

de deux moyens : le premier serait de se développer à jour sur le flanc le mieux exposé au soleil ; le second de se tenir en galerie dans l'intérieur.

Le premier projet présenterait de grandes difficultés et ne serait guère praticable. On ne pourrait pas dépasser la pente de 3 et 4 pour cent ; le fond du chemin étant souvent gelé, il serait difficile de franchir une plus forte rampe. Il faudra donner à ce chemin une certaine largeur, ce qui augmenterait l'exploitation du roc ; la neige l'encombrerait à chaque instant, et il ne serait guère possible de le tenir ouvert sans occasionner beaucoup de frais. Le coût de ce passage reviendrait à 770,000 fr.

Le second projet serait sûr et praticable en toute saison. Il consisterait à entrer en galerie au pied de la pyramide et se développer dans l'intérieur avec des rampes variant de 5 au 10 pour cent et même plus, et en ménageant des paliers de temps en temps.

On contournerait ainsi dans son intérieur le Mont-Cervin en se réservant de distance en distance des fenêtres que l'on pourrait vitrer. La longueur de ce tunnel en spirale serait d'environ 12 à 15 kilomètres, soit environ 2½ lieues suisses. En lui donnant 1 m. 50 de largeur et 2 m. 10 de hauteur, son coût pourrait revenir à environ 840 mille francs ; mettons un nombre rond 900,000 frs., ce qui fait 60 francs par mètre courant. On y travaillerait été et hiver, et l'ouvrage pourrait être terminé en quatre années en l'attaquant dans plusieurs endroits à la fois.

On s'occupe en ce moment à former une compagnie. Les actions ne seraient que de 50 francs, et par conséquent à la portée d'un très-grand nombre même chez nous.

SOME VALAIS CLIMBS IN 1913.

By W. H. ELLIS.

THE Editor's request that I should provide a Paper for the JOURNAL dealing with some climbs I had in the Turtmann Valley in 1913 came at a very awkward time, as I was working under great pressure in connection with the War, as well as holding an important public office ; and although I am reluctant not to write what I can in the hope that it may cause some of my colleagues in the Club to give more attention to this interesting district than has been the case, I do not feel

I have sufficient time or opportunity to do proper justice to a Paper on this subject. Moreover, I have destroyed the notes I made at the time, and fear, therefore, that I cannot be as accurate in the work as is desirable.

It is a curious fact that although at the head of the Turtmann Valley are found some most interesting views, and also climbing of a high quality, more attention has not been paid to this valley, the more so as it is wedged in between such well-known valleys as the Zermatt and the Val d'Anniviers. It is easy of access from either of these valleys, without climbing, by the Augstbord Pass, or by one of the several valleys from St. Luc, or if a visitor proposes to begin his holiday in the Turtmann Valley it is a very pleasant 3 to 4 hours on leaving the train at Turtmann station in the Rhône Valley. Moreover, before undertaking the longer climbs at the head of the valley there is plenty of opportunity afforded for smaller training climbs from the hotel, such as the Schwarzhorn, Bella Tola, or, rather longer, the Barrhorn. I found the Schwarzhorn Hotel at Gruben quite comfortable, and the landlord willing to study the comfort of guides as well as climbers. It also has the advantage of not being near enough to a big centre to be tiresome in the way of many daily tourists, as most of the visitors come with the intention of making some stay. The valley up to the base of the glacier is full of beauty and characteristic Swiss life, and consequently there is plenty of interest for off days. Had I known previously what variety there is in this district I should certainly have allowed myself much more time for exploring it.

I had a very enjoyable day in coming over the Bella Tola from Chandolin, where I had stayed some days, and dropping down to the Turtmann Valley on the west side, leaving some high Alps with large herds of cattle, and proceeding down into the valley through the woods, this being only an eight hours' day. I had a training climb on the Barrhorn next day from the hotel, but although the going was good the mists were thick above 10,000 feet, and we did not gather that knowledge of the route in the upper part of the glacier that we hoped to.

From Chandolin, as you look towards the Weisshorn, a small snow summit is seen for which I had failed to find a name until my visit to the Turtmann Valley, and then I discovered that this peak is the Bieshorn, which lies immediately north of the Weisshorn, and is only about 1300 feet lower than it. I was accompanied by Josef Kuster of Engelberg, who has climbed with me for many years, and Josef Antille of St. Luc, who has

only recently got his guide's certificate, and our principal aim was to see something of the two main arms of the Turtmann Glacier up to the watershed which terminates in the Biesjoch, at a height of 11,644 feet, and to couple one of these expeditions with a descent to Randa. Owing to the difference in height between the hotel at Gruben and the Biesjoch being 5650 feet, and there being no hut, the days are necessarily long, and it would be a great advantage to the valley if it were possible to find a site for a hut on the rocks near the point 3615, on the Siegfried map, giving access to both arms of the Turtmann Glacier. I cannot, however, say with certainty whether access is possible from the eastern arm of the glacier on to these rocks, for, although we were on some points of this ridge, we had no time to give a day to exploring carefully this rock arête from the eastern arm of the Turtmann Glacier, which is at least 1000 feet below the western arm.

