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**Through the depths of the Eiger to the Jungfrauoch**  
The Jungfrau railway will celebrate its centenary in 2012. Running through a tunnel that passes inside the Eiger and Mönch mountains, it reaches Europe's highest railway station and remains the jewel of the Bernese Oberland.  
By Alain Wey

The train passes through the depths of the mountain. Passengers look on in astonishment as the north face of the Eiger (3,970 m) passes by. The 7.2-km tunnel snakes its way through the rock, passing through the Mönch (4,107 m) before emerging at the Jungfrauoch (the Jungfrau Col) at an altitude of 3,454 metres. Europe's highest railway station was the most audacious Swiss railway project in the early 20<sup>th</sup> century. At the foot of the trinity of Bernese Alps, a clock counts down the minutes to the centenary of the Jungfrau railway service on 1 August 2012. There is much to be celebrated about this company rich in history. In 2010, almost 672,000 passengers travelled the 1393-metre ascent to reach the breathtaking panorama of eternal snow. To the south, Aletsch glacier slopes away for 22 km into the canton of Valais and to the west stands the majestic Jungfrau (4,158 m). Here, the mountain retains the memories of a project that took 16 years to complete and was the crowning glory of the mountain railway boom that gripped Switzerland at the end of the 19<sup>th</sup> century. Let's turn back the clock to take a look at the project of a dreamer, Adolf Guyer-Zeller, without whom none of this would have happened.

#### Mountain railway fever

The boom in railway construction at altitude really took off a decade after the inauguration of the first cog railway in 1874 in Vitznau, which climbs the Rigi (canton of Schwyz, 1,800 m). In 1912, there were 15 cog railways and 45 funicular railways in Switzerland. This railway fever undoubtedly culminated with the Jungfraubahn railway. In 1893, the Wengernalpbahn railway reached the Kleine Scheidegg (2,061 m) at the foot of the Eiger from Lauterbrunnen (795 m) to descend into Grindelwald (1,034 m). In 1869 and 1889, negotiations were held about a railway ascending the Jungfrau but those behind the project encountered difficulties obtaining authorisation and funding. In 1893, the Zurich-based industrialist Adolf Guyer-Zeller (1839–1899) put forward a new proposal. The head of the north-eastern railway company (Nordostbahn) envisaged an electric open-top line between Kleine Scheidegg and the Eiger glacier that would enter a tunnel through the Eiger, Mönch and Jungfrau to arrive at the summit of the latter. It was granted authorisation from the federal authorities in 1894 and work began in 1896 under the management of the recently estab-

lished Jungfraubahn railway company. Instead of the seven years anticipated, the construction work took 16 years to complete. The destination station was no longer at the summit of the Jungfrau but instead at the Jungfrauoch.

#### Cog railways driven by tourism

This railway was primarily aimed at foreign tourists and not local people. From 1830, English visitors invaded the Interlaken region, which became a well-known English colony of the period. From 1880, they would lose ground to the Germans, Americans and French. Foreign tourism peaked between 1890 and 1914. More than 21 million overnight stays were recorded in Switzerland in 1910. This figure would not be reached again until 1955. The Bernese Oberland cornered a third of the Swiss tourism market from 1895, and the region's railways experienced a real boom between 1890 and 1905 with the opening of numerous lines: Berner Oberland Railway, Interlaken-Lauterbrunnen, Interlaken-Grindelwald, Thun-Interlaken, Spiez-Frutigen and Spiez-Gstaad.

#### Sixteen years of work

In 1898, the open-top Eiger glacier line was inaugurated at 2,320 m. Tunnelling work in the Eiger started in 1897, and Rotstock (2,520 m) was reached in 1899. In the same year, Adolf Guyer-Zeller passed away and his son took up the reins. The work was delayed, and the Eigerwand station (2,865 m) did not open to the public until June 1903. The section then reached the Eismeer (sea

of ice, 3,160 m) station in 1905. At this stage, the initial plans were modified for financial reasons. Instead of a station at Mönchsloch and then at the summit of the Jungfrau, the Jungfrauoch was chosen as the terminal and was inaugurated in 1912. Over the years, the project claimed the lives of 30 miners (dynamite explosions, electrocutions, avalanches, rock slides, etc.), witnessed six strikes and financial problems (actual cost of CHF 15 million compared to the CHF 10 million forecast) and took 16 years rather than the seven anticipated.

