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Towns in the Alps

Urbanization Processes, Economic Structure, and Demarcation of European Functional Urban Areas (EFUAs) in the Alps

The European Alps are among the world's most densely populated mountain regions. To date, towns have played a subordinate role within this area. Due to the marginal position of Alpine towns within national urban systems, they do not constitute an interrelated urban system, and no primary center exists. The current degree of urbanization cannot be measured by adding up the population of the towns in the Alps. Instead, it is necessary to demarcate urbanized zones according to functional criteria. This article presents a demarcation of urbanized zones in the Alps based on the French method of European functional urban areas (EFUAs). As elsewhere in Europe, urbanized zones are expanding and gaining importance under the influence of structural changes in the economy. At the same time, the shift to post-Fordist production and regulation is leading to more pronounced internationalization of medium-sized and small towns as well as conurbations. Census data on demography and commuting collected between 1960 and 1995 indicate that urbanization processes in the Alps have caught up with those occurring in non-Alpine Europe. A comparison of 1980 and 1990 data on employment shows that growth sectors in the Alps are lagging behind those in peri-Alpine conurbations. The Alpine border is gradually being turned into a residential and recreational area for these peri-Alpine conurbations. The present article argues that this externally driven functional division between urban regions outside the Alps and monofunctional recreational landscapes within the Alps contradicts the criteria of sustainable development. Hence, a policy of strengthening small and medium towns in order to increase the value of inner-Alpine lifestyles and economies and enhance town–country relations is preferable to the continued expansion of peri-Alpine agglomerations and metropolitan areas and should be encouraged within the boundaries set by ecological principles.

Keywords: *Urbanization; periurbanization; European functional urban areas (EFUAs); spatial functional divisions; regional development; European Alps.*

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Introduction: A biased public and political perception of the Alps

Most perceptions of the Alps tend to focus only on mountain regions and do not take into account the Alpine border, which in many instances directly adjoins the most densely populated regions of Central and Southern Europe. A relatively recent shift has taken place in the long-held public perception of the Alps as an archetypally rural and tourist mountain region. Over the past few decades, structural changes in the agrarian sector and manufacturing industries as well as the expansion of service industries have brought about a concentration of new economic functions. This has resulted in a substantial increase in population and employment opportunities in Alpine towns and, more recently, in suburban commuter communities (Bätzing and collaborators 1993; Bätzing, Perlik, Dekleva 1996). Current public perception of the Alps is colored by different expectations depending on whether it is held by internal or external interest groups and whether conservation or exploitation interests take precedence (Messerli and Perlik 1997).

Recent conferences and publications (Debarbieux et al 1996; Fourny 1999; Perlik and Bätzing 1999; Borsdorf and Paal 2000) reveal that interest in research on Alpine towns is increasing. The fact that the significant urbanization process in the Alps went practically unheeded in the past implies that towns have not been given due consideration in Alpine development strategies, either at the national or the European level. To help correct this misconception, the present article addresses the following questions:

- What stage has urbanization reached and what are the characteristics of urbanization processes within the Alps? How are Alpine towns coping with economic structural change?
- How can these processes be explained within the context of economic globalization and European integration? What are the consequences for Alpine towns and Alpine regions?
- Are Alpine towns primarily oriented toward their regional hinterlands (supply function, "central place" function) or are they influenced by the European/global division of labor (network function), like non-Alpine towns?
- Do urbanization processes and economic change jeopardize sustainable development as postulated by the Alpine Convention, and if so, what kind of countermeasures can be taken?

Data base and methodology

As the urban dimension of the Alps has barely been perceived so far, precise knowledge of the scope and quality of urbanization is lacking. The extent of urbanized zones has to take into account not only the towns ("centers") but also the surrounding municipalities with a close functional relationship to these zones, as

