(snow-covered in the photograph, but found dry by us), to get into which one has to climb over an exposed needle with a few and not very useful handholds, but not necessarily extremely difficult. It was here that the first piton became necessary. Nothing out of the way as far as the face of the couloir where we began our return to the ridge by a sharply curving line.

Then follows a little couloir, broken in half at 'B,' and immediately above 'C' a second needle, with large masses of rock in unstable equilibrium, which demand continued and vigilant care while climbing them, and careful tests before trusting oneself to them. On this part, only a couple of metres long, we fixed three pitons at very short distances from each other. Then again broken and unstable rock, as far as the slabs, convenient even though covered with débris, which lead to below the 'nose.'

At intervals the rock shows yellowish streaks which make one imagine one is in the presence of layers of sulphur, an impression strengthened by the odour they exhale. From below the 'nose,' a slight deviation towards the face is necessary, in order to enter the little chimney, clearly seen in the photograph, and which offers firm rock and good handholds. This enables one to regain the ridge, which leads easily to the summit. Very fatiguing is this last chimney, especially on account of its length.

As regards personal considerations, there is freedom from objective dangers and no falling stones,[4] but in this matter we were perhaps favoured also by the weather.

[We desire to express our indebtedness to Signor Benedetti for his interesting account.—*Editor*, 'A.J.']

The Traverse of the Grandes Jorasses.

By Miss GERALDINE I. FITZ-GERALD.

THE party was composed of myself, with the guides Alfred Couttet and Anatole Bozon, of Chamonix. We left the cosy Cabane de Leschaux at 3.10 A.M. on August 31, 1930. The night was perfect. Overhead twinkled my old friends

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[4] Signor Benedetti is referring presumably to the ridge *above* the shoulder.—*Editor*.

