

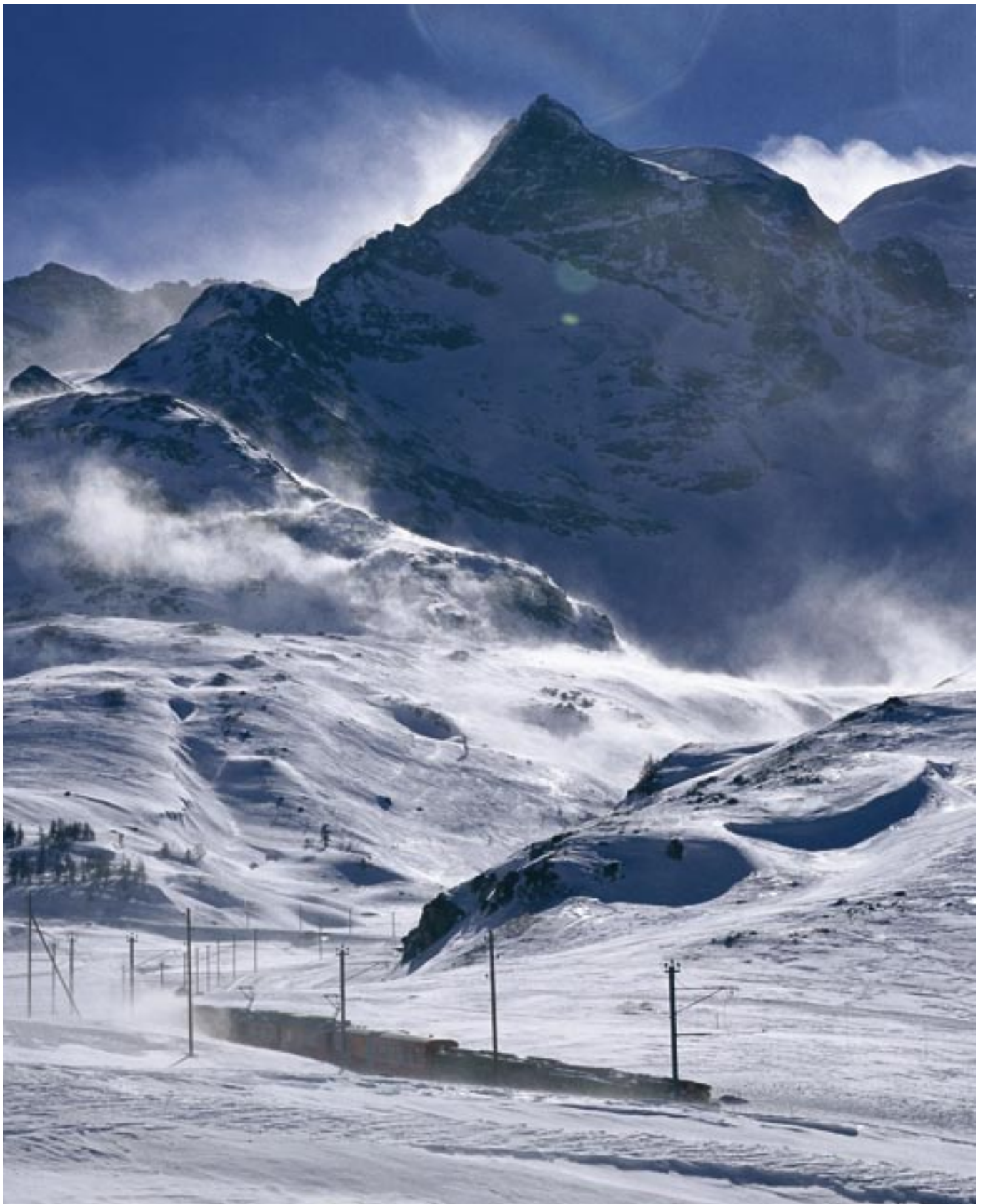
2. Description

2.a Description of Property

2.a.1	Prologue	> 21
2.a.2	Facts & figures of the Rhaetian Railway and the nominated railway lines	> 33
2.a.3	Descriptions of sections	> 39
2.a.4	Engineering structures on the Albula and Bernina line	> 89
2.a.5	Structures on the Albula and Bernina line	> 125
2.a.6	The sacred and secular buildings along the Albula and Bernina line	> 139
2.a.7	Cultural landscapes along the Albula and Bernina line	> 169
2.a.8	Flora and fauna either side of the Alps	> 189

