils up every spring (Hubatschek 1961).

Additionally, there were social regulations, such as inheritance customs. With non-partible inheritance in the north-eastern Alps, sons who did not inherit were not normally allowed to marry. With partible inheritance, every child born in wedlock received a farmstead, but often the marital age was set very high to limit the number of children (Viazzo 1989, 98). In either case, the field system became fragmented (cf. Wiegandt 1977). In this way, the different systems of social regulation contributed to the emergence of different settlement structures, namely village and field patterns. However, the main aim was to prevent too large an increase in the local population and this was mostly successful.

However, the implementation of new crops and land-use systems allowed population growth. Sweet chestnut (Fig. 3a) was the most important crop in the southern Alps, since its yield per hectare there was higher than that of cereals. Therefore, it was introduced there by the Romans and boosted in the Middle Ages. In the intervening time, the Germanic Longobards controlled parts of the southern Alps and replaced sweet chestnut cultivation with arable farming (cf. Fig. 3b) (Conedera et al. 2004; Bender 2010). From this example, we have a better understanding of how Germanic invaders tended to establish different forms of economy as a result of the

different cultural practices they had developed in their former living regions.

Thus, the socio-ecological approach explains the ecological sustainability of the different cultural landscapes and the socio-demographic sustainability of the different societies. Moreover, in self-sufficiency regions the carrying capacity had to be respected. However, population sometimes exceeded the carrying capacity, in which case emigration was the last resort.

The most striking example of early migrations was the Walser migration. The Walser people came to the Goms region in the upper Rhône valley in the 8th and 9th centuries AD and exceeded carrying capacity between the 12th and 13th centuries. Groups of Walser migrated in several waves and founded new settlements in hitherto sparsely populated Alpine valleys (Zimpel 1968; Kreisel 1990). Further migrations, from early modern period to the end of the agrarian period (c.15th – 19th centuries), often by specific professions, were made from certain valleys to various places of work in Europe. While some professional groups circulated (e.g. travelling traders from the East Tyrolean Deferegggen Valley in East Tyrol (Stolz 1925)), others did not return to their Alpine origins until the end of their working life, such as the Grisonian confectioners (Kaiser 1985).

Spatial mobility of the Alpine population

Outmigration during the Industrial Age – causes and consequences

The formerly stable population densities changed dramatically in the course of the Industrial Age. Increased agrarian yields and better transport connections allowed the import of food. On the downside, profits from local production continued to fall. In addition, the job opportunities in the few industrial centres within the Alps and

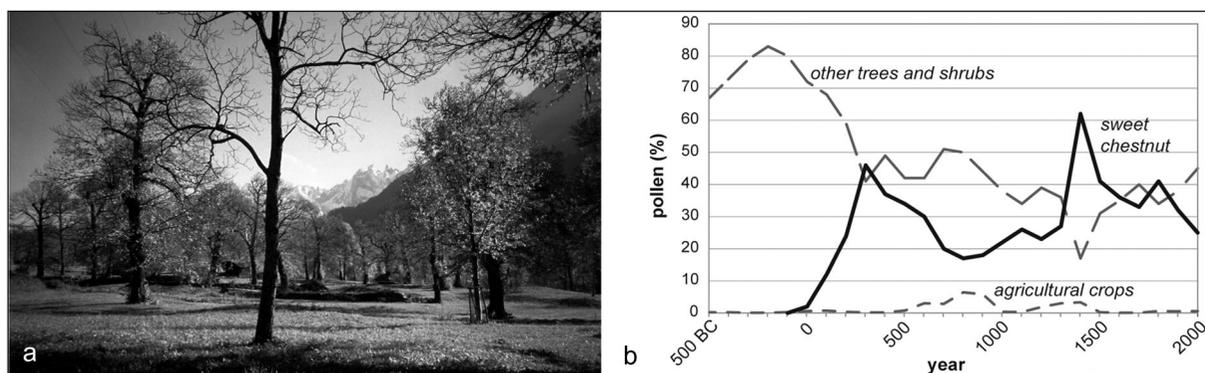


Fig. 3. Sweet chestnut culture: a) orchard in Bregaglia Municipality (Grisons, Switzerland) (Photo: Oliver Bender, 2001); b) simplified pollen diagram for Lake Origlio (Ticino), 420 m a.s.l.

in several prosperous regions outside them attracted former Alpine peasants.

