

## MARTEL'S FIRST CAVE

by

T. R. SHAW

### ABSTRACT

E. A. Martel, later to be the doyen of speleologists and the author of some 20 books and 780 papers on the subject, made his first cave visit in 1864 at the age of five. It was to the Grotte de l'Arveiron (or Arveyron), the glacier cave draining the Mer de Glace near Chamonix. The glacier was in retreat, and the form of the cave was constantly modified until it disappeared altogether about 1873. A recently discovered photograph shows the cave as it was some five years before Martel's visit.

It is commonly said (e.g. by Roberts (1947, p. 106) and Shaw (1979, p. 58) ) that Martel's earliest visits to caves took place in 1866 when he was about seven years old. This is based on his statement in the preface to *Les Abîmes* (Martel, 1895, p. [v]) that 'In 1866, the stalactites of the Grotte de Gargas and the underground river of Eaux-Chaudes, in the Pyrenees, had made such a vivid impression on my youthful mind that I have never forgotten it.' Casteret's (1943, p. 18) biography of Martel adds that his parents took him to Chamonix and Switzerland in 1864 when he was five, this information probably coming from a biographical note by Sainte-Croix (1933), but neither mentions that caves were visited then.

Nevertheless Martel himself recalled, in the introduction to one of his later books (1928, p. 12), that 'My earliest memories of physical geography ... [were] in 1864 for the glacier cave of the Arveyron at Chamonix [and] the Beatus Höhle by Lake Thun [in] Switzerland; ... in 1866 for the Pyrenees (the caves of Eaux-Chaudes, Rébenacq, and Gargas) ...'. The visit to Arveiron took place on 7 July 1864 (Martel, 1919), very shortly after his fifth birthday. He does not give a date for seeing Beatus Höhle but the sequence in which the two caves are mentioned suggests that he visited the Arveiron one first, perhaps *en route* to Switzerland. He went there again in August 1870 at the age of eleven (Martel, 1919). It was not until 1879, when he was about twenty, that he visited Postojnska jama, and not until 1888 that his serious explorations began.

The Grotte de l'Arveiron was some 3 km north-east of Chamonix in the departement of Haute-Savoie, and about 10 km from the Swiss border. The past tense is used because it was in the snout of a retreating glacier and has since disappeared. The cave was entirely in ice, at the base of the Glacier des Bois, at the lower extremity of the Mer de Glace below Mont Blanc. Its location is indicated in FIG. 1 on a map almost contemporary with Martel's 1864 visit. The map was published by Reclus (1868, p. 273), the preface of whose book was dated November 1867, and the plates may have been prepared in that year, probably from data of a year or so earlier. The recently better known glacier cave at

Chamonix, the Grotte de Mont Blanc at the foot of the Glacier des Bossons, is some 7 km away, being a few kilometres south-west of Chamonix. It has been a tourist attraction since the 19th century, and the subject of very many postcards.