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Compilation and cartography: M. Perlik, 2000;
Demarcations according to: Dematteis, 1975; Alpine Convention, 1991;
Bätzing and collaborators, 1993; Perlik, 1998; Slovenia according to Ravbar, 1997;
Method: CNRS in Le Jeannic, 1996, modified (threshold values: 30%);
Data base: national censuses 1960, 1987/1990/1991;
GIS work: H. Gerhardinger;
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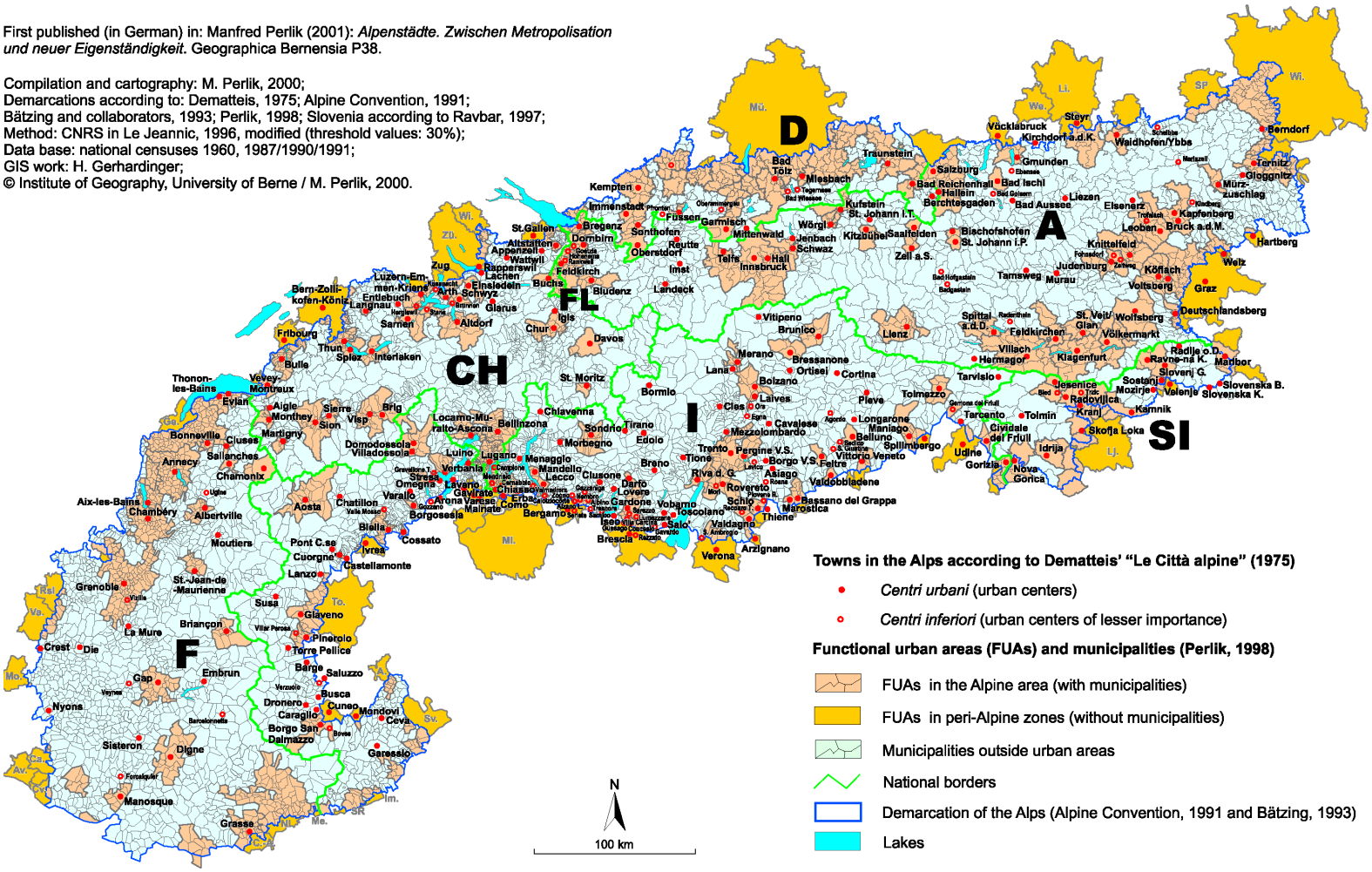


FIGURE 1 Changes in urbanization patterns in the Alps between 1960 and 1990. Central places were identified by Dematteis according to criteria defined in 1960 (*Le Città alpine* 1975).

current urban functions are not restricted to historical jurisdictions. Therefore, a method is required that begins at the communal level. At this level, a transnational approach must be based on national censuses. It offers only a limited number of comparable parameters. The definition of urbanized zones and the ensuing analysis of processes can thus only be effected on the basis of data on demography, commuter patterns, and economic structure, though some concessions need to be made in comparisons involving the latter factor. Thus, at the level of the entire Alpine arc, only basic statistical methods can be applied.

Findings are fundamentally influenced by how the Alpine area is delimited. In contrast with a previous analysis of communal and regional development types (Bätzing, Perlik, Dekleva 1996), the present study included peri-Alpine towns and communes (ie, outside the Alpine area as defined by the Alpine Convention and Bätzing and collaborators 1993), provided Alpine municipalities were part of their zone of influence. A general definition of urbanized zones for all Alpine countries must try to take into account existing national definitions of towns and conurbations. The delimitation suggested here is founded on a method used in France since 1996 (Le Jeannic 1996) and now chosen by the European Spatial Development Perspective (ESDP) to define European functional urban areas (EFUAs), originally called *aires urbaines*. The ESDP has been adopted by the Informal Council of European Union Ministers responsible for spatial planning (EC 2000).

EFUAs are based on commuter patterns. In this study, in order to relate the urbanized zones to topographic specificity and to existing delimitations in the 8 countries with Alpine territory, slightly lower threshold values were used. These modified EFUAs were originally called *Urbanisationszonen* (Perlik 1999) and are referred to in this paper as functional urban areas (FUAs). Details of the method are expounded in Perlik (2001). Only a selection of the data obtained are used in this article, with the aim of documenting the urbanization process and economic structural change.