Using data from censuses starting around 1870, Bätzing (2015) has shown population change at municipal level. Mass emigration started at the end of the 19th century in the French and western Italian Alps and in the mid-20th century it spread to the whole of the Italian Alps, while in the French Alps resettlement started around 1980 – a trend that had occurred in the Italian Alps since the year 2000 (Bätzing 2015). No clear tendency for mass emigration occurred at any time in most parts of the northern Alps. The focus of population loss did not shift to the eastern Austrian Alps until the mid-1990s.

The population shifts in the Alps resulted in unfavourable demographic developments such as overaged populations. Considerably more people over the age of 65 years live in the southern Alps, whereas in the northern Alps the relation between the young (< 15 years) and old (> 65 years) remains positive (Tappeiner et al. 2008, 110–117). This means the spatial mobility processes and their consequences affect the Alpine regions unevenly in terms of both timing and intensity. Outmigration of the rural population went hand in hand with a decline in farms, in two large waves: the first started in the late 19th century, and the second around 1960. In the northern Alps, the decline is comparatively moderate (Bätzing 2015), and even the ‘second wave’ is least strong in the Austrian Alps, compared to developments in other countries. In the German Alps, the downturn had already started to cease around 1970, and in the Swiss Alps farm consolidation even avoided a decline in agricultural areas altogether (Streifeneder 2010, 46–85). By contrast, in the French Alps, the abandonment of mountain farming was facilitated by the state until 1985 (e.g. by subsidized reforestations) (Huet 1990), and this was also where structural change occurred earliest, to such extent that mountain farmers have effectively since disappeared. All that remains is either large farms in favoured areas or the practice of extensive livestock husbandry with sheep and goat farms at higher elevations (cf. Veyret 1972; Streifeneder 2010).

In 1990, more than half of the remaining farms (c.500,000) in the Alpine area were located in the Italian Alps (Tappeiner et al. 2003). However, most of them had

been reduced to minor livestock farming, without cultivation activities at all and in most cases they were characterized by the absence of a farm successor. With the new generation, there has been a risk of a total abandonment of mountain agriculture in the Italian Alps.

The demographic and agrarian developments in Italian-speaking southern Switzerland and in German-speaking South Tyrol, which became part of Italy between 1919 and 1920, have taken a largely analogous course to their respective language areas (cf. Tappeiner et al. 2008), which seems to underline our second hypothesis of cultural persistence. However, in Italy, the Aosta Valley Region and the Province of Trento have differed somewhat from the national trend, which indicates that political reasons (i.e. autonomy statutes) and/or the politically favoured orientation on the economic culture based on subsidies in the Alpine north have also played a role (cf. Kleijn & Sutherland 2003; Streifeneder 2010).

Trend reversal: new in-migration to the Alps

In parallel with intensified support for agriculture, even in the southern Alps (*Reaktivierung*) (Ringler 2009, 445), a trend reversal towards new in-migration has occurred in recent decades, which started in the French Alps in 1980 and in the Italian Alps c.2000. This change in trend has already led to population increases in some municipalities (Steinicke et al. 2012) while compensating outmigration in others, at least in part. Up to 50% of the in-migrants do not stem from the Alps; around 20% come from abroad. The migration balance of inland nationals is still negative and that of foreigners is clearly positive (Table 2). Main regions of origin are south-eastern and southern Europe, Africa (to Italy and France) and Germany (to Austria) (Bender 2015).

The new in-migrants include jobseekers but also amenity migrants with new migration motives, which include the Alps and their scenic and cultural assets. We distinguish two main groups of in-migrants, one driven by economic reasons, the other by amenity aspects (Bender & Kanitscheider 2012) (Fig. 4). Neoruralists do not fit neatly into either group. They are mostly young urban people who have left the urban centres to

Table 2. Source and destination regions of migration to and from Alpine areas as a percentage of the total in-migration and outmigration in the period 2002–2011 (France: 2003–2008; Slovenia: 2008–2012)

| Alpine area | In-migration from | | | Outmigration to | | |
|-------------|----------------------|----------------------------|--------|----------------------|----------------------------|--------|
| | Domestic Alpine area | Domestic extra-Alpine area | Abroad | Domestic Alpine area | Domestic extra-Alpine area | Abroad |
| Austria | 59.4 | 18.2 | 22.3 | 60.7 | 21.8 | 17.5 |
| France | 54.9 | 38.0 | 7.1 | n.a. | n.a. | n.a. |
| Germany | 49.4 | 36.1 | 14.6 | 52.5 | 32.7 | 14.8 |
| Italy | 45.7 | 34.1 | 20.2 | 56.7 | 38.6 | 4.6 |
| Slovenia | 31.0 | 52.4 | 16.5 | 30.6 | 57.8 | 11.5 |

