

# Marconi in Switzerland

## First wireless experiments in the Swiss Alps

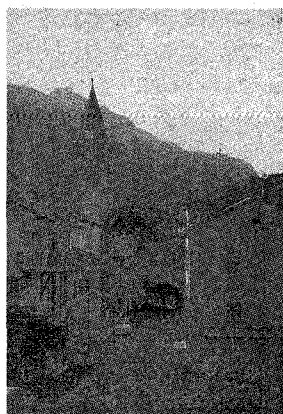
It happened during the summer of the year 1895: two young Italians reached the scenic resort of Salvan, overlooking the deep Trient gorge, at the edge of the Mont Blanc range. Guglielmo Marconi, and his brother, Alfonso, had climbed the 43 switchbacks of the steep path from the village of Vernayaz, down in the Rhone valley—in the company of mules carrying their luggage and equipment. Guglielmo, then 21 years old, was apparently recovering from a respiratory ailment, and the “climateric station” of Salvan had been highly recommended to the convalescent, because of its salubrious air. The brother returned to Italy, and Guglielmo rented an apartment on the third floor of a house on “Millionaire Street:” did he already suspect that he was to become one?

A local boy, playing in the area, was particularly intrigued by some odd-looking metallic apparatus lying in the grass. Seeing his evident interest, Marconi approached him and said—supposedly, in almost accentless French—“So, my young friend, does this interest you? If you want to work with me, I hire you.” Thus, young Maurice Gay-Balmaz, ten years old at that time, became Marconi’s first helper, very excited at the idea of carrying the extraordinary equipment that intrigued him so much.

Marconi found a suitable location for his transmitter, on top of the “Shepherdess Stone,” a flat-topped rock overlooking the village’s edge. His equipment consisted of a battery, a Ruhmkorff induction coil, a Righi spark generator, and an antenna. Next to the



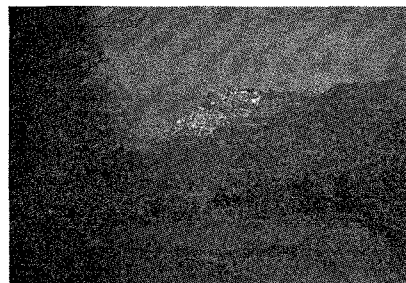
**Figure 1.** Where it all started: Marconi placed his transmitter on this rock.



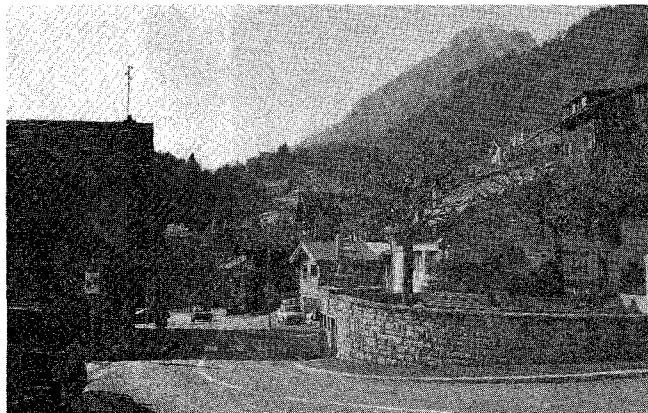
**Figure 2.** The village of Salvan.



**Figure 3.** The surrounding of Salvan, where radio reception took place. In the background are the “Red Needles” in the Mont Blanc range.



**Figure 4.** The surroundings of Salvan, where radio reception took place. In the background are the “Teeth of Morcles.”



**Figure 5.** The house where Marconi stayed in 1895 is on the left.

rock, the boy held a two-and-one-half-meter-long pole, along which ran a metallic wire, probably connected to a Branly coherer, a battery and a bell. Marconi had carefully studied and experimented with these components, all previously invented by various scientists. He had read of Heinrich Hertz’s experiments (Hertz had died in the previous year), and was trying to fulfill a dream: transmit a signal without any kind of metallic connection. And—as we all know—he did succeed!

But, obviously, success did not occur right away. As Gay-Balmaz recalled, “...at first the bell would not ring, and then, after careful studies and adjustments of his apparatus, it did ring at such

a distance....Marconi's face was beaming with joy, he shouted to me: 'it's fine, now it starts to work!'"

Marconi and his little helper repeated the experiments over and over during that summer. Many careful adjustments were required: sometimes, it would take almost half a day of work before the bell would finally consent to ring. Experiments were made in several directions around the transmitter's rock. The first one had covered all of five yards, and the distance was then progressively increased, reaching almost one mile towards the end of the summer. Whenever the bell rang, the boy raised a red flag to show that the signal had been received, while a white flag meant not yet, keep trying!

Needless to say, the activity of Marconi and of his young assistant did not go unnoticed: the local population was observing this mysterious activity with considerable awe and some suspicion. Every day, they could see this very distinguished young gentleman, always accompanied by a young boy, roaming around the rocky woods and steep meadows surrounding Salvan, carrying an assortment of odd-looking machines, poles and flags. All this looked like wizardry to a population of goat-shepherds—who were also welcoming tourists to improve their modest living standard. For a long time, they remembered Marconi and his mysterious errands.

Towards the end of the summer, Marconi returned to Italy, and the next year, in London, he took out the original patent on his famous invention. He invited Gay-Balmaz to join him in Rome to keep collaborating, but the boy's parents opposed the project—he was so young! The two never met again, because Gay-Balmaz remained all his life around Salvan. He became a carpenter, participated in the renovation of a sanitarium, where he was later on hired as "economist." He died in 1975, at the age of 90.

To celebrate the hundredth anniversary of Marconi's visit, the village of Salvan\* organized an exhibition at the Tourist's Office, with the collaboration of the Swiss Telecom PTT and the Auditorium Museum. Visitors can experiment with apparatus like the one Marconi used, they can see the spark glow and hear the bell ring. They can also listen to a taped interview of Maurice Gay-Balmaz who, in his old age, had retained a very vivid recollection of the days spent with Marconi. Of course, at the time he could not foresee the significance of the project in which he was involved, and he did not realize that Marconi would become so famous as a result of it.

A "Marconi trail" was also set up, starting from the exhibition, climbing towards the transmitter's rock (or, rather, to what is



Figure 6. The village of Salvan.

left of it), reaching a number of places where signals had been received in 1895, and ending by the house where Marconi stayed. Explanatory markers are located along the walk, presenting the main features of the area, and explaining the basics of what may be the first wireless experiments carried out in open surroundings.

#### References

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\*Salvan can now be reached by car, on a good mountain road, or by train, with the "Mont Blanc Express" on the Martigny-to-Chamonix railway line.