Urbanization processes in the Alps

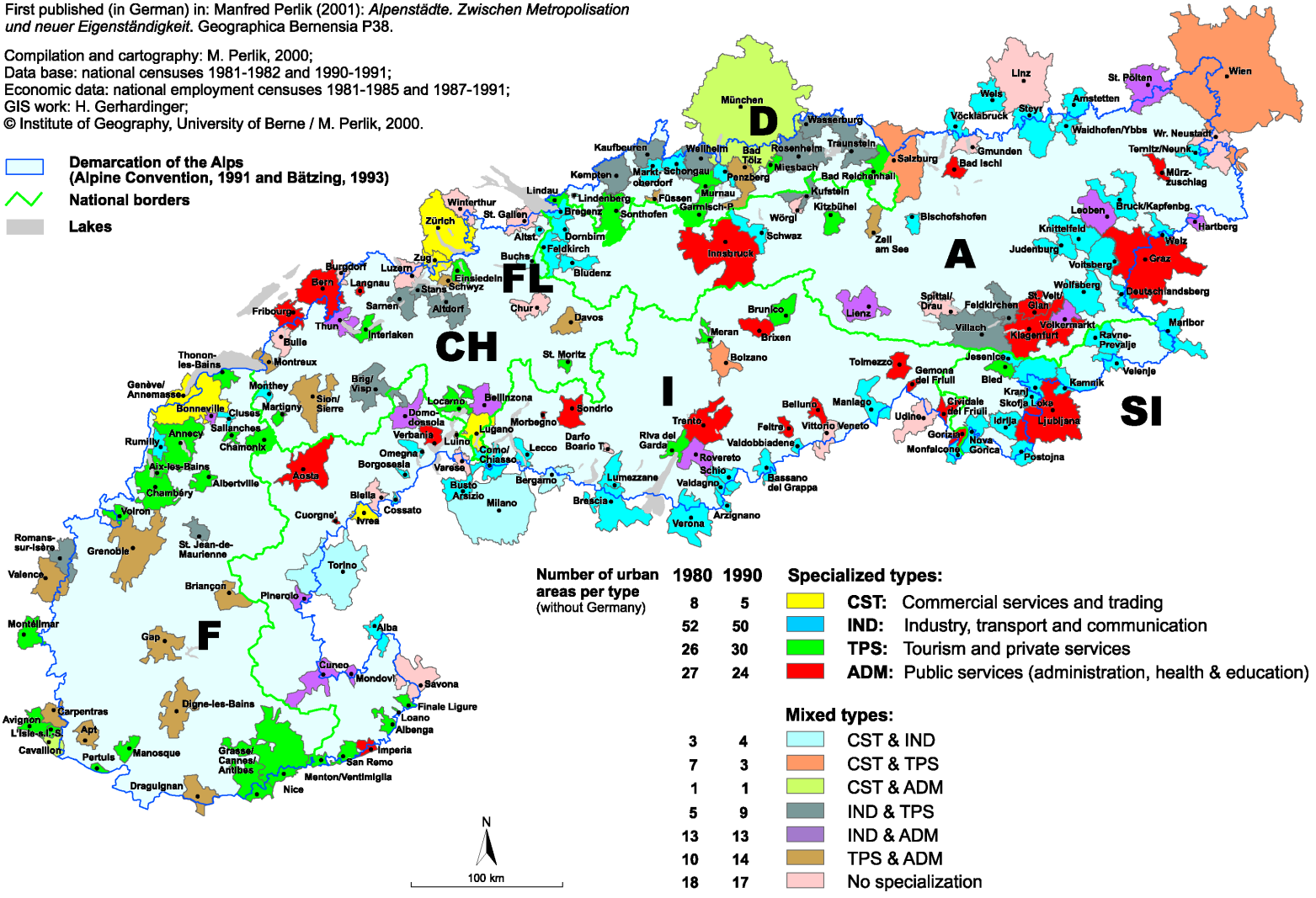
The European Alps have traditionally been regarded as a region characterized by low urban density (Bairoch,

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Batou, Chèvre 1988; Mathieu 1998). During the 19th century, when Europe experienced a period of nation-state building, the Alps were politically marginalized and the resulting impact of industrialization on Alpine towns was less pronounced. Even now, the Alps possess no center of the first order (metropolis or capital). Seven major towns (Grenoble, Salzburg, Maribor, Innsbruck, Trento, Bozen, Klagenfurt) with populations of 90,000–150,000 stand in contrast to a large number (232) of small and medium-sized towns, that is, municipalities with at least 10,000 inhabitants or 5000 jobs. On the other hand, the regions adjoining the Alpine area (peri-Alpine zone) feature 6 metropolitan areas of European importance (with more than 1 million inhabitants each) and 9 agglomerations of national importance. Together with their commuter belts, these 15 conurbations boast more inhabitants (18 million) than the total Alpine area (14 million). The sheer weight of peri-Alpine conurbations is an indicator of the marginal nature of Alpine towns within national urban systems and at the European level.