I will now say something of our day on the Bieshorn. Leaving Gruben at 3 and passing the huts at Senntum we soon left the western side of the lower portion of the glacier, and scrambled up turf and rocks, crossing a couloir which becomes dangerous early in the day from falling stones (indeed, we saw some falling before eight in the morning), and this route—probably a half-hour—brought us nearly to the level of the glacier above the icefall somewhat S. of a line E. and W. between points 3612 and 2882. This enormous icefall is one of the features of the valley, the sky line as seen from below showing a level surface well above 10,000 feet. After a halt, we proceeded over good snow right up the centre of the western arm of the glacier for two to three hours until we were well below the N. arête of the Bieshorn itself. The feature of this part of the route, however, is the interesting view of the N. arête of the Weisshorn, and this arête may almost be said to continue to the Bieshorn except for various nameless cols at the very head of the Turtmann Glacier. The last two hours' climb on to the Bieshorn itself was not difficult, but required care owing to patches of ice. The view on to the Weisshorn from the summit has certainly a peculiar fascination. Although the difference in height is not great, the distance is considerable, but this one does not realise, and a party of three who were just leaving the summit of the Weisshorn seemed to us to be within hailing distance. I was on the Weisshorn five days afterwards where the circumstances were absolutely reversed, and the Bieshorn seen from the Weisshorn certainly does not do itself justice. In the

descent we avoided the difficult ice by dropping down due E. for a short time and joining our original route in a northerly direction about 500 feet down. Our return down the glacier was toilsome and long, owing to the snow already being soft, and for this reason I should advise starting from Gruben not later than 1.30. I did not feel it wise to return by the same route from the icefall because of the danger of crossing the couloir, and this compelled us to keep to the rocks on the west of the upper icefall for a half to three-quarters of an hour, when we found some soft snowslopes which enabled us to reach the level of the glacier below the upper icefall. We then traversed the glacier in an easterly direction in order to avoid descending the lower icefall, which is very complicated; and this enabled us to join the ordinary route from the Biesjoch or the Barrhorn to Gruben. This is an unpleasant two hours' work at the end of the day, as it involves scrambling over several rough moraines running nearly north and south. In the later afternoon heavy thunder came over very suddenly, and we only reached the hotel just before seven, thoroughly soaked. It was, however, a very satisfactory day both geographically and from a climbing point of view, and I think anyone following our course would be tempted to make further exploration on the Weisshorn arête, leaving the summit of the Bieshorn alone, and arriving at the arête at a point well to the eastward of point 8698.

The first part of the expedition I have described is practically the same route for the Diablons if this climb is made from Gruben by the Col de Tracuit, and this may also be considered a good route for anyone leaving the Turtmann Valley and going over to Zinal.

A second expedition I want to describe somewhat fully is the route from Gruben up the eastern arm of the Turtmann Glacier to the Biesjoch and the Brunegghorn, and the descent to Randa. This again is a long day, and I do not think can be easily done under about sixteen hours, as with good going the Biesjoch will not be reached from Gruben under about seven hours. Up to the Joch it is a comfortable glacier expedition, and I need not describe it fully; the only point is that it is desirable to approach the Joch well from the E. as the northern face near the lowest point is, I understand, nearly always iced, and was so when we were there. I notice Mr. Gardiner ('A.J.' viii. p. 381) alludes to the risk of falling séracs on approaching the Biesjoch from the Gruben side, but we saw nothing of this nature, our route being probably more

to the E. From the Biesjoch one hour up easy snow-slopes brought us to the summit of the Bruneggorn, which is a commanding position owing to there being nothing of a very high nature eastward until the Mischabel group occurs, and therefore the view from the summit is very imposing. I knew there was a possible route to Randa by descending from the Biesjoch and skirting round the edge of the *Freiwänge*, but it is not easy to find, and with only limited time I did not feel it safe to attempt it. Had I known at the time of the route taken by Mr. Meade, referred to by Captain Farrar ('A.J.' xxv. p. 275), I should have been tempted to take it to the hut and to do the *Weisshorn* from there instead of descending to Randa.

From references ('A.J.' xii. 122 and 255) the *Bieshorn* can be done from the Biesjoch quite well, but in 1913 there were many large patches of ice on the eastern face which would have made the ascent very long and difficult.

From the Bruneggorn our natural route was to descend by the northern arête to the Bruneggjoch, but this was so badly iced that we had to return almost to the Biesjoch and slightly descend in a northern direction to the Bruneggjoch. The descent from there down the *Abberg* glacier is quite simple, except that it is necessary to thread through the icefall, as there are couloirs on the N. side of the glacier which are not safe in the afternoon.