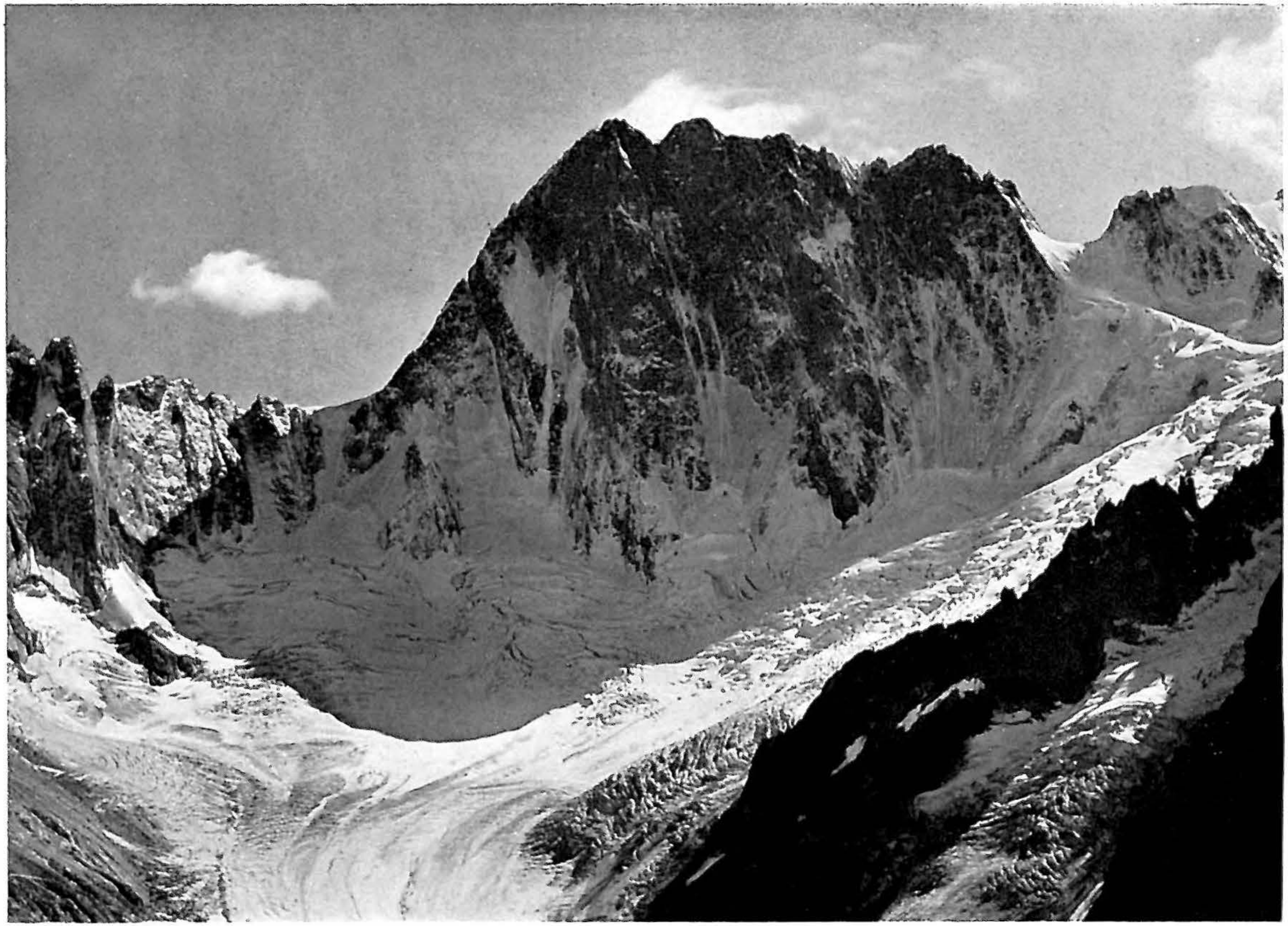

Photo. Wehrli.

Grandes Jorasses, N. face, showing W. and E. arêtes with Col des Grandes Jorasses and Col des Hirondelles.

the winter constellations. Taking a middle course up the Leschaux Glacier, we followed smooth ice as far as possible by first bearing to the left, then to the right under the rampart of *Point Young*, thus keeping away from the séracs of the Mont Mallet Glacier. Bearing still to the right, W., we ascended the steeper slopes leading under the advance guard buttress of the Dôme de Rochefort. From here onwards we crossed several snow-bridges. Bearing again to the left, we approached the bergschrund. It gaped through its glistening teeth; but its snarl proved to be nothing but a threat. We halted for a hasty meal; not caring for an icy seat, we stood, for the wind preceding the dawn was blowing chillily down from the heights. Again we crawled upwards by means of carefully cut steps in the sheer ice.

As recently as last year on the Col du Géant this superb valley of Courmayeur, flanked by the bulwarks of the Italian Alps, had suddenly appeared to me through shreds of cloud and a stinging blizzard. To-day it burst upon me serene and golden in the early light. As before, I was dazzled with its beauty, and could only stare at it in bewilderment, scarcely breathing, while the guides rummaged in their rucksacks for breakfast. We had gained the Col des Grandes Jorasses by 7.15; we left it about 25 minutes later.

The W. ridge has to be attacked straight up from the Col, rather towards the N. slope. Good holds are plentiful although apt to be small. We found the rocks ice-coated and otherwise cold of grasp. There are no loose or treacherous stones here. One proceeds over massive slabs of granite and up a few good cracks.

Pointe Young was attained at 9.30 A.M. Henceforward we had only to follow the ridge.[1] As regards the rock work,

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[1] The ridge followed by Miss Fitz-Gerald's party is, apparently, new. The Young-Jones-Knubel party of 1911, from the *Pointe Young*, attained the *Punta Margherita* as follows:—' starting from a point slightly below and to the W. of *Pointe Young*, the S. face was descended for some 100 ft. Then the couloir which descends from the gap E. of *Pointe Young* was traversed. There followed about 120 ft. of very difficult traverse for two parts of which there was hold for the hands alone. Easy rocks then led to the bottom of the couloir . . .' whence the *Punta Margherita* was attained.—*A.J.* **25,** 739.