Population in European towns has been stagnating since the 1970s, while it has been growing within the commuter belts. This trend is referred to as periurbanization (Le Jeannic 1997). It could be assumed that urbanization in the Alps is also substantially dominated by periurbanization processes because of the scarcity of land in the valley bottoms and because urbanization processes have been less pervasive since 19th century industrialization (Messerli 1999). As a result, towns in the Alps are small and medium-sized; current urbanization processes therefore affect the related municipalities. To determine the extent of urbanization, all towns within the Alpine area as well as the associated periurban municipalities were incorporated. Additionally, the research perimeter was extended to include all centers outside the Alps with which Alpine municipalities have close connections. In all, 189 FUAs were distinguished.

FIGURE 2 Types of economic structure in urban areas in the Alps, 1990.



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This is where the majority of the population now resides (Table 1; Figures 1, 2).

TABLE 1 Proportion of the Alpine population living inside and outside functional urban areas (FUAs) and the corresponding proportions of jobs, municipalities, and land area. Only municipalities within the Alpine area are included, that is, those within the perimeter of the Alpine Convention and demarcation as defined by Bätzing (Bätzing and collaborators 1993). (Source: national population and employment censuses at the municipality level.)

	Communities within the Alpine area	
	Living within FUAs (%)	Living outside FUAs (%)
Population 1990 or 1991	59	41
Jobs 1990 or 1991[a]	66	34
Communities 1990 or 1991	36	64
Land area 1990 or 1991	26	74

[a]Slovenia not included; for Germany: 1987.

Failure of small local centers to develop

Some central places in valley locations (historic market towns) have failed to expand and their populations never reached the threshold of 10,000 inhabitants (eg, Die in Drôme, France; Demonte in Piedmont, Italy; Hermagor in Carinthia; and Liezen in Styria, Austria). Figure 1 shows the 329 central places that were identified by Dematteis in 1975 (with a different demarcation and classification method). In 1960, these central places had at least 5000 inhabitants or 262 jobs in the tertiary sector (Dematteis 1975: 72f). The current study identified 189 centers within FUAs (with at least 10,000 inhabitants or 5000 jobs). One part of the remaining 140 towns had developed into periurban municipalities integrated in FUAs, the other part had stagnated in rural areas. Centralization of the settlement structure occurred where such agrarian central places failed to evolve.

Growth of functional urban areas through periurbanization

Analysis of population trends between 1960 and 1995 indicates strong growth in FUAs until the 1970s, followed by a continual decline in growth rates until 1990. In addition, a study conducted at the University of Erlangen (Bätzing and Dickhörner 2001) shows that growth outside FUAs occurred primarily after 1980. A comparison of population and employment trends in various zones within FUAs (Table 2) reveals that the population of centers likewise stagnated between 1980 and 1990 in Alpine areas, while during the same period, surrounding municipalities experienced growth. This applies to an even greater extent to employment trends.

External orientation of functional urban areas on the Alpine border

The FUAs of several Alpine towns on the Alpine border adjoin the FUAs of major peri-Alpine metropolises (such as Munich, Milan, and Zurich) or regional capitals (such as Nice, Linz, and Brescia). There is a trend toward large-scale functional division of space. Small and medium-sized towns on the Alpine border such as Penzberg (Germany), Grasse (France), and Thun (Switzerland) are simultaneously becoming out- and in-commuter communities and are increasingly turning into peri-Alpine conurbations in terms of economic structure, services offered, and self-perception. This is referred to as metropolization (Torricelli 1999) and has also been ascribed to non-Alpine regions (Schuler and Kaufmann 1996). Alpine regions whose orientations have been directed outward in this process now account for 28% of the population in Alpine FUAs, equivalent to approximately 17% of the total Alpine population (Figure 2).

Distinctive quality of Alpine towns

Analysis of recent urbanization processes in the Alps shows that they are not fundamentally different from processes outside the Alps: In both cases, periurbanization is the dominant trend and some FUAs on the Alpine border are even undergoing metropolization. Within the Alps, however, urbanization occurs with a time lag and at a smaller scale. Therefore, Alpine towns have evolved along different paths: The difference in evolution has limited the ability of Alpine towns to assume internationally relevant economic and political control functions. Existing non-Alpine metropolitan areas now offer more favorable conditions for such functions. Consequently, Alpine towns are forced to adopt innovative and alternative approaches in order not to lose their significance and function as urban centers.

TABLE 2 Population and employment trends in different zones within functional urban areas. Figures refer to the spatial extent of FUAs in 1990. All municipalities are included (within the Alpine area and the peri-Alpine zone). Data base for 1980: national censuses for 1980–1982; employment censuses for 1980–1982 and 1985 (Switzerland). The years 1990–1991 form the data base for 1990.

	Population[a]			Jobs in secondary and tertiary sectors[b]		
Areas within FUAs	1980 (millions)	1990 (millions)	1980–1990 (%)	1980 (millions)	1990 (millions)	1980–1990 (%)
Centers	11.9	11.7	–1.7	5.0	5.3	+4.7
Periurban municipalities						
Inner periurban zone	4.1	4.5	+10.3	1.1	1.3	+16.8
Outer periurban zone	4.2	4.6	+9.0	1.3	1.4	+10.5

[a]Excluding Slovenia.
[b]Excluding Germany and Slovenia.