2.b History and Development

2.b.1	Archaeology along the Albula and Bernina line	> 201
2.b.2	From ancient to modern: state, society, economy and culture in the Albula/Bernina region	> 211
2.b.3	The quickest way to Venice: historic routes in the Albula/Bernina region	> 227
2.b.4	Villages, hamlets, scattered settlements, alps and “Maiensässe” along the Albula and Bernina line	> 239
2.b.5	History of the Rhaetian Railway	> 259
2.b.6	Railway construction and operation	> 275
2.b.7	Power for the Albula and Bernina line: the power station buildings along the railway line	> 315
2.b.8	Language landscapes	> 331
2.b.9	The history of tourism in the Engadin	> 337
2.b.10	The railway as important influencing factor for the development of tourism	> 349



Bernina line > Goods and passenger train in the snowy landscape of the Bernina Pass.
R. Bösch / Rhaetian Railway

2.a Description of Property

2.a.1 Prologue

Iso Camartin

Landscapes leave their mark on people. And people leave their mark on landscapes. This give and take between natural conditions and the people working in them generates the foundations for what we call civilisation. One could say that in a way civilisation is the social and cultural moulding of the natural environment attributable to man, in brief: people's capacity to adapt to the natural conditions and to open up new habitats for themselves. Settlements and living communities arise in the course of this remodelling process with appropriate economic structures, modes of political organisation and the community practices and rituals that make living together practicable. The surprising factor is that people settle not only in regions where nature makes settling and living easy. People also settle even where the natural conditions are refractory and difficult to cope with; they brave the dangers to make the original wilderness habitable, appropriate and even benign.

The Alps are anything but inviting to settlers. One must only survey the whole alpine region from the air, on a sunny day, to discover how hostile the higher reaches of the alpine landscape really are. This has repeatedly been a source of amazement to philosophers. Friedrich Nietzsche, for example, who spent several summers in the Engadin between 1881 and 1888, was fascinated by that borderline in the Alps, behind which death and not life rules. He felt that up here the cosmos is closer than the warming earth. The

rock and firn landscape hardly seems to be made for man. It lies there as if waiting for something greater than men. How can one nurse the ambition to be at home in such a hostile world?

People have always been tempted, to utilise the Alps not only for their passes and direct routes to other countries, to exchange their wares and goods and engage in trade, but also to settle permanently in the Alps, to weather the seasons and guarantee themselves and their families a life in dignity. The settlement history of the Alps is a fascinating exercise in survival, that has continued over the centuries and is still today marked by the struggle with the life threatening-aspects of nature. It is still there: the untamed, the colossal, the measure of what man apparently cannot change. Railways, hotels and aids to comfort have been installed on the peaks of the most beautiful mountains. Technical achievements have made so much accessible to our lust for adventure. Scintillating achievements of homo faber! But the august majesty of a landscape, its sheer force and radicality; we can only realise how immutable and impassive nature is with respect to the wishes and concerns of man by discovering it ourselves. Nature's disregard for our cares contains a strange guarantee that, with all his persistence and rashness, man cannot entirely change the prerequisites of human life.

During the Christian Middle Ages, the conviction arose that not only is man a faulty and defective being, who has born the blemish of original



Albula line > Between Bergün/Bravuogn
and Preda.
R. Bösch / Rhaetian Railway

sin since the expulsion from paradise, but that nature in its entirety suffers from the imperfection and corruption inherent, since the Fall, to all that is earthly, to all that is created. Alone by Christ's act of salvation, could man and nature be freed from this blemish and achieve his original, unsullied condition. The theologians called this construction error in nature the "natura lapsa", defective and damaged nature, and were apt to consider this life on earth as a repair shop for the damage incurred.

Today, these theological constructs appear rather unworldly; we assume that nature is fundamentally free of values and that it is man alone who, by his interventions, changes it to the good or bad. But anyone who travels on the Rhaetian Railway through the Albula valley into the Engadin and then over the Bernina Pass to the south, could easily entertain the idea that this glorious landscape was imperfect and lacking something until clever people decided to lay a railway through the precipitous terrain enhancing the beauty of the region, perfecting it. It is hard to imagine that what the surveyors, the line plotters, the bridge and tunnel builders have achieved could have been better and more beautiful than what we see today. They mastered the art of building without over-building. The short-lived wounds to nature have long since healed. The supple, delicate lines of the railway as it curves ever higher across the slopes have a rhythm and elegance that is almost musical. With a sense of beauty and daring, with empathy and the acme of technical expertise, the pioneers of railway building have realised a masterpiece that must be taken as a text book example of what man can achieve to enhance the "natura lapsa". Only so can the traveller experience the beauty of nature, in its surprising wildness and roughness, its delicacy and suppleness, its diversity of

form and richness of expression. Nature is defective and imperfect, that is certain! Then man comes with his imaginative perception and his skills and makes its beauties accessible to the seeing and wondering eye.