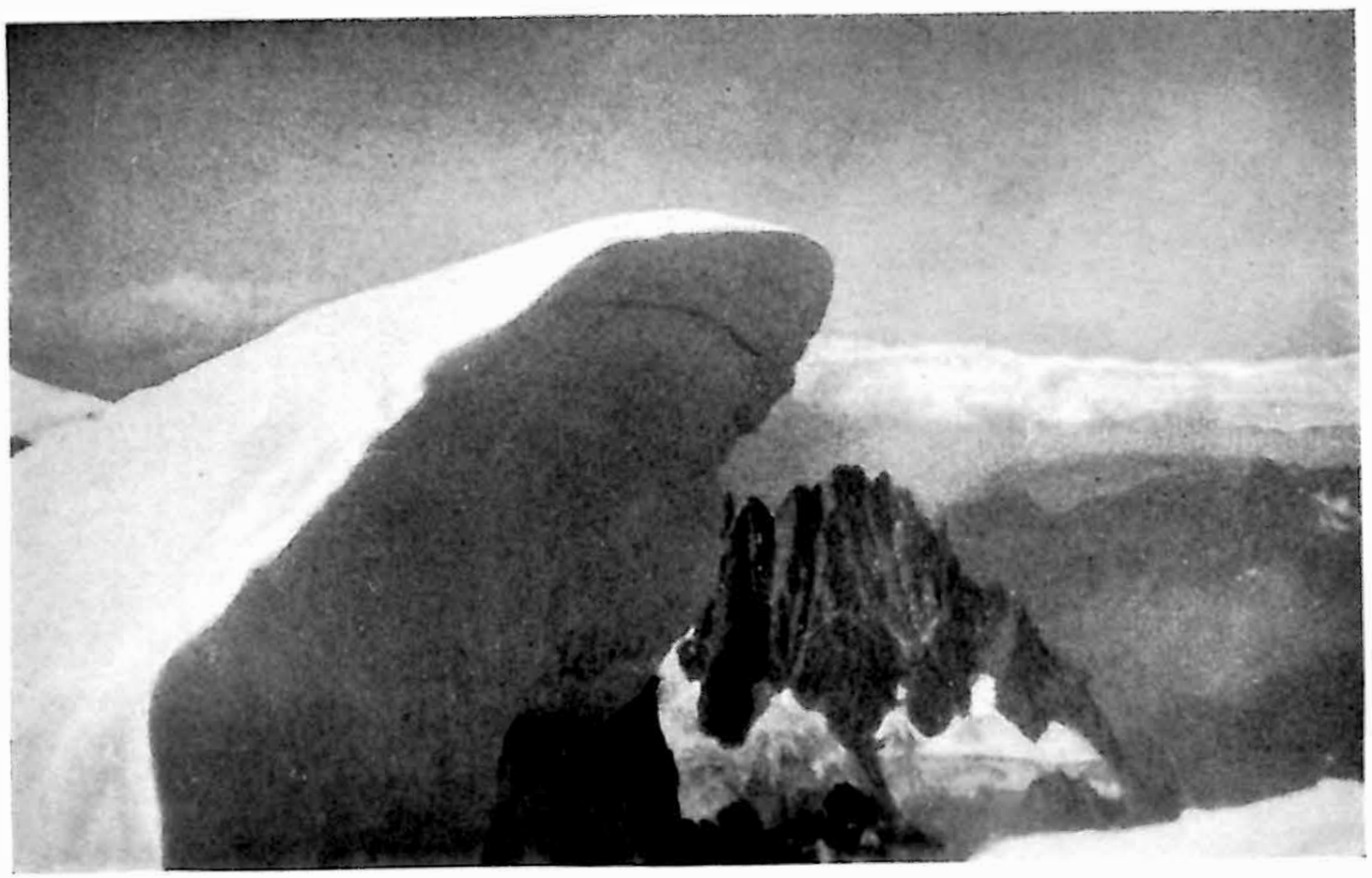
An Austrian party in 1923 followed the same route, taking 2 days over the ascent of the W. ridge—*Œ.A.Z.*, 1924, p. 52.