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Alpine towns: From central places to economic networks

Development of industries and distribution patterns

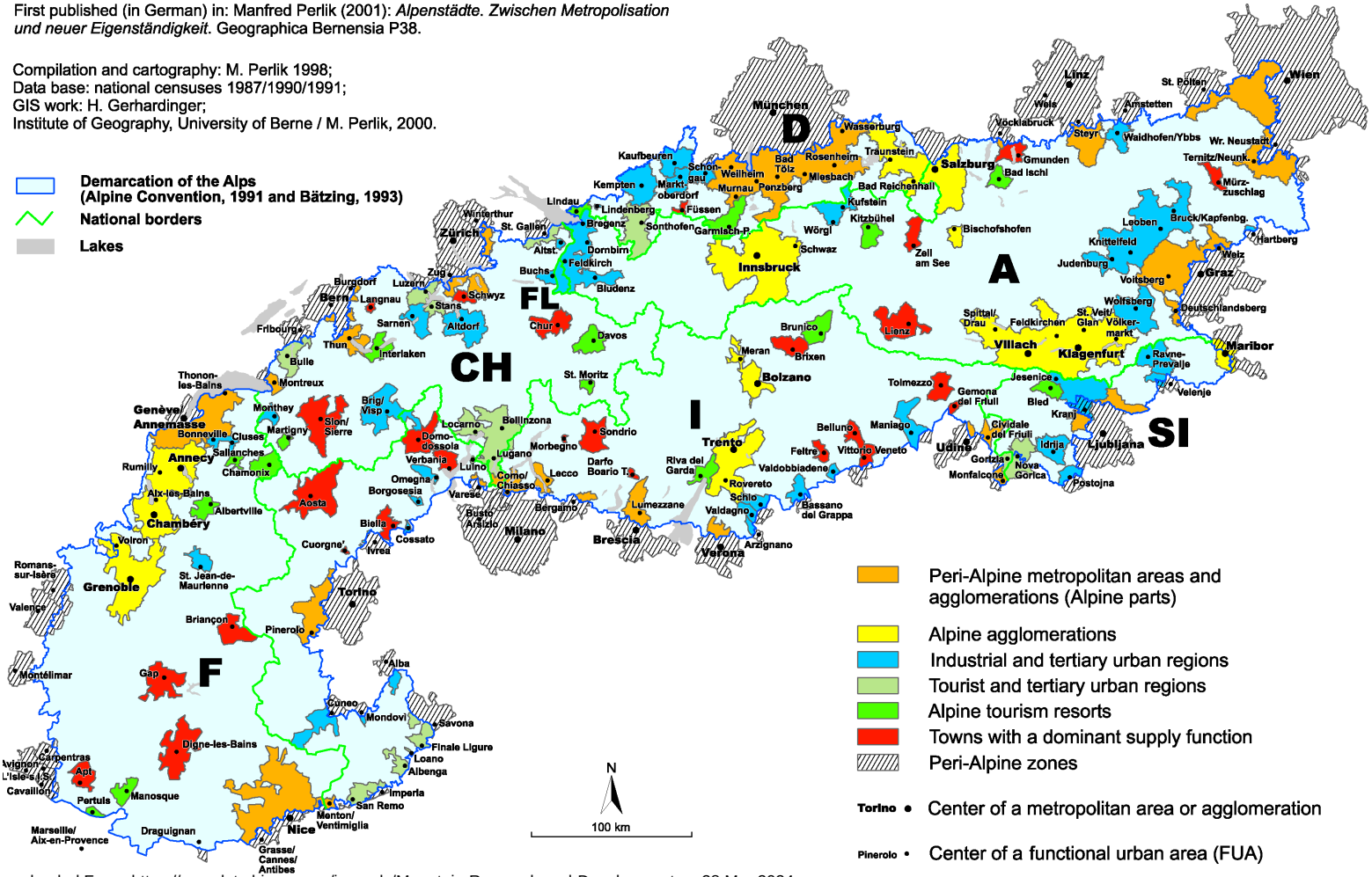
Location quotients (the proportion of sectoral and branch employment of the total employment in the subarea compared with the same proportion in the overall study area) were calculated in order to typify FUAs by economic structure. Sectoral developments from 1980 to 1990 were also analyzed. The main observations can be summarized as follows (see Figure 3):

1. Between 1980 and 1990, the business services industry experienced strong growth everywhere. However, there is a distinct bias toward locations in the most densely populated peri-Alpine metropolitan areas such as Milan, Munich, and Zurich. These are the locations of financial and insurance services that offer the greatest number of jobs in this sector. Alpine towns do not participate in this concentration of functions with high value added. Apparently, most Alpine towns lack both the requisite market size and the necessary urban infrastructure in terms of communication, training opportunities, and cultural amenities (prerequisites to attract a highly skilled labor force to a location).
2. A great part of the Alpine border is changing to meet the demand of peri-Alpine conurbations for attractive places of residence. These are favored for the combination of easily accessible and attractive jobs outside the Alps, picturesque Alpine countryside, and a minimum of urbanity in small Alpine towns. The most important, fastest growing zones in this category include the Bavarian border of the Alps and the Côte d'Azure (Dumont 2000; Julien 2000).
3. The Alpine border also harbors manufacturing production systems whose historical prerequisites (hydroelectricity, transport facilities) are to be found here. These industries have succeeded in maintaining activities due to a high level of adaptability and specialization (eg, metal cutting in Val d'Arve, Haute Savoie) or design-intensive production (eg, the textile manufacturers Zegna in Biella, Piedmont and Marzotto in Valdagno, Veneto). The

FIGURE 3 Urban development types in the Alps.

