Portraying the technological transformation of the Alps. Winter tourism history mirrored in picture postcards from Vorarlberg

Robert Groß
Institute of Social Ecology/Alpen-Adria University Klagenfurt - Graz - Wien
Schottenfeldgasse 29
1070 Wien
robert.gross@aau.at

**Einleitung**

My presentation starts with an assumption: All of you had a more or less specific idea of Grassau in Oberbayern and the Chiemsee before you arrived here. Probably some inner pictures came to your mind when you read the name the first time. In fact, members of modern society share a huge body of knowledge when it comes to places, which play a role for the tourism industry. Stereotypes play an important role in shaping this place based knowledge. Stereotypes provide shortcuts to sell landscapes by reducing complexity on aspects, which are easy to depict in advertising material. In stereotyping, certain aspects of the socio-natural surroundings are isolated from their context and aesthetically exaggerated, while other aspects are hidden and ignored and become invisible over time.

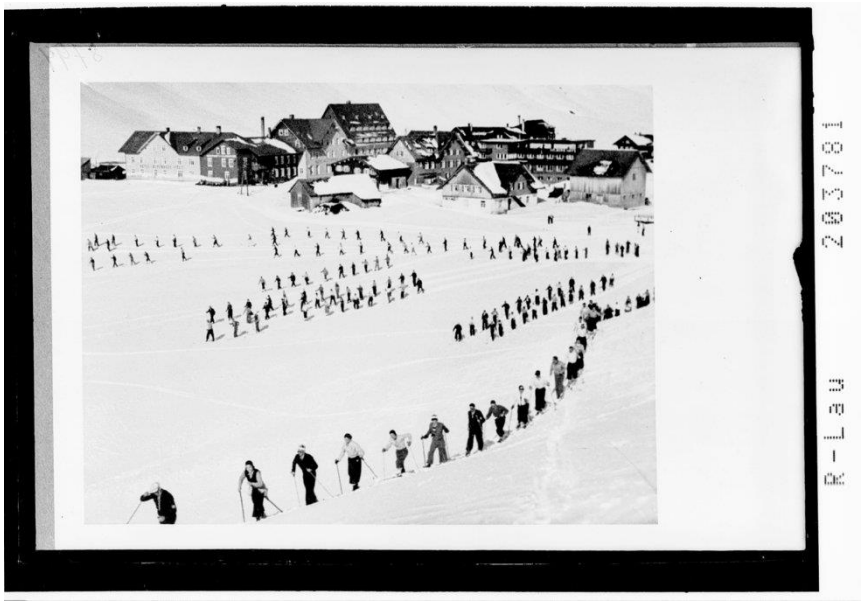
Picture postcards are telling examples of stereotyping. Originally developed as means of everyday communication over short distances, their range of use was considerably enhanced due to the spread of leisure practices at the end of 19$^{th}$ century. When real photo postcards became available they turned into a true vision of the depicted reality in the public perception. However, the photographs are always media-constructed representations of the world. Their construction follows conventions. Touristic picture postcards operates with positive connoted stereotypes of landscapes. They aim on the definition of sights and non-sights, as Verena Winiwarter argues. According to John Urry, picture postcards can be analysed as tools of knowledge production, as a “power producing, knowledge machine”, which produces landscape stereotypes from the assembly line.

The postcards I present were produced by the Austrian publisher Risch-Lau founded in 1885. When the Austrian Alps faced a tremendous boom in winter tourism, the company specialized on the production of tourism postcards. As early as 1957, Risch-Lau produced postcards with

22 employees and published far more than 40.000 different postcards motifs between 1945 and 1970. Around 1800 of these postcards depict t-bar and chair lifts mainly in Austria's westernmost province Vorarlberg. But how did Risch-Lau selected motifs worth to sell from others? According to a retired employee the selection was a two-step decision: (1) The photographers itself decided on the basis of novelty of a technical innovation. (2) The publishing house decided to sell a motif on the basis of a given demand. Only motifs that were constantly requested by costumers were produced and reproduced. Having said that, the historical picture postcards reveals which motifs were matching existing ideas of sights and non-sights in a given period.

I use them in combination with written sources to reconstruct the tremendous technological transformation of ski destinations between 1920 and 1970, its driving forces but also social conflicts accompanying changes of former alpine farming communities into tourism destinations. In this presentation I will use them to discuss the role of two types of technology, crucial for every ski station: The ski lift on the one hand and snow groomers on the other.