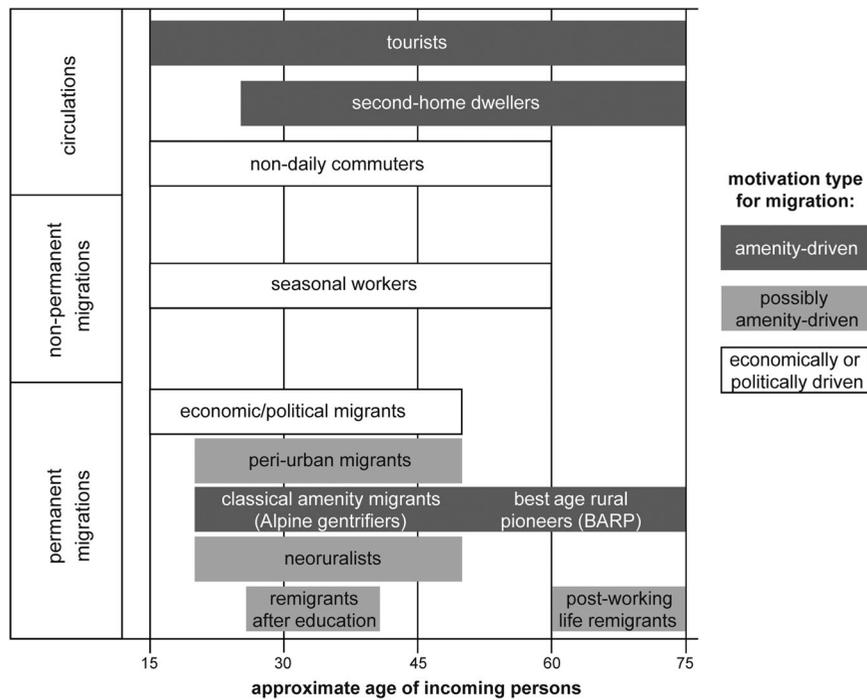


Fig. 4. Demographic types of mobility into the Alps by permanence of stay (based on Zelinsky 1971, with modifications based on Bender & Kanitscheider 2012)

find nature in rural areas, sometimes to become farmers. In the ‘Romance Alps’,² they often settle where agriculture had largely been abandoned several decades earlier (Fig. 5).

Large numbers of younger people aged between 15 years and 40 years migrate to take up apprenticeships,

attend university, or find work. Also typical in certain rural districts of the northern Alps is a migration gain of people in the age group 50–74 years, who are financially independent and professionally flexible or already retired (Fig. 6). Their choice of destination reveals hot-spots that correspond to the ‘classic’ Alpine summer



Fig. 5. Neoruralist and abandoned areas: a) some new fields cultivated by neoruralists on formerly abandoned terraces in St. Véran (Hautes-Alpes, France), 2040 m a.s.l.; b) some of the very few remaining fields in Obergesteln (Valais, Switzerland), 1355 m a.s.l. (Photos: Oliver Bender, 2008)

tourist regions, certainly in the case of Austria (Bender & Kanitscheider 2012).

In the wake of in-migration, the demographic structure in the Alpine villages is changing dramatically. Typically, the greater the distance from central places a municipality is, the less the inhabitants will want to