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Eastern Alps clearly outweigh the Western Alps in the regional distribution pattern; the FUAs of the manufacturing industry stretch from Piedmont to Veneto, Slovenia, Austria, and Bavaria, with only minor interruptions.

4. Within the Alps, several of the smaller FUAs have evolved to become international resorts of Alpine tourism, thanks to a long-standing tradition of tourism, a powerful image, and high accessibility. Small and with only a few periurban municipalities, the centers of these FUAs are most susceptible to global trends in tourism such as the expansion of markets, shorter stays, and the increased importance of event marketing. They are primarily situated in the Central and Western Alps.
5. Higher level public services are primarily concentrated in regional capitals with major educational, health, and political institutions (eg, Innsbruck and Trento). Community public services are overrepresented in small towns with a dominant supply function. These are the only towns that could still be regarded as central places in Christaller's sense (Christaller 1933); they fill the gaps between regional capitals in the Alpine area.

The distribution of FUAs according to economic characteristics follows a pattern that can be related to (1) geographical location and topographical situation, (2) population, and (3) historical development paths.

Various centers of the manufacturing industry on the Alpine border have persisted and undergone individual development (Regazzola 1999). This also applies to some of the high-altitude towns (eg, Chamonix and Davos), which have increasingly focused on resort functions since the early days of tourism. Development in this case signifies a specialized production of goods and services as part of the international division of labor. Additionally, some of the towns on the Alpine border are developing from local centers to specialized FUAs for residence and tourism, either under outside pressure from expanding peri-Alpine metropolitan regions and agglomerations or because they are seeking a substitute for lost functions. However, specialization leading to high added-value services outside the tourism sector is not taking place in the Alpine area. Major public services predominate in regional capitals, especially when the latter are the location of universities and university clinics and these institutions are integrated in international networks. International integration is lowest in small FUAs that have either functioned until now as local (administrative) centers for their rural and tourist hinterland or are undergoing structural change and losing their traditional economic specialization. Such FUAs are distributed across the entire Alpine arc.

Part of a network economy

Structural trends in the economic sector allow the conclusion that Alpine towns are also becoming integrated into the European/global network economy. Their involvement is primarily based on the global tourism market or specialized production systems in the manufacturing industry. On the Alpine border, this involvement is also attributable to taking over residential and recreational functions for the large adjoining metropolitan areas. Due to specialization of globalized industrial production, the broader tourist base with visitors from all continents, and the associated growth of business services that Alpine towns are increasingly forced to draw on from outside the Alps, this integration is intensifying. The network function is also becoming more significant at the political level, primarily due to the towns' increasing activities in urban marketing and their active membership in shared-interest associations. Moreover, this development now extends to medium-sized and smaller towns and is no longer limited merely to large towns.

Types of urban development according to spatial and economic characteristics

Six types of urban development in the Alpine area emerge from a synthesis of these urbanization processes and forms of economic development. They have the following main properties and functions:

1. *Alpine sections of peri-Alpine metropolitan regions or agglomerations:* The FUAs on the Alpine border take over specific urban functions by mitigating problems of the peri-Alpine conurbations. They offer residential and leisure qualities as well as additional economic specialization in some cases, thus strengthening the significance of the conurbation in the national or European hierarchy. Under such conditions, further growth is possible. When parts of the Alpine border become associated with peri-Alpine centers, they are integrated indirectly into the networks of these metropolitan regions. Examples are Bad Tölz, Como, and Thun as urbanized commuter belts for Munich, Milan, and Berne.
2. *Alpine agglomerations:* As regional capitals, the urban centers of Alpine agglomerations are political centers for larger territorial units in the Alps. They are also part of the European city system of medium-level importance and are thus integrated into international networks. Such centers also have a supply function for their Alpine hinterland. As political and economic centers, Alpine agglomerations have the capacity and responsibility to influence development strategies for the Alpine arc. Examples include Grenoble, Trento, and Innsbruck.