Having left the glacier, we made great efforts to skirt over the high ground in a southerly direction, so as to be able to descend direct to Randa, but we utterly failed to find any possible route, and, indeed, the one we took was not good in many ways, and we were ultimately forced down through the woods opposite *Herbrigen* station and walked up to Randa. This expedition also took us fully 15 hours, and I should imagine would be a very much more interesting one if made from Randa direct, skirting the *Freiwänge* and approaching the Biesjoch from the S. with the descent to *Turtmann*, and if, when it is possible to resume climbing in Switzerland, I am able to make this expedition I will certainly send a note of the particulars to the *JOURNAL*, as the existing information is not very definite.

Although not part of the real subject of this Paper, before concluding, I want to add a few words about an expedition following the day on the *Weisshorn* during the week after the *Turtmann* expeditions.

We went up to the *Riffelhaus* in very bad weather on Thursday, August 7, but on Friday morning at four o'clock



Wehrli, A. G., photo.

Swan Electric Engraving Co., Ltd.

WEISSHORN AND HEAD OF TURTMANN VALLEY,
FROM THE BELLA TOLA.

the weather rapidly improved and remained perfect until an hour or two after our return to Zermatt on the Saturday night, and this, no doubt, accounts for our meeting no other parties during the whole time. We took the usual course nearly to the Bétemps hut, crossed over the lower portion of the Lys glacier and had considerable difficulty in threading our way through the icefall on the plateau of the Felik glacier, reaching the Felik Joch in 8 hours from the Bétemps hut. Our time was long, owing to difficulties of the icefall, and my leading guide being ill for the last three hours. A short hour and a half brought us to the summit of Castor, but the western slope towards the Zwillings Joch appearing difficult owing to extensive ice patches, and our time being limited, we descended by the same route and ran down to the Sella hut, reaching it at 4 P.M. Here we were warmly welcomed by the Guardian, who had not spoken to anyone except his dog for five days.

The hut appeared to me to be an exceptionally good one and unusually clean, but we all suffered somewhat from cold, and all our boots and other things were frozen by morning.

We left again on Saturday at four, thinking we were easily going to find the Zwillings Joch, but we were bothered by an intermediate ridge which we had to skirt as it was too steep to descend direct, and this brought us on to a couple of hours' difficult ice below the Joch and caused some loss of time, and I got two toes caught with frost, which took me eight weeks to get over, although it was not serious. From here we did the traverse from Pollux to the Schwarzthor, a very nice walk, with no difficulties. The first part of the descent of the Schwärze glacier was very simple, but again we had difficulties in getting through the icefall, and when we got through had to let our porter down some steep snow on the rope more than 100 feet to get rid of the avalanching before the guide and I descended, and our arrival at the foot of it was open to comment.

From here we took the ordinary route and were down in Zermatt by seven in the evening.

I am aware that this expedition, or most of it, is frequently done from Zermatt by the route from the Theodul hut skirting the Breithorn, but I venture to suggest that the route from the Riffelhaus makes a much more interesting expedition, and certainly combines every beauty that can be expected from a short two days' expedition.

May I again regret that the circumstances I have alluded

to above have not allowed me to do justice to a description of the interesting district dealt with in the earlier part of this Paper? But I hope what I have written may be of some slight service to some of our members when they are paying their first visit to the Turtmann Valley.

THE NORTH FACE OF THE GRAND COMBIN.

Referring to the route described in 'A.J.' xix. p. 247-8, Mr. Lipscomb has now obtained from his guides, the late Jean Maitre and Pierre Maurys, further particulars of the exact line followed. The climb was undertaken in poor weather culminating in a snow-storm, which overtook the party below the summit and caused them to lose their way on the descent, forcing them to return to the same route followed on the ascent. In these circumstances accurate observations were difficult. It is shown in the illustration, and descends directly from the upper plateau to the corridor route. Pierre Maurys writes to Mr. Lipscomb as follows:—

Translation.—' We are a little late in replying to your letter, which recalls to our minds friendly memories. My uncle Jean [Maitre] was up at our mayens, 1500-2000 m. altitude, looking after the cattle. The winter has been rigorous and cold. After discussing the matter we send you back the photograph with a mark to indicate the route which we took for our descent—your recollection is exact. It is down steep slopes of snow and ice which [lead] to the bifurcation of the routes coming from the Panossière hut and from the Col des Maisons Blanches in taking the ordinary Corridor route. This route is still accessible at this moment, or rather if the season permitted. During the first days of mobilisation I tried the Combin, but was beaten by the weather, but I examined our route and saw that it is still possible.—Evolène, March 25, 1915.'

This line was again taken by M. Émile Fontaine with the guide E. Masson and the porter E. Michellod on July 29, 1907.—'Écho des Alpes,' 1909, p. 89; 'Rivista,' 1911, p. 149.

On July 26, 1913, Mr. V. A. Fynn and I, with Omer Balleys¹ of

¹ He and his brother Jules, also a botanist, are good guides and very agreeable companions. They know their neighbourhood very thoroughly, and have also travelled a bit. They are both to be recommended. The other brother, Auguste, likewise a very good man, died some years ago. They are the sons of Daniel Balleys of the P.P.G.