

The 'Eccentric' may possibly improve an old pass, and the 'Centrist' an old peak; both can certainly show what combination of routes is the most varied, and so the most interesting, as, indeed, Mr. Conway himself admitted not very long ago;* but both must be, and I hope are, well content to seek health, energy, and enjoyment in their well-loved though well-known playground.

I have purposely not made this paper an apology for climbing without guides, as I know the whole subject was fully dealt with long ago;† but as, with the exception of the allusion made by Mr. Dent in his address,‡ I believe it has scarcely been referred to during the past five years in the pages of the 'Alpine Journal,' I should like, before concluding, to add a few words of caution for the guidance of those who have not seen, or who may not remember, what has been written in the past.

Such expeditions are indeed hard work, and I would insist most firmly that the rules of mountaineering should be more carefully observed than ever, and bad or doubtful weather more carefully watched than ever; and if my recital to-night should tempt anybody to try climbing without guides, I can but say, Begin at the beginning, as you started climbing with guides; try easy expeditions to commence with; be sure of your comrades and their powers; watch the weather with an ever-jealous eye; and then if you have the same good fortune as we had last year, though mingled with some defeats, you will return home to your work having enjoyed a holiday second to none you have ever had in the Alps.

GOTTLIEB STUDER.

By W. A. B. COOLIDGE.

BY the death of Gottlieb Studer, which took place at Bern on December 14 last, the Alps have lost their most devoted friend, for no one (save Mr. John Ball) has ever known them as thoroughly as he did, or has done as much to make them known to others. It might perhaps be possible to name more enterprising Alpine climbers than Gottlieb Studer, more attractive Alpine writers, more skilful Alpine

* *Alpine Journal*, vol. xiii. p. 161.

† *Ibid.* vol. v. pp. 87-96; vol. viii. p. 243; vol. ix. p. 219; vol. xii. p. 289; also vol. ix. p. 411; vol. x. pp. 138, 387; vol. xiii. p. 378.

‡ See p. 12.

artists ; but, most certainly, no one man has ever been able to wield ice-axe and pen and pencil with equal readiness and with equal success. His life was prolonged to the great age of eighty-six years, so that in any case his long-continued activity in all these departments would have sufficed of itself to secure him an honoured position in the eyes of all who share his love for the Alps, as well as in the history of Alpine exploration. But Studer was more than the Nestor and acknowledged chief of living Alpine explorers and writers and artists. His life and deeds (with those of his comrade Melchior Ulrich, who, though older, survives him) link together the earliest and the latest groups of mountaineers, and serve to bridge over the interval between the men who climbed mainly as scientific researchers and the men who climb mainly as athletes. In other words, Studer was the best representative of that period of Alpine exploration which stretches from the conquest of Mont Blanc (1786) to the foundation of the Alpine Club (1857). Born in 1804, five years after De Saussure's death, he yet began to climb before the first ascents of the Jungfrau (1811) and of the Finsteraarhorn (1812). When Bourrit died (1819), Studer was looking forward to soon making practical acquaintance with the mysterious ice-world ; when Father Placidus à Spescha died (1835), Studer had made his first ascent above the snow-line, had drawn his first panoramas, and was accumulating materials for his first book. Yet he lived to see the foundation of the first Alpine club (1857), to share in founding the Swiss Alpine Club (1863), and to hear of the exploits of those who, thinking, perhaps too hastily, that the exploration of the Alps was at an end, have gone farther afield to the Caucasus and to New Zealand, to the Andes and to the Himalaya, to the ever-frozen regions of Alaska, and to the tropical districts of East Africa.

Gottlieb Studer came of a middle-class Bernese family, which has been particularly distinguished in divers matters relating to the Alps. His uncle Samuel (1757-1834) devoted himself to the natural history of his native land, not forgetting glacial phenomena ; and his cousin Bernard (1794-1887) became celebrated as an Alpine geologist, and as the historian of Swiss topography.* Gottlieb's father, Sigismund

* Care must be taken to distinguish the subject of this notice from his first cousin, Bernard's brother, Gottlieb Ludwig Studer (1801-1889), late Professor of Theology at the University of Bern, who wrote much on Bernese history, and published editions of many of the Bernese chronicles.