There is no doubt: this stretch of railway is a masterpiece with respect to engineering and constructional solutions and to the harmony of nature with formative intervention. From bridge to bridge one experiences the challenges of nature and what man can achieve by harnessing them to his purpose. One discovers the interplay of form generated by landscape, railway and road; during the climb one experiences all imaginable forms of giving way and tunnelling through, of daring bridging and piercing, determined advance and playful detour. The lasting impression of a felicitous reconciliation between nature and man is a fundamental experience. The force of nature is neither broken nor denied, nor is man's determination to achieve his own objectives and fulfil his own interests. The felicitous approach to the wild and taming it with daring technical visions leaves an indelible stamp on our perception. He who is seeking what is special in the landscape, also perceives the unrealisable process where nature and man attempt to harmonise their forces in a balancing act.

Of all the bridges, viaducts, galleries and supporting walls along this stretch, so full of impediments, there is one that outshines the others, that has become the most photographed structure in Graubünden thanks to its majesty, elegance and daring: the Landwasser Viaduct. Once the train has passed Surava and is dashing on, up through gorges and past rock faces as it approaches Filisur, a ripple runs through the carriages: the travellers move to the right side, to get a good window seat for what is to come. First one catches a glimpse ahead of piers and arches leading



Albula line > The 65 m high Landwasser Viaduct,
the most spectacular engineering structure
between Thusis and St. Moritz.
A. Badrutt/Rhaetian Railway

to a vertical rock face. These disappear again, but as soon as the train begins to veer right in a prolonged curve, the wonder suddenly comes into sight. It is true one does not see all of the six great curving arches immediately, but once the train is on the viaduct and one looks down, even the least prone to vertigo tends to shudder at the audacity of the engineers who planned this work of art. In the amazement at so much courage and daring, it is only in the tunnel that one begins to consider what that must have meant in 1898, to place such a breathtaking structure in this wild landscape of ravines and gorges.

Anyone who is familiar with the Alps, cannot forget that every step towards capturing the terrain for man's objectives was fraught with risks, dangers and sacrifices. A wide range of safety and security measures were essential to guard against the unpredictable moods of nature. The history of this stretch of railway is also one of defence measures to guard against floods, rockfall, landslides, avalanches and other unpredictable natural phenomena which, from one moment to another, could change the glorious landscape into a living hell. Safety has always had to take priority; from the outset. Today the technical possibilities of making the railway safe, and controlling the safety measures, all the year round and independent of the weather, are incomparably more sophisticated. However, a quantum of risk remains – here like anywhere else. The passengers feel this instinctively as they pass over viaducts and bridges when, for a moment, their glance plumbs the terrifying depths of a ravine.

When the train leaves the long Albula tunnel, and runs alongside the Beverin stream towards Bever, where it curves to the right into the elongated valley that is one of the most remarkable areas in the whole of the Alps, which we call the Engadin, we feel: here down in the valley,

we are already up on high. Naturally, it is again bordered by lofty mountains and white peaks, but we can leave them to those who aspire to the heights. Here the generous expanse of the valley floor, the bed of the Inn, permits an enhanced perception of reality. The fundamental mood is quite special; everything is different, light has another quality, another dimension, another life. Why is this so?

The special characteristics of air and light in this region have always been a cause for wonder. Eye specialists have claimed that here, in the heights of the mountains, the pupils dilate in a unique fashion. Reality appears to the eye in a clarity and transparency nowhere else to be found. Many visitors to the Engadin tell of a strange light headedness that they feel here, already at an altitude of only 1,800 m. Since the early days of tourism, the mid 19th century, artists and eccentrics, from all nations and countries have made the pilgrimage up here in summer and winter to experience this landscape, that is not only externally present but quickly and irresistibly becomes a landscape of the soul.