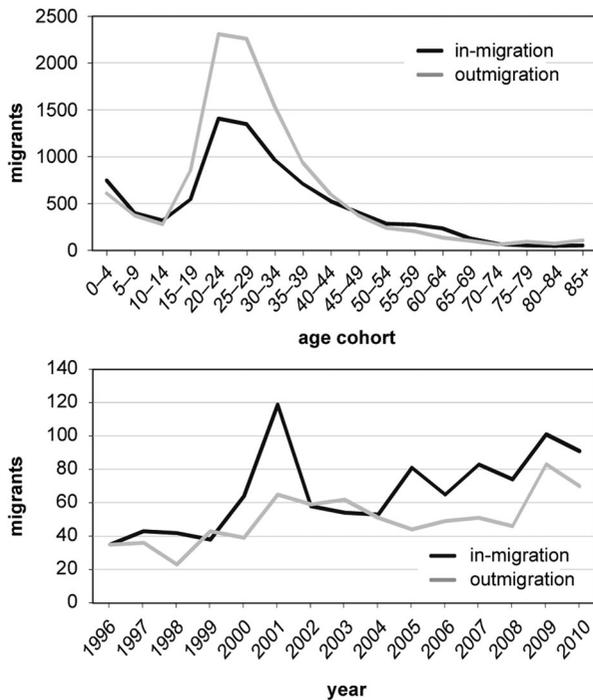


Fig. 6. Migration balance in East Tyrol in the period 1996–2010; summarized migration balance (upper image); migration balance for the age cohort 50–74 years (lower image); (Source: Statistics Austria; Data: Migration Statistics 1996–2010)

stay in the municipality. However, although the number of native locals in such places has decreased, the number of non-natives has increased (Fig. 7a).

By contrast, in the northern Alpine regions, where there is mass tourism (e.g. North Tyrol), the dynamics of population and settlement are quite different. There are often relatively high numbers of inhabitants in the most peripheral villages due to in-migration of second-home owners, amenity migrants, and guest workers (Fig. 7b). However, the group of native locals is still numerically and, more importantly, economically strong, and thus able to determine the local development on its own. The model in Fig. 7 also shows, on the basis of our qualitative research, that the integration of in-migrants is better in small peripheral communities, since they are able to participate in decision-making there more than elsewhere.

Discussion

Differences in historical settlement and socio-demographic systems between the northern and southern Alps

Population and settlement developments in the Alps have depended on the dimensions of the natural surroundings, appropriation of the land by various ethnic groups, power structures (territorial and manor rule) and internal socio-economic control, all of which have varied over time and in space. At the local level, fine-tuning occurred through ongoing adaptation processes (cf. Mathieu 1992, 15), ensuring relatively stable settled landscapes for a longer period from the end of the Middle

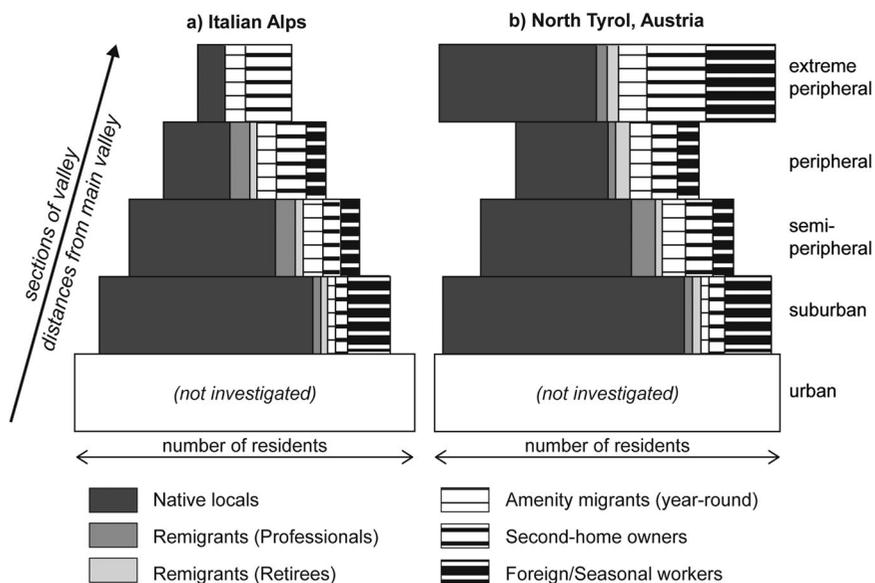


Fig. 7. Model of distribution of inhabitants in Alpine valleys: a) valley without mass tourism (modified from Steinicke et al. 2012, 335); b) northern Alpine valley with mass tourism

Ages in the 15th century to the end of 19th century (Bätzing 2015).

In high mountain areas, the great differences in the geophysical conditions at larger and smaller scales undoubtedly exerted a greater influence on the settlement structure than in the lowlands. The relatively favourable conditions in the southern Alps allowed higher population density even in the first centuries AD. The Germanic immigrants during and after the migration period (4th–8th centuries: Burgundians, Longobards) did not prevail in language terms, despite forming the power elite in certain phases, and the tribes did not introduce any permanent change in the agricultural and social circumstances. However, the chequered history of the cultivation of sweet chestnut is a potent reminder of how the distribution of power between different ethnic groups has impacts on cultural sustainability (Bender 2010).