After World War I, neither ski lifts nor snow groomers existed but the field of winter tourism already underwent a severe change preparing the ground for the mechanization of winter sports. The novel type of winter tourists arrived in the Alps. They differed to so called sommerfrische tourists in social background and length of their stay. The usually visited the wintry Alps only for a few days. As Bernhard Tschofen argues, this winter tourists rationally calculated their escapes from the cities, matching leisure and working time by using chronographs, travel guides and train timetables. This rationalist ideology was echoed also by



the early ski pioneers such as well-known Hannes Schneider. He incorporated time efficient elements into skiing education that empowered tourists to make most effective use of leisure time. One of the key advantages of Schneider's technique, the so called Arlberg technique was its suitability for teaching large numbers of skiers at once, as in the following image, depicting a training course in Lech am Arlberg in the 1930s.

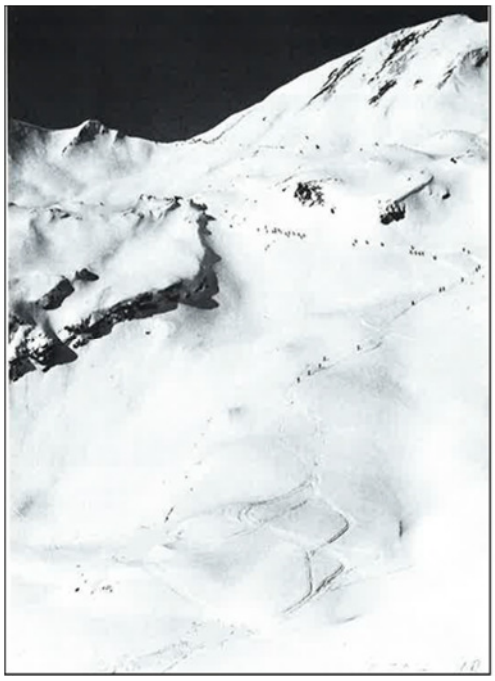
Schneider's Arlberg techniques were a huge success. In 1925 it became the standard for ski schools throughout the Alps. The establishment of ski schools created new earning possibilities for economically depressed farming communities during the interwar years. Soon nearly every hotel in high alpine villages had its own ski instructor. The combination of the ski school and the 'Arlberg-Technik' was replicated in villages across the Alps, being considered the most rational way of transferring body movement skills and environmental knowledge from teachers to students. The Arlberg Technique was considered as a way to accelerate learning progress of individuals but also to lift their physical limitations when optimizing pleasure while minimizing risks. Nonetheless, adapting the body to mastering the high alpine terrain remained a time consuming and often exhausting issue

One winter in the late 1920s, Ernst Constam, a trained engineer, undertook a ski tour with his wife in Davos, Switzerland. Fatigued by the uphill climb she proposed that the engineer should invent an automatic elevator, a machine that would relieve skiers of the muscle-powered burden of the ascent. Constam was fascinated by this idea and began to carry out time trials. It turned out that a skier spent 50 minutes climbing uphill and only 10 minutes skiing downhill when he or she took a ski instructor for one hour. From Constam's perspective, spending the majority of a paid lesson walking uphill rather than skiing seemed to be an irrational waste of resources. He believed ski lifts could be solution to optimizing the experience of ski school students. He invented a drag lift in 1934. Sepp Bildstein copied Constams invention and built Austria's first ski lift in Lech am Arlberg, which you see on this slide:



The basic idea of the ski lifts was to equip an alpine landscape with a technology that functioned similarly to conveying systems in mining sites, banana plantations or factories in the 1930. On the Constam lift, skiers were dragged upright upwards along an inclining area. The transport capacity of the drag lift was limited by the topography, which constantly forced the gliding skier to compensate for irregularities and differing gradient angles in the surface of the track by using their legs. Constam applied ergonomic principles with the aim of developing a material interface - the so called T-bar stick - between the drag lift and the skier's body that would not exhaust the ski lift user. Skiers were furthermore exposed to a transfer of mechanical force to their bodies. This would be considerably problematic at the entrance area of the ski lift where a stationary skier's body was accelerated by the ski lift, limiting the speed of a lift.

In the pre-mechanized era, the individual skier bore responsibility for interpreting the alpine environment in terms of risk and pleasure, which limited the scope, speed and direction of skiers on their way uphill. With ski lifts these responsibilities were assigned to the ski lift entrepreneur and to the infrastructure itself. Skiers could rely on earlier decisions made by technical experts when planning their ski tour. Skiers were no longer dependent on ski guides, maps or the personality of predominantly male ski tour leaders. At the same time, the time saving aspect of ski lifts introduced a novel feature of repetition into skiing practices, demonstrated by the following images, showing the Albona-Grat in Stuben am Arlberg.