Gottlieb (1761–1808), was specially known for his skill in drawing mountain forms, and in 1790 published a panorama, 'La Chaîne des Alpes vue des Environs de Berne,' which is not only very valuable in itself, but interesting as foreshadowing a considerable part of his son's work. Sigismund was for a time magistrate's clerk at Langnau in the Emmenthal, and it was during his residence at that place that, in 1808, Gottlieb made, at the age of four, the ascent of a neighbouring hill, the Rafrüti (3,950 feet), the panorama from which he drew in 1826—the first of a long series, though it does not seem to have been published till 1883, on the occasion of the annual festival of the Swiss Alpine Club, when Studer repeated the ascent which he had made seventy-five years before. He does not seem to have had his first glimpse of the snowy regions, except from afar, till 1825, when he made an attempt on the Diablerets, though it was not till 1850 that he successfully achieved the first ascent of that peak, by his route of 1825. The ascent of the Fibbia near the St. Gotthard, and an excursion with Hugi into the Urbachthal (both in 1831), as well as ascents of the Sasseneire (1835), Niesen (1837), and Sidelhorn (1838), show that he was gradually training for what was to be his life's work. His passages of the Triftlimmi (1839), Strahlegg (1839), and Tschingel (1840), together with some climbs round Zermatt in 1839 and 1840, stand at the head of the long list of his expeditions among the glaciers. Here limits of space permit me to enumerate only a few of the more striking. The Sustenhorn (1841), Jungfrau (1842, fifth recorded ascent), Oberaarjoch (1842), Altels and Wildhorn (1843), are among those described in his first published work 'Topographische Mittheilungen aus dem Alpengebirge,' 1844, of which the first part (referring to the Bernese Alps) has alone appeared, though it ran into a second edition. It was accompanied by an atlas containing six panoramas, including one from the Jungfrau, and another from the Eggischhorn. An attempt on the Mönch (1845) is all that I can find attributed to him during the next few years. In 1849 he became the companion of Ulrich, with whom during that and the following years (up to 1854) he explored the Zermatt and Val de Bagnes districts, besides conquering his old foe the Diablerets (1850), and reaching the highest crest of the Tödi (1853), narratives of these and other ascents being contained in his articles published in the two series of 'Berg- und Gletscherfahrten' (1859 and 1863). An attempt on the Nord End of Monte Rosa (1849), and on the Triftjoch (1852), successful ascents of the Tête Blanche (1849), and of

the Combin de Corbassière (1851), and the passage of many high snow passes (e.g. Col du Mont Rouge, Weissthor, Col d'Hérens) deserve to be specially mentioned. One of the results of these explorations was his valuable map of the southern valleys of the Vallais (1849), of which a revised edition—extending as far as the Combin district—was issued in 1853. A first excursion to Dauphiné, in 1851, when he went over the Col du Lautaret, points on to the time when he was to explore the non-Swiss Alps. Before that time came, however, he had continued his expeditions in his own special district of the Bernese Oberland, and in 1850 issued 'Das Panorama von Bern,' which was originally designed as the text to accompany his father's panorama. It contains some most valuable information as to the history of the peaks, great and small, seen from Bern, and has appended to it an outline of his father's panorama.

In 1855 Studer visited the Italian Graians, crossing the Col de Nurolé and the Col de la Galise; in 1856 the French Graians, crossing the Cols de la Vanoise, de la Leisse, and du Palet, besides ascending some point on the great Vanoise snow-field; and in 1858 he made the first ascent of the highest and most southerly peak of the Ruitor range—accounts of all these excursions being published in different numbers of the 'Mittheilungen' of the Bernese Natural History Society for 1856, 1861, and 1863 respectively. Studer had become a member of this Society in 1850, perhaps on the appearance of his 'Panorama,' in which work there is much geological and botanical information. But he was even more keen in any matter relating to the practical exploration of his beloved mountains, and hence we find that he was one of the seven Bernese members of that gathering of friends (numbering thirty-five in all) which met on April 19, 1863, at Olten, and founded the Swiss Alpine Club, and that he sent to its first 'Jahrbuch' (1864) an article and a panorama (Mattwaldhorn, visited by him in 1840), the first of a long series. That very summer he went up the Finsteraarhorn and Oberaarhorn, and in 1864 made the first ascents of the Gross Wannehorn, Studerhorn, and Ofenhorn; while in 1865 the Basodino, in 1866 the Ritzlihorn, and in 1867 the Pizzo Campo Tencca, fell to his axe. It is hard to realise that he was past sixty when he began the publication of his best-known work, 'Ueber Eis und Schnee' (3 vols. 1869–1871), wherein he told the story of the conquest of the Swiss Alps, in which he had played so great a part. One may perhaps think that the scheme might have