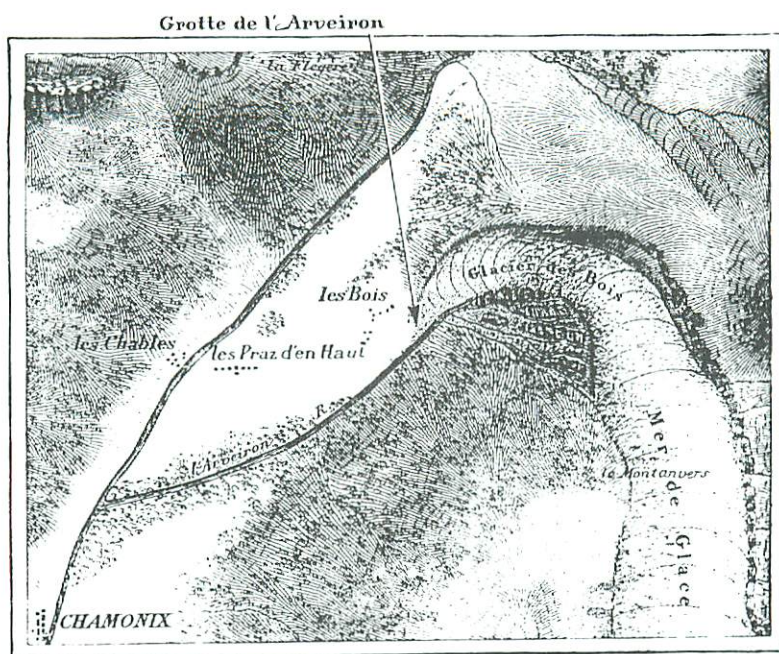


FIG. 1 — LOCATION OF THE GROTTE DE L'ARVEIRON ON A MAP OF ABOUT 1866.  
SCALE: 1/50,000.

Martel himself referred (1928, p. 228) to the subsequent loss of the cave. It had been, he said, 20 m to 25 m wide, and he remembered the noise of blocks of ice falling. 'It was about 1873 that it seems to have disappeared. Certainly I could not find it again in 1876'. It was the mountain guides in August 1876 who told him that it had collapsed in 1873 (Martel, 1919). The retreat of its glacier had been going on for many years and Reclus (1868, p. 278) records that 'A stone marking the exact spot reached by the Glacier des Bois ... in 1826, stood in 1865 388 m below the entrance arch of the Arveiron' Cave. The form as well as the extent of the cave was ever-changing, so contemporary evidence of its appearance at the time Martel saw it is of particular interest.

It might be thought that a cave in ice is not a 'real' cave at all, and hence not worthy of speleological attention. Self-evidently it is not a karstic one. Nevertheless glacier caves are accepted as phenomena of pseudokarst (Jennings, 1985, pp. 2-3), and Halliday and Anderson (1970) have introduced glaciospeleology as a distinct study. By their