The question of how far the Alpine cultural landscape has been shaped in different ways by ethnic groups has occupied researchers for many decades. In the course of research into this aspect, the existence of an ethnicity-based divide has been confirmed in principle, most impressively by American Marxist anthropologists Cole & Wolf (1974). However, the findings have repeatedly been misused for political interests, especially the nationalisms of the north and the south in a struggle for spheres of influence and territories. Until the time between 1919 and 1920, the Italian-speaking Trentino was part of Austria, and subsequently the German-speaking South Tyrol became part of Italy. Up until the implementation of the Second South Tyrol Autonomy Statute in 1972, there was intense lobbying against this attribution by the respective neighbouring countries. Similar conflicts of interest existed over Italian-speaking southern Switzerland during the period of Italian fascism, 1922–1943. More recently, this has resulted in a counter movement of complete rejection or at least the omission of ‘ethnic’ determinants (cf. Scharr 2012; Bätzing 2015, 411).

By the mid-20th century it had become clear that language and cultural boundaries often did not match (Weiss 1947) and this fact was often used to reject any ethnic component as a possible explanatory factor, to the delight of the political elites in multi-ethnic Switzerland. Unfortunately, geographical research did not pay anything like enough attention to spatial shifts in individual cultural features since the time of land appropriation, whether as a result of changes in power relations and/or cultural assimilation. A blatant example is the gradual shift in the linguistic divide as a result of superimposition: if more than one ethnolinguistic group lived in a given area, then in some cases the language of the ruling group prevailed, in other cases the language of

the larger group prevailed (cf. Kraas 1995 on the Rhaeto-Romance language in Switzerland).

Historical systems created persistent structures that are still powerful today

From the 19th century onwards, the shift from an agrarian to an industrial society and eventually to a leisure society ‘confused’ the composition of the landscape. Despite this, the socio-economic organization of the mountain farming society, particularly during the Middle Ages, left substantial after-effects that have lasted to the present day. Today, the most striking contrast in the cultural landscapes of the northern and the southern Alps is no longer one of different settlement and land use systems but of different degrees of agrarian utilization. The decline of agriculture in the southern Alps has been accompanied by the abandonment of settlement areas and cultural landscapes (Cede & Steinicke 2007). Currently, large areas of the southern Alpine landscape are returning to ‘wilderness’ (Birkenhauer 2001; cf. Höchtl et al. 2005).

At first glance, the northern and eastern Alps may seem to be disadvantaged, but the high degree of ownership of forests (farmers’ ‘savings banks’) has long compensated for financial deficits from agriculture. Moreover, the prevailing cattle-based farming was easier to modernize (e.g. as organic farming or regional products) and to integrate with other economic sectors such as tourism (see Mayer et al. 2010 for very instructive examples). Agriculture in the northern Alps also attracted subsidies as a result of a policy of support for mountain farming. Today, subsidies for mountain farmers in Switzerland, Germany, and Austria can make up more than 50% of a farmer’s income (Bätzing 2015). By contrast, in the climatically favoured south, the fragmented farmlands with minute plots and the generally unfavourable agricultural structures (e.g. small farms) has almost always posed insurmountable obstacles to the modernization process. Under modern trading conditions, arable farming is no longer feasible in these areas.

What was the reason for the different initial states at the start of the Industrial Age? Swiss economic historian Jon Mathieu (1998) has discussed two different ‘agrarian states’ in the western and the eastern Alps. He lists indicators such as farm size, numbers of labourers, and numbers of children born out of wedlock, which were several times higher in the east. However, these differences can be traced back to one main factor: inheritance customs, namely the partible inheritance in the Romance southern Alps and the non-partible inheritance that had prevailed in the areas occupied by the Baiovarii tribes in the

north-eastern Alps (Schennach 2003) and to some degree in Alemannic Switzerland (Moser 1931). How long these customs existed was decisive for the degree of fragmentation and the capability for modernization. In the Romance areas, partition on inheritance happened on the basis of old Roman law, and in the Germanic areas manorial lords impeded or even prevented it, at least after the Late Middle Ages (e.g. in Tyrol, with reference to the territorial constitution of 1404 (Schennach 2003)). This underlines how much cultural practices have affected the agrarian structure and its sustainability.