Anyone who climbs up to Muottas Muragl on a light-drenched morning, to look down on the mirror of the Upper Engadin lakes basking in the morning sunshine, will be aware of the singular character of this region. It is hardly surprising that so many artists have sought their inspiration here. Giovanni Segantini, who painted his famous triptych – which can be seen at the Segantini Museum in St. Moritz, not far from here – spoke of the “chords of an Alpine composition of tone and colour” that must reverberate together to give the true impression of beauty. Or he invokes an “all pervasive aura of light, generating the eternal harmony of the alpine world”. These lines show a representative artist struggling for the words to invoke a magical light that only the eye can



Muottas Muragl > Upper Engadin lake
landscape.
P. Mathis / ENGADIN Bergbahnen

perceive adequately. Many followed him, native and foreign, in the attempt to capture a borderline visual and imaginative experience on canvas. And yet, to understand the works of these artists it is essential to experience this pervasive reality of light oneself, here in the Engadin. Unmistakable beauty is not purely fantasy and imagination. It exists, because there is something present in reality that arouses and accentuates our quest for beauty.

But the most famous word on the light experience in this region was spoken by someone else; genial, sick, philosophising, writing and reflecting on the world in the most modest conditions: Friedrich Nietzsche. “Transparent, glowing in all colours, all contrasts, encompassing everything between forbidding ice and the South” – that is how he saw the Engadin. After crossing the Bernina Pass, when Val Poschiavo suddenly opens up before us, bringing us to the Veltlin and Italy, we suddenly feel: this must be the watershed between North and South. We are right in the middle, where two points of the compass, two world philosophies and two ways of life meet. Although surrounded by the highest mountains, in close proximity to snow and ice, a completely different world greets us from afar; the South, the Mediterranean, the absolute opposite and contrast to the world of the Alps. The verses from Nietzsche’s poem “New Seas” come to mind: “The sea spreads out/My Genoese boat drifts into the blue.”

The Albula/Bernina region is that special interface in the Alps, that is not only the watershed between north, south and east, but at the same time the place of encounter, the contact region for divergent linguistic cultures and ways of life. Graubünden is the only canton in Switzerland where three languages are spoken. Today the original languages are complemented by a plethora

of turns of phrase introduced by immigrants, guest workers and tourists. There are no barriers to mark the linguistic borders. Words, ideas and habits cross the border undeclared. The more closely one considers the history and culture of Graubünden, the more palpable the experience that here south and north, Latin and Germanic cultures interact and enrich one another. Some may think that the survival of such a small language as Rhaeto Romansh is solely due to the remoteness and isolation from the world. Since time immemorial, Graubünden has been a pass and transit land. The local people were never isolated for long. Besides, they were often anxious to try their luck in foreign countries. The fascinating history of the emigration of the people of Graubünden, from their valleys to the most far-flung corners of Europe and abroad, documents that the people were neither so unworldly nor so uninformed as simplistic interpretations of the ‘homeland’ sometimes make out.

So the cultural barriers in our minds must come down, like the other barriers that have long been removed from the countryside. The contact with the neighbouring regions – the Italian, Austrian and German – was the impetus not to remain rooted in their own penury but to serve others to their own profit and advantage. It took a great deal of strong will to change the universally accepted, to give it a form and manner appropriate to the own circumstances. The cultural added value of a linguistically complex region is precisely inherent to this exchange of ways of life and customs so unmistakably reflected in the languages. The culture of Graubünden is inconceivable without all that it has absorbed from the Germanic and Italian civilisations. However, it is by no means a conglomerate of mere copies of foreign patterns. The people of Graubünden have always had so much strong will and imagination



Bernina line > The Bernina railway on
the circular viaduct at Brusio.
R. Pedetti

that they would never make do with insipid duplicates. Cultural exchange is a vital process. Own needs blend surprisingly with the impulses streaming in from other sources. The languages situation, like the day-to-day culture, has documented this to the present day.

One of the most attractive proofs of the open-mindedness, courage and pioneering spirit that was needed, already over a hundred years ago, to recast the approaches to one another and improve the accessibility of the centre and region was and is the building of the Albula and Bernina Railway. Here far-sighted local people and specialists from Switzerland and other countries came together to realise an incomparable oeuvre, the masterpiece of the century. We contemporaries have every reason to admire the entrepreneurial daring, the engineering achievements and the sense of beauty of those pioneers who ensured that not only were the inhabitants of the north and south, east and west able to reach out to one another but that they could also rediscover a landscape, in the heart of the Alps, that is virtually without par on our planet.