As to the edge—climbed by Miss Fitz-Gerald's party—it is interesting to recall Mr. Geoffrey Young's brilliant description:

Photos, Miss G. Fitz-Gerald.

Pointe Whymper, W. arête.

Pointe Whymper, E. arête.



Photo, Miss G. Fitz-Gerald.

Corniche on Pointe Whymper, E. arête.

Pointe Young is perhaps the best part of the expedition. Between it and the next point there are a series of drops punctuated by knife-edges, on which we all cheerfully tore our hands. We left the crest at but one point; in its centre is a small gendarme between 4 and 5 m. in height. I believe this point to be nameless and I do not know whether it has been climbed or not. As we were late with our schedule and not proceeding fast enough, we turned this gendarme on the N. or Chamonix slope, for the distance of approximately 40 m.[2] (Then we crossed to the Courmayeur or southern slope of the ridge, which ridge we did not leave again until we reached *Pointe Whymper*, 4196 m., and the corniches.) Between *Punte Margherita* and *Elena* (4066 m. and 4045 m.) we halted for a 12 o'clock lunch on a sunny ledge.

Between the twin summits, *Pointes Whymper* and *Walker*, is a deep notch. We were now ploughing through snow, a snow softened by the warm sun. The crust broke up and slid away in miniature avalanches. Only the greatest precaution kept us from departing with it over a 60 m. drop. To gain time we hung the spare rope on a little 'mushroom' of ice and skidded down. Huge curling corniches leaned northward toward Chamonix, dangerous, but resplendent

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'. . . The ridge was like nothing I have ever seen. Behind and before us the sharp spires of bronze rock curled over to left or right like the alternating halves of an abbot's mitre, cloven jets of misty fire in the liquid morning light. The edge has for a space no continuity and no coherent backbone. Disregarding alike its position as an outline for purposes of view, and its duty as the traditional free way of the mountaineer, secure in its aloofness and its inaccessibility, the solid rock bursts upwards in a foam of irrational rejoicing—a rock surf of fantastic impulse, surprised in a moment of frolic with the winds and the wasting of time. . . . Behind the top of the peak [*Pointe Young*], on our left, the ridge bent away to the N.E., fringing the amphitheatre at the head of the couloir with a semicircle of ill-ordered spires, raw and unfinished, offering neither holds nor hope. Beyond these, the ridge finished on to the eastern summit of the Margherita with an insolent upward swirl of smooth crag that sufficiently accounted for the unanimity with which previous parties had turned back refusing to be entrapped into a useless struggle with the introductory steeples of the sickle-shaped crest.'—*A.J.* **26**, 245–6.

[2] Mr. Young writes: 'We had resolved, and failing other issue we should undoubtedly have attempted, a descent and a turning movement of traverse on the N. face.'—*A.J.* **26,** 246.

against the sky. A short upward pull, and *Pointe Walker*, the summit (4208 m.), was reached by 2.30 P.M.

From *Pointe Walker* the ridge continues in a straight line eastward down to the Col des Hirondelles, 3456 m., some 800 m. below. At first easy in spite of fresh snow, the rocks soon became ice-coated. Up here the rock itself is in good condition,[3] but the ledges are littered with débris. Occasional vertical gaps called forth the use of the spare rope.

It is rather hard to recall the various steps of 5 continuous hours with one's nose glued to the rock-wall. It was a succession of gigantic columns, tilted at an angle of about 70° and fluted with rectangular couloirs. These contained good holds and plenty of friction—almost too much of a certain variety of friction. The famous V-shaped notch (which for a long time prevented climbers from continuing the *ascent*) we rioted down on a single *rappel*, 35 m. long. Here we found the pitons left by the guide Adolphe Rey, who made the first ascent in 1927 (' A.J.' **41,** 203–7). Mr. Geoffrey Winthrop Young, in writing about this ridge,[4] mentions ' a party of speed and power ' taking 6½ hours from the summit to half-way down to the V notch.[5] We felt that the whole ridge should not occupy more than 4 hours in all.