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3. *Industrial and tertiary urban regions (an agglomerate of FUAs):* The manufacturing industry in its present form developed late in the Alps. It is regressing elsewhere in Europe, which is why it is now receiving greater recognition. This industry is valued for its adaptability and is seen partly as a model of endogenous regional development. Some regionally embedded production systems are highly specialized and integrated into global networks. Examples include Vorarlberg and Styria in Austria and the towns of the Veneto (Italy).
4. *Tourist and tertiary urban regions:* Agglomerates of FUAs with predominantly tertiary economic structures related to tourism and other tertiary industries have developed in various areas on the Alpine border. Due to their size and more diverse economic functions, they cannot be regarded only as tourist resort areas. Examples are towns of the Riviera (Italy), Valence (France), and Lugano (Switzerland).
5. *Alpine tourism resorts:* These towns focus mainly on tourism and target global markets. This leads to integration of smaller, less significant towns into international networks. Examples include Chamonix (France), Kitzbühel (Austria), and Davos (Switzerland).
6. *Towns with a dominant supply function:* The supply function of these towns is far more important than their international network function. They either have sparsely populated environs or have largely lost their other functions due to the demise of their manufacturing industry. Examples include Aosta (Italy) and Mürzzuschlag (Austria).

The future role of Alpine towns and sustainable development

Today, Alpine towns are more than local political centers and marketplaces for a rural hinterland. From outside, they are subject to incorporation into the zone of influence of peri-Alpine conurbations, enhancing the latters' attraction in international urban competition. From inside, the traditional regional urban system is disintegrating because of the increasing outward orientation of Alpine towns, which leads them to dissociate themselves to some extent from their Alpine surroundings. In view of the urbanization processes and the structural development of the economic sector presented above, the following features are likely to characterize the future role of towns and their relationship to the Alpine arc:

Possible increase of disparities due to fragmentation of the Alpine area: While economic and political integration is intensifying at the European level and could also lead to a common Alpine policy in the long term, the incorporation of Alpine border zones into peri-Alpine conurbations leads to fragmentation: The Alpine area is divided among several non-Alpine metropolitan areas. Processes of urbanization and structural change therefore contribute to a comprehensive rearrangement of the Alpine area that severely impedes attempts to develop a common Alpine policy as recommended by the Alpine Convention (Bätzing 1999: 194). Towns and regions inside the Alpine arc risk being cut off from general economic and political development; they may become structurally weak intermediate zones. At present, there are only few signs of true cross-border cooperation that could reverse this trend, as shown in 8 case studies (Perlik 1998, 2001).

Increasingly selective land use: Incorporation into the network economy means that Alpine areas, which have only little land suitable for intensive use but are attractive for recreational purposes, are undergoing selective specialization along with a spatial division of functions (production, residence, recreation, and conservation). Structural change in the economic sector results in loss of traditional activities; at the same time, the functional necessity of small-scale urban structures is being questioned. Towns are therefore endeavoring to respond to international needs and demands, leading to a dilemma: Standardized tourism activities and a commercialized, orchestrated urbanity may be successful in the short term but are highly effort- and cost-intensive. They may thus severely limit alternative options (Pumain 1999: 180).

Small towns as potential losers: Small and medium-sized Alpine towns that meet the above network criteria may assume functions formerly reserved for much larger towns by autonomously focusing on activities outside the Alps. But for towns with a poor starting base, this implies increased uncertainty since the traditional European instruments for balanced regional development have lost significance and are under severe pressure of legitimization (BfLR 1996). Moreover, many public services and infrastructure relevant to the labor market were privatized in the 1990s, eliminating regional political considerations in decisions about location. At the same time, there is a growing need for urban infrastructure (education, culture, subculture) as a basis for the higher quality of life offered by larger towns.

Assessment from the point of view of sustainability

From the perspective of sustainable development, the trends described above can be summarized as follows: On the positive side, the shift from a Fordist to a post-Fordist accumulation regime has reduced the dependency of towns on size. This has generated development

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opportunities for smaller towns and regions (Messerli 1999). Globalization encourages concentration, but it also triggers its counterpart, reterritorialization (Storper 1997), thus enhancing the value of niche products and increasing the significance of ecological issues. On the negative side, the limitation on hierarchical differences between towns previously sustained by the political adaptation of the central places system now no longer exists. Since the non-Alpine area retains its strategic advantages (control functions, growth sectors), the innovativeness of adjoining Alpine regions tends to be restrained or reduced to less attractive industries. This tendency is stronger if the network function of Alpine towns is overemphasized and large sections of the Alpine border are incorporated into various macroregions, thereby becoming a major obstacle to a common Alpine policy such as the one advocated by the Alpine Convention.

The large-scale division into peri-Alpine locations for leading economic sectors and residential Alpine border regions continued into the late 1990s (Torricelli 2000). This division is problematic for 3 reasons: From an economic point of view, it creates regions with high added-value production and regions with low added-value production, as a focus on embodied services (tourism or recreation services) allows only limited added-value rates (Smeral 2000). Pronounced disparities in added value cause deficits in regional cohesion and lead to social conflicts in the absence of counteracting measures. Even from the ecological point of view, such a development is questionable, as extended conservation areas do not work against uncontrolled periurbanization and increasing traffic volume but may even increase them (Graham and Keil 1997). Large-scale functional division of land use does not protect landscapes and biodiversity as it reinforces their commodity character and encourages landscape consumption.

Large-scale division of functions therefore contradicts the criteria of sustainability because it involves the risk of losing the potential for economic and sociocultural innovation and diversity due to social friction, pressure to standardize goods and services, and loss of biological diversity.