The historical systems' recent influence on the sustainability of population and regional development

Before the decline of agriculture in the last decades of the 20th century, agriculture was an economic activity in all Alpine municipalities, while industry and tourism was restricted to certain regions or municipalities (Bätzing 2015) and thus did not compensate for lost livelihoods across the board. Hence, it might be relevant to discuss to what extent the emergence of tourism is related to different historical cultural structures.

Starting with the tourist destinations of the belle époque (c.1880–1914), 80% of which were in Switzerland (Bätzing 2015, 173), tourist infrastructure was created by the local population in the German-language areas of the Alps from the interwar period (1919–1939) onwards. There, free peasants existed who were economically autonomous and more open to innovation (cf. Weingartner 1956). In this part of the Alps, tourism has been and still is spatially decentralized, of moderate seasonality, and integrated with other economic sectors in the region, resulting in many jobs available all year round. By contrast, except for the belle époque tourist destinations, tourism in the Romance Alps did not evolve on a larger scale until the 1930s to 1960s. Many people, including potential local innovators, already had migrated out of the Romance Alps before tourism was established there by mainly external actors. The tourism resulted in ski resorts that were used only during a relatively short season, with accommodation facilities being shut up and holiday apartments remaining unoccupied for the rest of the year (Bätzing 2015). To a high degree, the Romance Alps, but also Alemannic Switzerland, feature second homes (Sonderegger 2014). In the Romance area, the holiday apartments are culturally sequential to the traditional *villeggiatura*³ (cf. Dörrenhaus 1976; Barberis 1979). The outmigrants often used their former main homes as holiday places, since for a long time it was impossible to sell them due to massive emigration. Today, former main homes are still used

as holiday places, and there are condominiums for the upper middle classes. The short tourist season and the limited number of hotel beds result in few jobs all year round in the municipalities in the southern Alps and often no year-round provision of services to meet everyday needs.

In-migration of jobseekers and commuting depend on the availability of jobs at all times of the year, and the in-migration of older people presupposes the provision of everyday services all year round (Bender & Borsdorf 2014), but neither is much in evidence in the southern Alps. There, mostly re-migration takes place.

Thus, settlement and agrarian structures have influenced the development of tourism and following the abandonment of agriculture, they have continued to have an impact on population mobility.

Culture mainly influences mobility and shapes the pillars of sustainability

It seems useful to look at the ethnic component of cultural landscape development within a larger framework, namely culture. In the Alpine area, it is not ethnicity as such, but group-specific 'habits of mind and practice' (Anderson et al. 2002, 4), that have shaped the cultural landscape. Historically, the Germanic and Romance social groups of mountain farmers formed *genres de vie* (ways of life) (Vidal de la Blache 1911a; 1911b; Bobek 1948), which included specific economic practices, political societal organization, traditions, and habits. Moreover, culture should not be seen as static (e.g. Germanic versus Romance culture), since customs undergo constant renewal, change, or prevail in specific areas. In addition to ideas of innovation and diffusion (Hägerstrand 1967 [1953]), the hegemonic strength of groups or institutions is worth scrutiny. Spatial population mobility is a driving force for change in cultures but may also be a consequence thereof.

In the case of Alpine spatial development, cultural sustainability should not be understood as a question of which culture is sustainable, but rather what culture has been able to contribute to sustainable development and what will it be able to do in the future. From the following three pillars, it is evident that demography, including in-migration, outmigration, and circulation, has considerable influence:

- the economy – in the past mainly agriculture, more recently often tourism
- the ecology – between overutilization and abandonment of the cultural landscape
- social life – based on social infrastructure and engagement of the local population.