Ours was a race with daylight. Without the glimmer of an afterglow, the sun dropped from view with awesome finality, and the first stars sprang out. At 7.40 P.M. we reached the Col des Hirondelles, just in time to peer over its vertical steeps and gauge our descent on to the glacier below.

At this point the awkward dilemma was presented to me: to continue down in the dark or to bivouac where we were. As both horns looked equally unattractive, I temporized: it would be less draughty farther on. Perched on the only possible ledge about one-fourth of the way down, we still discussed bivouacking over our first meal after 8 hours of steady going. For diversion we snarled over our chicken like

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[3] Mr. Young writes: . . . ' the incalculable looseness of the higher rocks, every ledge loaded with crazy fragments.'—*A.J.* **26,** 239. But the rock was doubtless more exposed in the hot summer of 1911 than in 1930.—*Editor.*

[4] *A.J.* **26,** 238. It should be remembered, that *without* the pitons left behind by Mr. Young's party in 1911, the ascent of the V notch would still have proved impracticable in 1927.—*Editor.*

[5] August 22, 1902. Mr. G. B. Tunstall-Moore with Alphonse Simond and Alexis Brocherel.—*A.J.* **21,** 425–6.

puppies, supplementing the *pièce de résistance* with what remained at the bottom of the sack, a handful of crumbs mixed with raisins and what not, watery tea, and lemon drops in sticky pink and green paper.

Night was now upon us with a vengeance. The rock was completely rotten: crazy fragments of all sizes gave way at the slightest provocation. We could trust to nothing, and yet had to secure ourselves in everything. The rubbish, which we pushed off before us, howled through the darkness like discomfited avenging ghouls. All the afternoon we had had to face the rock, telescope into ourselves, seize with our fingers the beading held with the toes and scrape down again to arms' length or even further to the next beading. By daylight this is all very well. I was now moving between two shadowy forms—that of Couttet's head and shoulders vaguely blocked out against an indigo glacier directly below, that of Bozon on an equally indigo but spangled sky. Bozon proved the less shadowy, as I could not always prevent his standing on my head or trampling on my already tortured fingers. On the black rock it was a game of hide and seek with the holds—treacherous ones at that. And although we kept in close formation, the fear of dislodging a large rock upon my companion below was a constant source of worry to me, as several did come loose.

The morale of the guides was splendid. Neither had been over the ground before, yet there was no mental tenseness such as often occurs in tricky places. Indeed, we kept up a run of good-humoured chaff. The solitary *rappel* used on the Col des Hirondelles was the one by which we slid off the rock and on to the glacier below. Although this *rappel* took but a few minutes to adjust, the air was so cold that I was shaking all over.

By rare judgment and guiding, Alfred Couttet brought us down below the great bergschrund which he had already plotted from the summit. Once on the snow, pale starlight helped us around the larger crevasses and over several snow-bridges. We skated down two steep snow slopes on the spare rope with safety and dispatch. After that we made good progress; our descent from the Col had been tedious if not monotonous; with a good moon our speed would have been much better.

At 1.30 A.M., September 1, three weary climbers returned to the hospitable Refuge de Leschaux. Four and a half hours later they were trotting down the Mer de Glace towards Montenvers and Chamonix. The first complete traverse

without bivouac of the Grandes Jorasses had been accomplished in 22 hrs. 20 mins., including halts. Alfred Couttet thinks it should be done in 18 hours. Our climbing conditions were pretty bad.