The left-hand picture shows the very popular ski area before a ski lift was built. The depicted tour was described in ski guides as taking up to 4 hours. Skiers were flexible in their choice of route, depending on snow conditions. After the ski lift was built in this area in 1956 skiing underwent a considerable transformation. Skiers were no longer free in their choice of route, but were locked into a defined area between valley and top station, which became problematic in warmer winters with poor snow. Instead of hiking uphill over hours, skiers had to wait more or less patiently in the queue. Depending on the length of the queue, an individual skiers could countlessly replicate up- and downhill cycle supported by the ski lift. By doing so, the ski lifts concentrated and channeled flows of skiers on their way through the alpine landscapes within clearly defined areas.

The acceleration of uphill transport by ski lifts produced not only economic growth but also a bottleneck in the flow of skiers. The waiting line in front of the valley stations became a symbol for the popularity of a ski lift when they were advertised on picture postcards. However, the bottlenecks were also perceived as disruptive elements. The latter position was reinforced by technical experts from the ski lift industry in the 1950s, claiming that a modern skier would not be satisfied with one or two single lifts with low transport capacities, if a neighboring ski destination could offer an entire network of ski lifts. From now on, the destinations became competitors in attracting paying guests and engineers constantly developed new ski lift types, able to transport skiers faster and in larger numbers.

It soon turned out that if the mechanization of skiing was not to be a short episode, these lifts would have to be made much more efficient. Engineers were convinced until the late 1940s that the transition between stationary bodies and moving chairs at the valley station was in practice very difficult and would make it impossible to drive lifts faster or to equip a chair lift with a two-seater chair. Samuel Huntington, the inventor of the double chair lift, was the first to solve this problem by developing a spatial control system, accelerating skier's bodies in the entrance area, as depicted on the photographs.

The photographs illustrate the practical effect of the spatial control system that forced skiers to organize themselves in pairs. Channeling them into long rows automatically made them turn their bodies towards the entrance and focus their attention on the loading process. These disciplining technologies formed the basis for further technological upward transformation of new ski lift types in terms of transport capacity and speed. The organization of the loading station enabled also triple and quadruple chairlifts to be developed as early as the 1960s in the US. Whereas the first ski lift built by Ernst Constam could transport up to 170 skiers per hour, a high capacity t-bar lift was able to move up to 2000 skiers per hour in the 1970s.

Although, these spatial control systems were a considerable step towards mastering impatient crowds of skiers, pictures like those on the slide remained a very rare exception. Probably because spatial control system were originally developed in the late 19$^{th}$ century to optimize the flow of cattle herds into slaughter houses, as critical skiers remarked somewhat smugly. Probably because the motifs reminded tourists to urban mass transport systems, which they actually wanted to leave behind on their escape from the crowded cities.

As the ski destinations increased transport capacities of ski lifts, the intensification also increased the density of skiers on their way downhill. In turn, the downhill became more risky. As early as 1970 German health experts called for action. They estimated around 100.000 skiing injuries per year creating economic damage to about 150 million Deutsche

Mark. This were to be avoided by forcing ski lift operators to remove obstacles such as rocks, trees, shrubs or fences of the downhill areas. In the early 1970s the Fédération Internationale de Ski developed information systems for ski areas, including the differentiation of ski tracks according to their degree of difficulty and specially designed signs to warn skier when they entered risky zones on the downhill. By doing so, the ski lift enterprises created a dense jungle of signs on downhill slopes that was often criticized by ski destination planers, as it would hamper the lighthearted movement of skiers.

As early as 1970 Franz Zbil, a Swiss ski lift planer claimed for the extensive remodeling of downhill trails by using heavy construction machines. The ultimate goal should be the creation of highway-like, wide, leveled surfaces, accommodating ever growing masses of skier but also the heavy snow grooming vehicles.

Snow groomers spread in the US in 1960, after they demonstrated their qualitities at the VIII. Winter Olympics in Squaw Valley. The device turned a snow area of approximately 30-35.000m² per hour into a compact and safe ski slope. The first snow groomers arrived in Austria during the exceptionally mild winter of 1963/64. Soon after, they spread all over the Alps but their application was limited to areas not too steep and bumpy. The remodeling of alpine landscapes by heavy construction machines was thus considered as increasing safety for skiers, carrying capacities of ski slopes but also their machinability. Furthermore, it soon turned out that this technology empowered ski lift operators to extend the operation of a ski

lift because the groomers created snow cover resistant to sudden warm weather. Although, practices of slope grooming became enormously popular in the 1960, the technical device transforming snow into a compact ski slope remained also nearly absent within the picture postcards of Risch-Lau. What is the reason for the invisibility of technology in picture postcards?

