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Swiss railway curiosities

The Swiss railway network is over 5,000 km long. The topographical character of our country – with its big altitude differences in small areas – means that there are many different

Hans-Ulrich Suter*

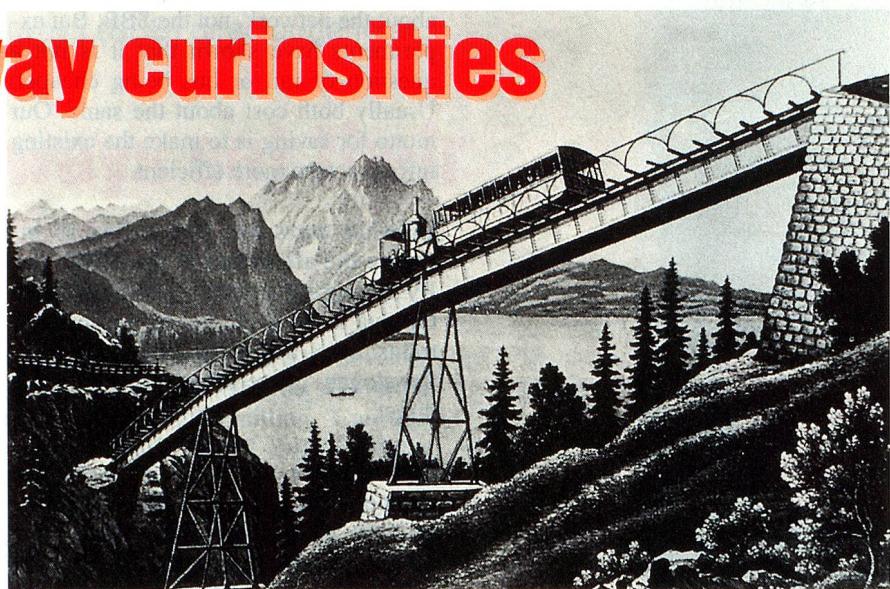
types of line. There are also many railway structures, such as bridges and tunnels. The network is made up of five different kinds of railway: standard gauge, narrow gauge, rack railways, tram railways and cable railways. Within the narrow gauge group, which is normally 100 cm, there may be variations between 60 cm and 120 cm. With rack railways there are also different ways of overcoming the altitude difference. So it is not surprising that our country is rich in railway curiosities and line superlatives.



Almost every child knows that the Jungfraujoch railway station is the highest not only in Switzerland, but also in the whole of Europe. However, very few people know the name of the lowest station, which is Riazzino-Cugnasco in Ticino. It lies on the Swiss Federal Railways (SBB) line from Bellinzona to Locarno, between Tinaro and Cadenazzo. Since there are three places in Ticino called Riazzino, this station – which is part of Locarno – has been decorated with the name of its next-door neighbour. The station of Riazzino-Cugnasco is just 661 feet above sea level.



The metre-wide Bernina line of the Rhätische Railway in Grisons, Switzerland's main holiday region, reaches a height of 7,575 feet (the Bernina Hospice), which is a record for adhesion railways. There is no other railway in Europe which reaches anything like this altitude without the help of cogs. The Bernina Railway was built from 1908 to 1911 and was taken over by the Rhätische Railway in 1943. It links St. Moritz with Tirano in the Valtellina valley via Pontre-



**The spiral viaduct on the Vitznau-Rigi Railway as it looked in 1871.
(Photos: Max Baumann)**

sina, Bernina Ospizio, Poschiavo and Campocologno.



With a maximum gradient of 480 per mil the Pilatus Railway from Altnachstad to Pilatus Kulm is the steepest rack railway in the world. In contrast to cable railways, its coaches climb under their own power. The rack railway developed by engineer Eduard Locher with two horizontal cogged rods interlocking with the main cog wheel was the first system which made derailment impossible.



Drawing power from a third electricity-bearing line is a matter of course for underground railways in other countries and model railways, but this is now a rarity in Switzerland. The Martigny-Châtelard Railway in Lower Valais is the only one which still uses this system. It was chosen for topographical reasons because of the very winding section of line between Vernayaz and Salvan. In the precipitous landscape of the Trient Valley an altitude difference of 476 m has to be overcome on a section of line only 3.5 km long with gradients of up to 200 per mil.



The service line of the International Rhine Regulation Authority (IRR) in the area where the Alpine Rhine flows into Lake Constance is a curiosity in every respect. It is nicknamed the "Rhybähnli", and it has been in operation since 1895. Like the Waldenburger Railway its gauge is only 75 cm. It is about 30 km long and most of the time runs along the Rhine dams. Near the Widnau customs post the railway crosses the Rhine on the road bridge leading to Vorarlberg. It was electrified in 1946 and still today transports up to two tonnes of rough stones from the Kadelberg quarry near Koblenz in Austria to bank up the earthen dams in order to protect them against erosion between the points where the Rhine and the Ill rivers enter the lake.



The Rhätische Railway stretch running from Coire to Arosa is the line with the most bridges. On this narrow gauge section 25.68 km long there are no fewer than 41 bridges having a total length of 1,787 m. This means that on average there is a bridge every 626 m.

*Hans-Ulrich Suter is a railway specialist and author of "Schweizer Eisenbahnkuriositäten" (Swiss Railway Curiosities), Stämpfli + Cie AG, Berne, 1996, Sfr. 43.– (plus postage). This book – which exists in German only – may be ordered from the Secretariat for the Swiss Abroad, Alpenstrasse 26, CH-3000 Berne 16.