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TRANSIT TRAFFIC IN THE ALPS AND THE ANDES. A COMPARISON OF VERY DISPARATE SYSTEMS

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In the Austrian media, transit traffic across the Alps is often treated as a key problem for this alpine country. In the Alps, it seems, (road) traffic has become the enemy of mankind and nature. This is in stark contrast to reports about traffic in the Andes. There it consists mainly of articles on road and bus accidents, often caused by landslides, rock falls, cloud burst and other natural events. In the Andes, it seems, nature is the enemy of traffic. If you think about it, there is only very limited scope for comparing reports on traffic in both mountain areas. The two mountain regions differ too much in their topography, infrastructure, traffic density, in the physical state of the vehicles but also in the urban and market networks as well as the political systems and structures.

If we do attempt a comparison – of the tropical part of the Andes only – then we must bear in mind the relative differences and restrict ourselves to a specific issue, in this case whether the Andean countries might not be able to learn from those in the Alps. The issue of the transferability of experiences within an international development discourse is not new but has never been raised in this context. This is surprising, given the great bulk of literature on alpine traffic problems. Moreover, scientists and practitioners have concerned themselves with traffic in the tropical Andes for a long time, both in theory and empirically. There are reliable data for both regions, even if they have been taken up less in the academic literature on the Andes than on the Alps. In the few attempts that have been made, traffic is excluded, even in the most recent publications (e.g. Busset, Lorenzetti and Mathieu, 2003).

In current research on traffic problems in the Alps, there is research that focuses on national structures, problems and solutions and research oriented towards the entire Alpine Arc and the extra-alpine sources of traffic. In the literature on the Andes, an international perspective on traffic is almost entirely absent. This makes it harder to come to any conclusions on the tropical Andean region, let alone on international comparisons with the Alpine Arc. This paper tries to draw a concise picture of mountain-crossing traffic networks and their usage.

So far we have spoken of traffic, apparently ignoring the network of cities as the other part of the topic. Traffic always has a starting point and a destination. The major sources and destinations of traffic are the cities and the structure of the city network plays an important role in generating traffic tensions and flows. Below we will also take into account the city systems of the Andes and the Alps.

Similarities and differences in spatial structure

In a comparison of regional geography elsewhere, I have already pointed out the main differences in the Alpine and Andean spatial structures (Borsdorf, 2003). In terms of cultural landscapes, the situation in the Andes is characterized by a much poorer infrastructure, often inferior road construction, poor physical state of the vehicles and a much stronger reliance on transport on the roads.

In terms of topography, high mountain areas today are seen as obstacles for (modern) traffic, but such interpretations depend on the economic system and the level of civilization.

We can distinguish seven stages in the development of traffic systems in mountain areas (typical examples from the Alps and the Andes are given in brackets)

1. the period of mule track transport across ridges (mule, llama)
2. pass road construction for military purposes (Napoleon: Simpson, Incas: Inca roads)
3. railroad construction with tunnels (Incas: Ayacucho)
4. road construction between places of production and markets, still highly dependent on the relief
5. pipeline construction for transporting liquid or gaseous bulk goods
6. construction of highways, more independent of relief, often with long tunnels (Pyhrn, Brenner, Gotthard motorway; Caracas–La Guaira, Santiago–Valparaíso)
7. base tunnel construction through the mountains (Brenner, Gotthard).

The Alps are just entering the seventh period of traffic development, the Andes remain in periods four to six for the moment.

The network of cities is a key determinant of transport. A quick comparison between the Alps and the Andes shows that the European high mountain area includes few cities. What centres there are, such as Grenoble, Innsbruck, Bolzano, remain well below the threshold of 300,000 inhabitants, while metropolises are situated around the Alpine Arc. Traffic between metropolises, therefore, of necessity means crossing the Alps.

The Andes present a completely different picture. A quick glance shows that all capitals and cities with more than one million inhabitants in Hispanic South America are situated in the Andes, while the eastern foothills of the tropical Andes are devoid of any cities with a million or more inhabitants. The large agglomerations within the tropical Andes need high-volume links to the coast to connect to the world market and these are the most developed roads of all Andean countries, the source/destination traffic from capital to port generates the largest traffic volume.

Inner-Andean traffic between traditional cities and agglomerations is secondary. North/South links generate the main traffic, part of it in hazardous conditions. The route Andahuaylas–Ayacucho includes three passes at 4,150m, 4,250m and 4,300m altitude and crosses valleys at 1,800m. Compared to inner-Andean traffic, Andean crossings from the eastern lowlands to the Pacific ocean are (as yet) insignificant.