#### A world of caverns and underground passageways

The development of the Jungfrauoch during the 20th century enhanced its reputation. A world of subterranean passageways and caverns was created in the mountain. A first tourism centre was built in 1912 before the opening of the ambitious "Berghaus" in 1924, which is nestled on the south side. The Jungfrauoch research centre (3,450 m) was opened in 1931. The Sphinx observatory, which stands at an altitude of 3,571 metres, was opened in 1937, and its astronomic dome was installed in 1950. It is accessed via two elevators, which climb another 111.4 metres. Initially, the research focused on meteorology, glaciology and physiological medicine, whereas today it mainly concerns astronomy, astrophysics and cosmic radiation. The Ice Palace was chiselled out and sculpted in the 1930s. In 1972, a fire destroyed the "Berghaus" and the tourist centre, which were replaced by the "Taverne de la Jungfrau" and the

"Gletscherrestaurant". A new wave of construction on the Jungfrauoch began between 1983 and 2002. The new "Berghaus" (16,200 m<sup>3</sup>, 7 floors) was opened in 1987 and renamed the "Top of Europe". A second Jungfrauoch railway station hall and a new way out onto the Aletsch glacier were opened in 1991, the opening of a storage yard for the rolling stock at Kleine Scheidegg and the redevelopment of the Ice Palace took place in 1992, a new viewing terrace on the Sphinx rock was built in 1996, and the Ice Gateway (3,471 m) building was constructed in 2002.

#### The aura of the Jungfrauoch

In addition to mass tourism, one of the most significant effects of the Jungfrau railway is the electrification of the villages throughout the region with the construction of power stations and hydroelectric power plants in Lauterbrunnen, in particular. They were initially intended to supply the railway. Then came the attraction of winter sports and the first ski slopes, including Lauberhorn (2,472 m) from 1930. The descent to Wengen is the longest in the world, covering 4.5 km. It featured in the movie "Downhill Racer" starring Robert Redford and Gene Hackman in 1969. The Jungfrau-Aletsch-

Bietschhorn region's aura saw it become the first alpine area to be included in UNESCO's prestigious world heritage site list in 2001. Another award highlights its historical significance. The "Bellevue des Alpes" hotel (1840) in Kleine Scheidegg was named "Historical Hotel of the Year 2011" by the International Council on Monuments and Sites (Icomos), which describes it as a "true time machine".

One man's dream has become an incredible attraction, and the celebrations ahead should further enhance the region's reputation. If Adolf Guyer-Zeller had not obtained authorisation from the federal authorities based on his promise to invest CHF 100,000 of his fortune in a meteorological station at the terminal, the railway simply would not have been constructed. The Jungfrauoch has been Europe's highest railway station for almost 100 years.

[www.jungfraubahn.ch](http://www.jungfraubahn.ch)  
[www.scheidegg-hotels.ch](http://www.scheidegg-hotels.ch)  
[www.ifjungo.ch/jungfrauoch](http://www.ifjungo.ch/jungfrauoch) (Jungfrauoch research centre)

#### VISITOR NUMBERS

672,000 people visited the Jungfrauoch "Top of Europe" in 2010. This represents a 3.2% increase compared to

2009. The line recorded 42,880 visitors in 1913 and attracted 100,000 in 1952, 200,000 in 1967, 300,000 in 1972, 400,000 in 1980,

500,000 in 1997 and 600,000 in 2000. Its record is 704,312 in 2007.



Tunnelling miners shortly before the breakthrough at the Jungfrauoch on 21 February 1912



Eigerwand station on 28 June 1903



Kleine Scheidegg with Eiger, Mönch and Jungfrau



The old mountain hotel was named the "house above the clouds" – in the foreground, the Aletsch glacier; in the background, the Mönch