One explanation might be a growing social awareness of the side effects snow groomers had on the grassland carrying a groomed ski slope. The transformation of the snow into a profit-enhancing ski slope revealed its Jani form character, when the snow melted in the spring:

**Firstly,** landowners realized that delayed melting of ski slopes hampered the growth of vegetation. This concerned especially farmers that were dependent to the amount and quality of harvested hay. In turn, farmers tried to accelerate the melting by shredding the left overs of ski slopes with buckets.

**Secondly,** it turned out that the use of snow groomers in periods of less snow, when their benefits were mostly demanded, destroyed the turf. Once the turf was damaged and rainfalls occurred, erosion of the soil followed. This caused conflicts between land owners and ski lift operators.

**Thirdly,** snow groomers altered thermal conductivity within the snow cover. The technically cooled snowpack lost its antifreeze function, which had an impact on the vegetation, animals and soil organisms and would in the longer run hamper soil formation of groomed areas.

These three points became an issue in Vorarlberg, when the first land owners went to court to ban skiers from private land property in the course of the 1960s. The court ruled clearly that landowners could not ban skiers, because ski tourism was defined by the lawyers as in the public interest and as overruling property rights. Furthermore, the historical use of an area for skiing was decisive in court processes. Lawyers argued that where land was utilized as a downhill route for more than 29 years, the ski lift operators had acquired customary law to use the land. After the first court decisions became public, landowners, NGOs and the provincial chamber of agriculture in Vorarlberg organized a countermovement against this “creeping dispossession” (VLA, 3. September 1971). Henceforth, groomed ski slopes on private property became politicized and were debated in the Vorarlberg regional parliament. The outcome of this debate was the “Sportgesetz 1968”, a law providing for the protection of ski slopes. The media also picked up the subject and published the first critical articles,

sensitizing the public sphere more and more to the ecological side effects of snow groomers. While the technology of snow groomers improved economic balances of ski lift operators considerably, the vehicles became the first icon for the environmental effects of winter mass tourism. Although, snow groomers became physically omnipresent in winter tourism destinations, photographers and marketing experts made them invisible in the media outlet as they would indicate an interaction between ski lift operators, alpine landscapes and local farmers, which was considered as questionable for more and more people.

**Conclusion:**

Bernhard Tschofen argued that criticism of the alpinists and nature conservationists on ski lifts and cable cars had little effect on their symbolic qualities as devices to master the high alpine environment in a comfortable way. Following Tschofens diagnosis, my paper shows that landscape stereotypes created by Risch-Lau was primarily built on ski lifts as upgrading elements of alpine landscapes. However, the analysis of large numbers of picture postcards also reflects societal attitudes of consumers towards technologies. While Risch-Lau initially tried to sell motifs of the spatial control systems in ski lifts that was crucial to increase the transport capacity of ski lifts they were out selected by customers due to a lacking demand. Picture postcards depicting snow groomers experienced a comparable destiny. Both technologies were defined as non-sights, as nobody bought picture postcards depicting this parts of an infrastructure, crucial for the operation of a ski lift. They were made invisible in the media outlet of winter tourism marketing over time.

But what are the learning outcomes from such a historical analysis of picture postcards for today?

(1) Photographs are powerful tools of knowledge production, which create landscape stereotypes that are shared by the beholders often uncritical. This is even truer because knowledge transfer by using images has a more direct effect on individuals as it its case with texts. By doing so, all forms of visual material exert power on its beholder, namely the power to shape our idea of the world.

(2) If pictures from tourism marketing has the power to shape our idea of the wintry Alps, than it is more than useful to focus not only on what is depicted but also what is hidden by marketing experts, as I tried by using two examples. Why do so little professional images

depict spatial control systems, snow groomers and in more recent times for example snow systems and the enormous infrastructure attached to it?

(3) One answer for the absence of certain technologies might be that marketing experts are well aware of the kind of power they have on consumer choices. According to an opinion poll, carried out by the German Newspaper “Die Zeit” in 2015 more than 50 percent of the participants reject the use of any technologies that aim on the extend of the length of snow cover in the Alps. While snow cover length shrinks year for year, ski destination managers invest huge amount of money in snow systems to compensate for the lack of snow. The media outlet of winter tourism destinations hide this efforts mostly. Instead of depicting ski stations as industrial areas they are, customers are still mostly confronted with landscape stereotypes, pointing to a romantic utopia that never existed and will never exist in the Alps.