Any assessment of mountain-crossing traffic flows and cross-border traffic must take into account the international economic structure. With the exception of Switzerland and Liechtenstein, all Alpine states are members of the European Union. Nation states have become less significant, border controls have been abandoned and transit traffic is guided by European regulations. Only Switzerland has steered clear of any Europeanization and is pursuing a contrary transit and transport policy, which explains the peculiarities of trans-alpine traffic in that country.
In contrast, within the Andean region, nation states are highly significant, despite all integration efforts. Border controls are thorough and may include time-consuming disinfection measures that represent real obstacles. Drawing on Taaffe, Morill and Gould (1970) and Borsdorf and Stadel (1997, p.244), I shall try to outline the development of the transport networks in the Alps and Andes schematically (Figure 1).

**Transit traffic across the Alps**

For the Alps, the volume of traffic and transport and its direct (pollution, noise) and indirect (ecological impact, decline of tourism) disadvantages are well documented and the subject of heated debates within international politics. In producing a Transport Protocol in the Alpine Convention, the Alpine states have agreed a joint transport policy which is, however, under heavy pressure from other EU countries. Switzerland as a non-EU country has been pursuing a policy of strengthening rail transport. There, too, private vehicle traffic is on the increase (from a low level) but more than twice as many goods are transported by rail. In France and Austria, the ratio is the other way around (Deußner, 2003, p.40). Currently, 75% of transit traffic occurs in the so-called “inner-Alpine Arc” (Fréjus-Brenner) (ARE 2001, p.14). With the accession of eastern and southeastern European countries to the EU, the pressure on Austrian passes is likely to increase dramatically and even now, the Brenner pass is the most frequented (estimated increase 89% until 2015: Deußner, 2003). None of the attempts to curb cross-Alpine traffic have had any effect so far, on the contrary: the traffic volume increases year on year, even in Switzerland. There one can see how to redistribute the transport volume in an ecologically sustainable manner.

The main challenges for traffic in the Alps are reducing the volume and shifting goods transport to rail. In addition, technical solutions are required to reduce traffic jams and increase the speed of transport further.

**Transit traffic across the Andes**

Figures 2 and 3 show the difference between the traffic situation in the Alps and in the tropical part of the Andes. Traffic across the Alps is concentrated on a few main routes that cross at least two,
often more, nation states in the run-up to the passes and include most central, western, eastern and south-eastern countries in Europe.

Transit routes in the Andes are less significant, even if we narrow it down to those crossing the mountain range. With one exception, this is true for road and rail but not for pipelines, which are of roughly equal importance in Europe and in South America. In Venezuela, Columbia and Ecuador there is no international Andean transit traffic. Pass roads in these countries only serve national or even just regional traffic. At national level, the key links run through the longitudinal valleys and on some higher plains in the Andes.

In Columbia, the route from the capital to the Pacific crosses the central and the western cordillera on passes at more than 4,000m altitude and winds down into the deep incisions of the rift valleys of the Río Magdalena and Río Cauca at 300-500m altitude. In Ecuador, the Carretera Panamericana runs through the Cuencas of the “volcanos road”. The passes across the western and eastern cordillera are easy to reach from there, then cover dramatic altitudinal differentials to the Costa or the Selva, but there are only two significant routes to the mineral oil and colonization area of Oriente.

In terms of transit traffic being viewed as a problem, the difference between the European and the South-American mountain ranges could not be greater. In contrast to the transit-plagued Alps, the issues in the Andes are extending connections, improving road construction and facilitating an increase in transport volumes. In this context one should mention the difference in attitude. In Europe, humans work against time constraints and efforts are concentrated on speeding up processes (Torrincelli, 2002), while in the (tropical) Andes, according to the “Lo Andino”, time works for the humans and slowing down is an important concept (cf. Steger 1991, Stadel 2001).

“Time is money” – this is the leitmotif in western industrialized countries, whereas in the Andean civilization time is less significant and time consuming activities like social interaction and communication have much more relevance. The respect to “pacha mama” (mother earth) is leading to a more respectful treatment of the ecology of the mountains and hinders to a certain degree the construction of heavy traffic infrastructure. The relatively small success of the Paso de Jama, a transit road between Argentina and Chile, which followed European traffic technology, demonstrates the low acceptance of high technology traffic infrastructure in the Andes (Kanitscheider, 2010a, 2010b). It also becomes evident, that the idea of trans-nationalism, in spite of all attempts of supranational cooperation and regional integration is not yet as decisive in Andean countries as in the European Union.