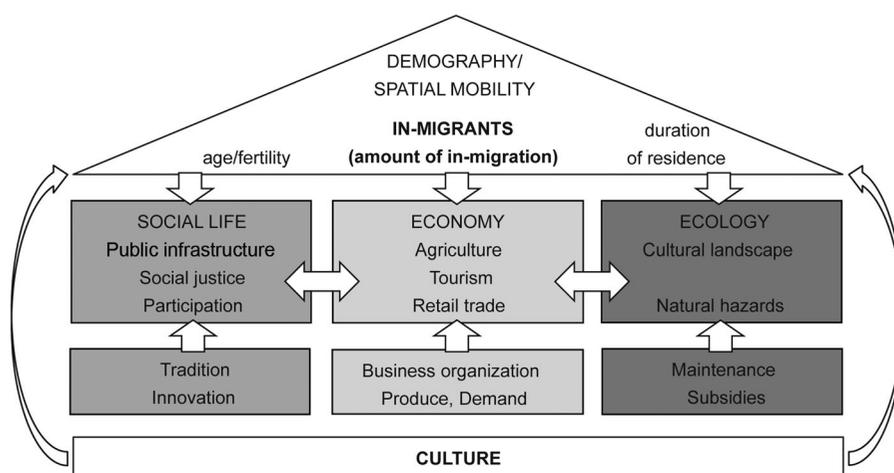


Fig. 8. Spatial population mobility, landscape, and cultural sustainability in Alpine communities

Recently, demography's influence has been especially true for the southern Alps, where the new in-migrants need to contribute to revitalizing the three pillars, which have partially collapsed. However, this is only half of the truth and we have to come back to our fourth hypothesis: mobility is mainly influenced by culture and culture shapes the pillars of sustainability (Fig. 8), as follows:

- Culture shapes the economic activities, such as agriculture and tourism, with their different forms and organizations.
- Today's state of the cultural landscape depends on whether there are public subsidies for culture and policy.
- Social life is shaped by rather invariant traditions and by innovations, which are not precluded by 'customs' (Olwig 2001, 346; cf. Gusfield 1967; Shils 1981).

Culture clearly affects the relationships between socio-demographic, economic, and ecological sustainability, and might be regarded as a steering component, as different cultural practices lead to regionally diverse developments.

Conclusions

Our study has confirmed that different historical settlement and socio-demographic systems are observable between the northern and southern Alps, and the findings suggest that these historical systems have created persistent structures that are still powerful today. We argue that these structures have recently begun to influence the sustainability of population and regional development, and find that the current state of agriculture and tourism in the Alps has been partially shaped by the same cultural preconditions (e.g. inheritance customs). The effects of these cultural factors, as well as their

interrelations with other factors, are fairly well documented in very specific local and regional cases. By combining both systematic and non-systematic approaches to the selection of secondary sources, and incorporating recent empirical results, we have attempted to provide an overview of this research topic that is highly relevant for sustainable development in the Alps. However, given the study's limited level of detail, it would be desirable to attempt a more comprehensive survey of the Alpine arc. Such a survey should pay particular attention to the spatio-temporal distinction of cultural phenomena (e.g. the degree of field fragmentation) and the factors at work (e.g. inheritance customs). This could be achieved by a critical and detailed reassessment of 'older' research findings from all relevant disciplines. Using up-to-date methods of qualitative content analysis, particular attention would need to be paid to the influence of the respective political contexts on the research results and their interpretation (cf. our section 'Discussion'). On the basis of such a comprehensive overview, a deeper understanding of how population mobility in the Alps is culturally embedded could definitely help to overcome spatial disparities by fostering the development of policies aimed at future-proof or sustainable regional development. With this in mind, we conclude this article with a glimmer of hope for the southern Alps, which have been marginalized for decades. Here, newcomers are now finding opportunity structures that allow them to take part in decision-making and to make innovations in economic and social life for the benefit of subsequent generations.

Notes

1. Contrary to previous editions, in the 4th edition of *Die Alpen* Bätzing omits 'ethnic' determinants when explaining cultural differences between the northern

and southern Alps (Bätzing 2015). Where we refer to these differences, we cite the 2nd edition of his book (Bätzing 2003).

2. All regions of the Alps where Romance languages are spoken.
3. A social and sometimes economic system whereby urban people from the upper classes spent summertime (sometimes for a number of months) in rural places, which sometimes were linked to traditional agriculture.

Acknowledgements

This article is dedicated to Axel Borsdorf, the founder and director of the Institute for Interdisciplinary Mountain Research (IGF) at the Austrian Academy of Sciences, who retired in December 2016. He is thanked for encouraging us to follow our scholarly curiosity and to conduct the research that underlies this article. We are indebted to our project partners and students for conducting and analysing interviews. In addition, we thank Kati Heinrich, Nadine Houbé, and Tobias Töpfer for preparing Figs. 1–8, Brigitte Scott for help with the translation, and two anonymous reviewers and the editors, who provided a number of very constructive and helpful comments on a previous draft of the manuscript.

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