been better planned, and may be inclined to criticise some of the details of this work ; but all must confess that it is simply indispensable to anyone interested in the subject, who will discover, the better acquainted with it he becomes, that it contains a considerable amount of hitherto unpublished information, based largely on the author's unrivalled personal experience. This labour of love was, however, far from exhausting Studer's energy. In 1872 he paid a visit to the Pyrenees ; in 1873 he returned to Dauphiné, making the third ascent of the highest peak of the Grandes Rousses (11,395 feet), and in 1874—at the age of seventy—made some excursions in Norway. Nearly every 'Jahrbuch' of the Swiss Alpine Club contains some article by him, mainly describing his ascents, but also discussing interesting historical questions, e.g. the evidence in favour of the Mönchjoch as an ancient pass (vol. xv.), or of the ascent of the Finsteraarhorn in 1812 (vol. xvii.), for Studer cared for the past of his beloved mountains as well as for their present, as is further shown by his exploration (1852 and 1858) and discussion of the ancient pass over the Geltengrat. Nearly every 'Jahrbuch' contains, too, a panorama or two from high peaks drawn by him, sometimes many years before, the total number being about twenty-five, and the earliest his view of the Diablerets, taken in 1825 from Plan des Iles (vol. xvii.). In 1878 he seems to have made his last considerable ascent—the Piz Lischanna (10,181 feet) in the Lower Engadine ; whence, too, he drew his latest published panorama (Swiss Alpine Club 'Jahrbuch,' vol. xiv.)—and this when he was seventy-four years of age ! Yet though advancing age compelled him to gradually relinquish active climbing, the old man's zeal and energy seemed to be quenchless ; for in 1883 he issued a supplementary volume of 'Ueber Eis und Schnee,' and, as has been pointed out above, visited that year the Rafrüti, which he had first ascended seventy-five years before. In 1884 he was made an honorary member of the Swiss Alpine Club, and he was also honorary president of the Bernese section. He was elected an honorary member of our own Club in July 1859,* the first foreigner to receive

* A letter from him to Mr. Ball, dated October 28, 1859, is extant, in which he acknowledges one of his correspondent's, dated July 27, announcing his election. 'Vous pouvez bien concevoir, monsieur,' he proceeds, 'avec quel plaisir je reçus cette annonce, et je viens vous exprimer ma vive reconnaissance pour les égards, non mérités, que l'honorable Club a bien voulu exercer envers moi en ajoutant mon nom aux noms illustres des savants distingués.'

this honour, to which certainly no one had a better right. In his last years he lost his sight, but doubtless this severe trial was partially lightened by his power of reproducing in imagination some of the many grand scenes which he had reproduced for the eyes of others.

Seventy years of climbing, fifty-two years of drawing, thirty-nine years of literary work—and all relating to the Alps—such is Gottlieb Studer's record. In the first pages of the 'Topographische Mittheilungen' he tells us how an irresistible impulse drove him to the mountains and to their wildest regions, a home-sickness he calls it for what seemed to be his true home, where life was so full of deep and pure enjoyment; this was the guiding principle of his life, and many who will never hear his name will be thankful for their introduction to pleasures which they owe indirectly to his writings and to his example.

The name of the Studerhorn in the Bernese Oberland was given to it by Agassiz in honour of Bernard Studer; but Gottlieb tells us himself (Swiss Alpine Club 'Jahrbuch' ii. 170-1) that in 1839 it was so named in his honour by one of his comrades on the passage of the Strahlegg; and it may well preserve the memory of the two cousins who have, in their different ways, done so much towards the exploration of the Alps. The best monument that could be set up in Gottlieb Studer's honour, besides the detailed life which is essential, would be a collected edition of all his Alpine writings—now scattered far and wide—together with reproductions of the principal panoramas he drew; and this task might well be undertaken and carried out by the Swiss Alpine Club, as a mark of its respect for the man who had the chief hand in making its existence a possibility.

ON GLACIER OBSERVATIONS.

BY CAPTAIN MARSHALL HALL, F.G.S., F.C.S., &c.

WHETHER we be young and enthusiastic, or whether we be jogging quietly down the hill of life, whether we be raw recruits, or whether, like the writer, we have loved scrambling from far-distant ages, when as yet no Alpine Club was, I imagine the word 'glacier' is very much to each and all of us as that of 'rat' is to every well-entered terrier. Wherefore I bespeak indulgence for a short paper upon the former subject.

Avoiding a history of past researches and glacial theories,