As a matter of interest it might be well to recall the first great ascents of the mountain. Thus, on June 24, 1865, the W. summit of the Grandes Jorasses was attained by Edward Whymper, with the guides Michel Croz, Christian Almer and Franz Biner. At the summit they met with a violent storm. Two days later some guides from Courmayeur, Henri Grati, Julien Grange, Joseph-Marie Perrod, Alexis Clusaz and Daniel Gex followed the first party's traces to the summit.[6] On June 30, 1868, 'Mr. Horace Walker, with Melchior Anderegg and Johann Jaun of Meiringen as guides, and Julien Grange, of Courmayeur, as porter, ascended the highest peak of the Grandes Jorasses.'[7] Innumerable other climbers followed. Of the two mentioned, both ascents and descents were made from the Courmayeur side. It was likewise from the Italian side that Messrs. Geoffrey Winthrop Young and H. O. Jones, with Joseph Knubel and Laurent Croux, accomplished the first descent of the N.E. ridge, August 11, 1911, and, three days later, without Croux, the same party made the first ascent of the W. ridge, scaling but not traversing *over* the *Punta Margherita* ('A.J.' **26,** 231–49). Of other routes, it is interesting to note 'Herr Pfann's enterprising variation up the S. face,' in 1909[8]; the Ravelli-Rivetti route of 1923 up the S. arête and Tronchey face[9]; finally, the S.S.E. or Tronchey face variation of 1928 by Signor Alberto Herron.[10]

For this trip, good weather and climbing conditions are essential. An early start is advisable; but climbers would do well to wait for the sun before beginning the rock work, since about twice as much energy is consumed upon icy or even cold rock as on warm. This fact is not always taken into account even by seasoned climbers. Again, mid-summer is

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[6] *Scrambles*, 2nd Edition, pp. 344–5. It remains an insoluble riddle why Whymper did not scale the highest, E., peak. His explanation that he ascended the *western* peak for the sake of the view afforded by this point of the southern face of the then unascended *Aiguille Verte*, only deepens still further the mystery.

Why again did the 'Sella' party, in 1882, not proceed further than the N., or lower, summit of the Aiguille du Géant?—*Editor.*

[7] *A.J.* **4,** 157.

[8] *Ibid.* **25,** 163–4.

[9] *Ibid.* **36,** 393–4.

[10] *Ibid.* **41,** 220, note.

the best season for this trip both on account of the length of time required and on account of the altitude of the peaks to be crossed. In the old days it was necessary sometimes to bivouac because of scarcity of huts and *gîtes*. This, in my opinion, should no longer be attempted, if possible, as few people are able to stand the rigours of a night spent at high altitudes unless highly specialised equipment be used.

The new Leschaux hut is an ideal one for climbers. Unusually comfortable and well fitted, it greatly facilitated this particular traverse of the Grandes Jorasses. In conclusion, the writer cannot resist the desire to express her appreciation of the great work of those who blazed the trail before her.

[We must convey to Miss Fitz-Gerald our gratitude for the interesting account of her party's magnificent expedition. We might add that we know of no other ascent of the mountain starting from the *French* side.—*Editor*, ' A.J.']

The Ascent of Mt. Bona, Alaska.

By ALLEN CARPE.

WHEN H.R.H. the Duke of the Abruzzi climbed Mt. St. Elias in 1897, he looked out to the N. upon a country still largely unknown. Mt. Logan and Mt. Bear had been named, but their heights had not been measured. Beyond them, nameless ranges stretched away toward the interior. On the far horizon two peaks seemed to stand out above the rest : these the Duke named Lucania and Bona, and he took compass bearings to substantiate their positions.

Sixteen years later, in developing the topography of the St. Elias Range adjacent to the Alaska-Yukon boundary, the surveyors found that they could identify these peaks from the data published by de Filippi.[1] Mt. Lucania lies 30 miles N. of Mt. Logan, on the Canadian side of the boundary ; with an altitude of 17,147 ft. (5226 m.), it appears to be the highest mountain still unclimbed in North America. Fifty miles

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[1] Filippi, F. de, *The Ascent of Mt. St. Elias* (*Alaska*), by H.R.H. Prince Luigi Amedeo di Savoia, Duke of the Abruzzi, London, 1900, pp. 159–160.