Strategies for avoiding functional divisions

To foster sustainable development, political and economic actors in urban Alpine areas should consider the following recommendations:

1. Urbanization of Alpine areas is necessary to prevent functional division in space but must be carefully controlled. Decentralized development is necessary to account for (inevitably small-scale) topographical specificities and historical prerequisites. Strong towns with pronounced urban qualities must be promoted in the Alps in order to counteract the double disadvantage of lack of tertiary activities and dependency on the non-Alpine tertiary sector.
2. Alpine towns must offset disadvantages due to small size by intensifying local and supraregional cooperation within the Alpine region. Promoting cooperative town–country relations that emphasize the complementarity of town and country and strengthen the development potential of interurban relations may reduce current disadvantages vis-à-vis non-Alpine towns, reinforce Alpine municipalities' territorial embeddedness, and enable prudent land use. In the long term, such cooperation must aim to establish propriety trends (lifestyles) and standards (products and services) rather than respond to perceived or actual needs from outside.
3. Thus, towns must also aim for a balanced relationship between network and supply functions, that is, a balanced dual purpose ("ausgewogene Doppelnutzung," Bätzing 1999: 196f). This applies particularly to small local centers: If their function is limited to supplying their immediate environs, they will fail to retain their importance and to stabilize the region in the long term as the geographical range of goods and services expands. But it also applies to larger towns: Their advantage lies primarily in the fact that they are able to offer an attractive living environment. Cooperation with the surrounding region is therefore in the interests of both, and the town's supply function for the surrounding area remains an essential task (Messerli 1999).
4. The future of the Alps cannot depend exclusively on tourism; the attractiveness of the Alps is precisely due to a broad range of regional- and country-specific developments, local history, and economic structure. In the long term, these features can also enhance the attractiveness of nontourist commercial industries. As leading business sectors today are concentrated outside the Alps, increased tertiarization based on services other than tourism can only occur if proximity and integration become more important factors so that these business sectors choose locations other than leading centers. This requires fostering the development of economic sectors in the Alps that need and demand such services.
5. The crucial factors in a region's innovativeness today are sociocultural integration, embeddedness, and cooperation among regional agents (eg, Maskell 1998; Morgan 1997). Physical factors have become less important in decisions about location. For Alpine towns with a limited spectrum of business sectors, it is therefore particularly important that local agents cooperate across sectoral borders. Even sectors that may not appear to be related, for example, the manufacturing industry and tourism, can collab-

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orate. Such combinations are common on the Alpine border (Ferlaino and Levi Sacerdotti 2000). Further joint development enables new kinds of specialization and prevents monostructures and sacrificing business sectors because they do not fit into a traditional cluster. Sectoral combinations may upgrade regional production systems and emphasize regional characteristics, creating an Alpine image that deviates from the norm. The advantage of such a strategy is that it provides local agents with an opportunity to create their own customer segment and hence set new trends.

Conclusions

Analysis of population, employment, and economic trends influencing urbanization processes in the Alps in the second half of the 20th century reveals that the perception of the Alps as an agrarian and tourist region is inadequate. The Alps are a part of the European economic area. Integration is occurring via urban and periurban zones, where most of the population and jobs are to be found. Alpine FUAs (like non-Alpine FUAs) have a dual supply/network function: supply for the immediate environs and outlying areas and incorporation into the European/global network economy. Two clear trends can be identified: Peri-Alpine metropolitan regions are already massively expanding into the Alpine area and imposing complementary functions and specialization in the Alpine border zone. Some of the FUAs that have remained untouched by this development until now are currently being incorporated into European/global networks by virtue of their economic specialization. They are strengthening this network function with strategic decisions at the expense of their supply function. These tendencies result either in exogenous or endogenous disintegration of the Alpine area. Since the network economy will remain under the control of metropolitan areas, the Alpine regions have 2 options.

The most likely path for most regions is to continue a functionally divided development. This is especially true for those border regions that are most affected by the expansion of peri-Alpine conurbations into the Alpine area, whose towns are assigned primarily subaltern tasks, with greater emphasis on their function as a place of residence for an internationally mobile population, and tourism concentrated on regions with the most attractive landscapes. Sustainability arguments against such a development are increased land use, traffic infrastructure and volume of traffic, and a complete erosion of remaining rural structures, leading to constraints on future alternative courses of action.

The alternative is to find ways of avoiding the monostructured function of a mere recreation area. This necessitates supporting and upgrading the rural sector and its ties with manufacturing and service activities. This option calls for strong towns with a permanently resident population that gains special benefits through its relationship with the hinterland. Alpine towns must develop urban qualities despite their limited size. This is the only way to attract skilled labor and superior service providers to the Alpine arc and ensure that activities with lower added value are preserved in rural areas. The aim must be to combine the experience, skills, and creativity of people living in towns and in the countryside by means of unconventional links between agriculture, crafts, the manufacturing industry, and the service sector in order to establish proprietary standards rather than merely respond to external trends. Thus, the diversity of regional production and regulation systems is an important prerequisite for sustainable development as intended by the Alpine Convention.

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