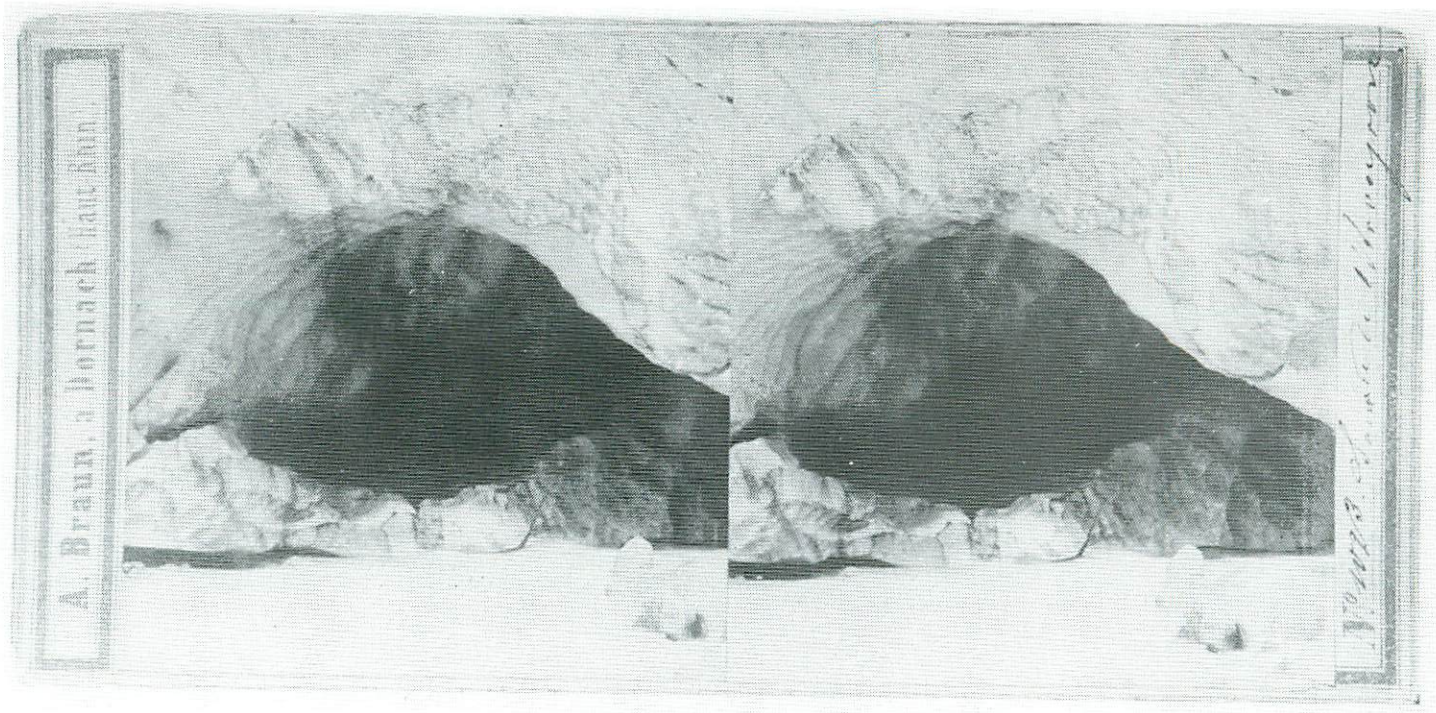


work in the 13 km long Paradise Ice Cave in Washington State (U.S.A.) they have shown how melt-water and air in fissures in the ice supply latent heat to their walls, which are thus slowly melted back with the same sort of geometry as limestone surfaces attacked by aggressive water. Even in the 19th century Sieger (1895) had been studying 'the karst-forms of the glaciers of the Austrian Alps, with special reference to the causes of their origin'. Martel was associated with the use of fluorescein to trace the course and speed of sub-glacier stream water (Martel *et al.*, 1898).

To return now to the pictorial representation of the Grotte de l'Arveiron about the time that Martel was there. The cave had disappeared altogether before the era of postcards began in the 1890s. Martel did not himself picture it, and I have not been able to find any views of it in contemporary scientific or travel books. An engraving from an 1800 painting by Louis Belanger is reproduced by Martel (1928, p. 227) and a lithograph of the cave entrance by L. A. G. Bacler d'Albe (1818) has been republished by Pittard (1985, p. 29). Both these pictures, however, are considerably earlier in the life of the melting and retreating glacier than Martel's visit there, and Belanger's at least is heavily influenced by the romantic conception of how such a view ought to appear. Thus they cannot be taken to represent the cave as Martel saw it.

The previously unrecorded view of the cave shown in PLATE 1 is much closer in date. As the glacier was changing all the time, it is particularly important to date the photograph as closely as possible. It was published and perhaps photographed by the distinguished Alsace photographer Adolphe Braun (1811-1877), official photographer at the Court of Napoleon III. One recent study (Guichon, 1984) states that 'At the end of 1859 he published a great number of tourist views ... and stereo views'. The style of the mount is consistent with this time. According to Darrah (1977, p. 114), Braun began publishing stereo views in 1856 and he dates no. 518 in the series to 1858. The Grotte de l'Arveiron picture is numbered 1023. As Braun had produced more than 6000 views by 1866, and photographs were usually numbered consecutively at that period, irrespective of subject, it is reasonable to suppose that no. 1023 dates from 1859. When I sought his opinion on this particular view, Prof. Darrah (1986) agreed that '1859, or possibly late 1858' is a 'fully justified' assumption. The Musée d'Unterlinden at Colmar holds a very large collection of Braun's work and tells me that 'photographs close to no. 1023 were made in 1860' (Moench, 1986). Thus all three sources bring it within about five years of Martel's seeing the cave at the age of five. The photograph was born about the same year as Martel was born.

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PLATE 1 — 'SOURCE DE L'ARVEYRON'. THE GLACIER CAVE PHOTOGRAPHED IN 1858 OR 1859  
From a private collection, accessible via U.B.S.S.



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