**Conclusion: Learning from Europe?**

Politicians often assume that the countries of the South can learn from Europe. Not only economic and technical but also social developments are worth emulating and even in terms of the ecology component of sustainability, Europe is more successful than less developed countries, or so the argument goes. Irrespective of the part that ideologies may play in such statements, when one compares traffic systems in the Andes and the Alps, it soon becomes clear that the topography, the economic structures and the evolved networks of cities are so different that intercultural learning in whatever shape or form is only imaginable for small aspects. Whereas in Europe alpine transit is increasingly regarded as a problem for the ecology as well as the humans living near the traffic axes, in Latin America there are some attempts to construct “corredores biocénicos (corridors connecting the Pacific and the Atlantic Oceans) in order to strengthen trans-Andean economic
links, as economic growth could be enhanced by new transit roads. Some politicians, especially in the Southern Cone, regard traffic as a positive factor for development and neglect any dangers for the environment by these transit axes. This contrasts with the “Lo Andino” concept in the tropical Andes, where local and regional interests are much more important than the wider perspective of interregional cooperation. Also, who says that only the South should learn from the North? Given the number of fatal accidents on cross-Alpine motorways, the Andean concept of slowing down might be beneficial for Europe.

The analyses of spatial and traffic structures as well as city networks has shown that spatial approaches yield different results. In the Andes, the economic gain for a peripheral region along an upgraded trunk road may be questioned in relation to the financial investments needed, the ecologic problems caused and the non-consideration of the regional demands and interests of the local and regional population. The method of comparing proves to be heuristically very rich and even encourages rethinking one’s own position and values!

The concept of amenity-led migration

Living in attractive surroundings is a movement which is as old as urbanization and responsible for migration from the urban cores to sub- and peri-urban places. The notion of “amenities” is quite old as it was already used by Chicago School Edward Ullman in 1954. Since the 1990’s, amenity-led migration has been analyzed based on the observation of a disproportional growth of the US Mountains States during the last few decades. Amenity-led migration is defined as migration for pleasure. In this concept the beauty of the landscape, warm climate, spectacular views and cultural diversity count as driving forces. It does not distinguish between different social actors. According to Stewart (2002) and Moss (2006), amenity migrants

1. use recreation areas as either their temporary or permanent residence,
2. go to the countryside thereby sacrificing higher wages which they might have gained in metropolitan areas,
3. are elderly as well as active professionals,
4. change their preferences to natural or cultural resources and accept to pay high prices for
5. make use of greater opportunities to choose their life style.

The different situation in Europe

The amenity concept does not differentiate between permanent and periodic multilocal residence. It includes the migration of retired as well as active people. Active people are supposed to be able to choose their working place due to modern ICT and due to having several incomes from different jobs. The expected benefits for peripheral regions having attractive landscapes reflect the situation of the late 1980’s in Europe when rural environs had reached a peak of preference and cities had lost their attraction due to visible ecologic damage. It was also the time when the dispersion of new technologies was said to disperse working places all over a country favoring peripheral regions. Therefore many studies focus on the impacts of men on “nature-near” landscapes.

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References


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THE PROBLEMS WITH APPLYING THE AMENITY-LED MIGRATION CONCEPT IN A EUROPEAN CONTEXT

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The concept of amenity-led migration

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In this issue, our Regional Survey has been provided by Janez Nared, Slovenian Academy of Sciences and Arts and RSA Country Representative for Slovenia. He has brought together articles from authors with expertise in development in mountain regions, including colleagues involved in various recent transnational European funded projects. Authors from Alpine countries in particular discuss regional issues and the role of transnational cooperation in addressing threats to communities. Papers draw attention to the need to consider the unique characteristics of mountain regions where communities experience problems arising from out-migration, lack of opportunity and physical conditions. It is argued that maintaining the population of communities in mountain regions is vital not only in its own terms, but also as a basis for addressing wider environmental risks, water-resource management, biodiversity, and preservation of cultural landscapes and heritage. This issue also includes further papers on regional governance by authors engaged in debates within the Association’s Research Network on Regionalisation, Marginalisation and the Role of Governance.

Transnational comparisons of experience in policy intervention also provides a context for the In Depth article authored by Ina Horlings (Wageningen University and Research Centre). Ina examines the interplay between social capital, leadership and policy arrangements in contrasting rural European regions. The case studies reveal interesting differences between individualistic perspectives on social capital that focus on the role and significance of strong actors alongside examples of progress being achieved through more collective or ‘holistic’ approaches.

Following our coverage of the new regional policy debates in the UK and the formation of Local Enterprise Partnerships under the coalition government, Stephen Hincks (Manchester University) has continued this policy theme by commenting on the response of the housing market to the economic downturn in England. His analysis reveals the severity of the impact and the continued precarious situation that may now intensify following government announcement of cuts in public expenditure over the next four years.