

many definitely are so subject to accidental influences that they never can show any. Considering the complexities of a glacier's topography, considering how small are the amplitudes of all the different periods of climatic variation compared with the haphazard variations of weather, it is indeed surprising that the snout movement of any glacier should reveal the phases of climatic variation of its basin, such as that of the Chong Kumdan would appear to do.

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### THE ENNSTALER ALPS, STYRIA.

By J. W. WYATT.

THE Ennstaler Alps of North Styria consist of five isolated groups of limestone peaks which rise abruptly above both banks of the River Enns. This river is an important tributary of the Danube, having its source in the western end of the Niedere Tauern, and joining the Danube just below Linz. Between the towns of Admont and Hieflau the river has cut its way through a narrow gorge for a length of about 12 miles, known as the 'Gesäuse,' and is flanked on either side by the different groups. They date from the Triassic period and rest on a foundation of dolomitic limestone.

Although they do not exceed 7800 feet in height, the valleys separating the different groups are so deeply cut, down to an average of only 1700/2000 feet above sea-level, and are so precipitous that they give the effect of a much greater elevation. They are not dolomitic in character, so far as the texture of the rock is concerned, but are certainly so in appearance. The arêtes and ridges are weather-worn and broken up into a series of imposing peaks, pinnacles and needles often almost fantastic in appearance; this is especially so up the Johnsbachtal, a subsidiary valley running up to Johnsbach.

Besides the main gorge of the Enns, each tributary, rivulet and torrent has cut its way so deeply into the heart of the mountains that they have formed a succession of remarkable gullies or clefts with very precipitate sides, almost approaching the nature of miniature canyons, which give a very distinct feature to the rock scenery. Owing also to heavy wastage and denudation, each gully is filled with a mass of scree and boulders; in one case, in the Johnsbachtal, where gullies from opposite sides meet, the river gets blocked up and has



cut its way through the mass of detritus. One can realize, in looking up these weird chasms, why the early inhabitants believed such places to be the haunts of dragons or other evil beasts and spirits.

The five groups of these Alps are known as follows :

- (1) The Hallermauern, highest point, Grosser Pyhrgas, 2244 m.
- (2) The Buchstein group, with the Grosser Buchstein, 2224 m.
- (3) The Admonter Reichenstein group, height 2247 m.<sup>1</sup>
- (4) The Hochtör group, height 2365 m.
- (5) The Fölz or Kaiserschild group, height 2106 m.

The first two are on the north side and the last three form the southern boundary of the valley. The Eisenerzer Reichenstein and neighbouring points do not properly belong to the Ennstaler Alps, but are now so included by the D. & Oe. A.-V.

Gstatterboden, the centre point of the Gesäuse, is perhaps the most convenient centre for exploring the district ; it is not even a village, and only consists of the railway station, the Hôtel Gesäuse and the buildings and workmen's dwellings of a large timber sawmill, an important industry of the valley. The Hôtel Gesäuse, where we spent a couple of months most comfortably, is well run with good attendance, and has a post and telegraph office, telephone, garage, and a small shop ; Herr Schaffer, the proprietor, spares no pains to make his guests feel at home and, as well as the head waiter, speaks very good English. Other centres are Admont, Spital, St. Gallen, Gross Reifling, Hieflau and Eisenerz, at each of which suitable hotel accommodation can be had.

As in all Alpine resorts more or less run and exploited by the German and Austrian Alpine Club and kindred associations, the district is well provided with a series of excellent huts, at elevations of from 4000 to 5500 ft., open and 'bewirthschaftet' during the climbing season—in one or two cases, especially in good ski-ing country, open all the year round. Not only are the various excursions and routes profusely marked by distinctive colours, as well as the ordinary and less difficult climbs, but large notice-boards are provided at the railway stations, halts and most hotels, with full details, times required, nature of the climb, etc.

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<sup>1</sup> So called to distinguish from the Eisenerzer Reichenstein.

*The Hallermauern.*

This group is the most western of the five, and is a long and rather narrow chain of peaks, running due east and west, about 5 miles to the north of Admont from which it forms an imposing feature and for which it is the best centre. The principal points are the Grosser Pyhrgas, 2244 m.; Grosser Scheiblingstein, 2200 m.; Kreuzmauer, 2079 m.; Hexenthurm, 2174 m.; and Natterriegel, 2063 m.

It is served by four huts: the Admonter Haus on the Grabner Thörl, 1725 m., at the eastern edge of the range; the Rohrauerhütte on the Pyhrgas-sattel, 1348 m., at the western end; the Hofalmhütte, 1350 m., and the Gowiellalmhütte, 1320 m., above Spital on the western and northern slopes respectively of the Grosser Pyhrgas.

I did not visit this group but, compared with some of the others, the general run of climbs do not appear to present any undue difficulty. The Scheiblingstein and the Hexenthurm perhaps provide the best climbs of the range, as well as the traverse of the whole arête from one end to the other, which was first done in 1885 by Heinrich Hess, one of the earliest and best-known explorers of these Alps.

*The Buchstein Group.*

This range commands the whole length of the left bank of the Gesäuse, from what is known as the Gesäuse Eingang to Hieflau. The highest point is the Grosser Buchstein, 2224 m., with its secondary summits of the Frauenmauer, 2172 m., and the St. Gallen Spitze, 2143 m., and is followed by the fine needle-like peak of the Kleiner Buchstein, 1994 m.; the Tieflimauer, 1826 m.; the Tamischbachthurm, 2035 m.; and the Almmauer, 1738 m. The Grosser Buchstein is an imposing mass of rock, precipitous on all sides, and encloses an extensive and gently sloping plateau of nearly a square mile in extent—rather an unusual feature of these Alps; the eastern side of this plateau drops abruptly to form two large corries or cirques—the Rohr and the Hinterer Winkel, the haunts of red deer, roe-deer and chamois. At the northern end of this plateau the range narrows to a sharp and much indented arête over the Kleiner Buchstein to the Tieflimauer; here it drops suddenly to a broad col not exceeding 5000 ft. in height, to rise again to the Tamischbachthurm and Almmauer.

The group is provided with two good huts : the Buchsteinhaus, 1553 m., at the foot of the grand precipices of the Grosser Buchstein, and the Ennstaler Hut, 1543 m., situated on the above-mentioned col ; both huts are good and well equipped, especially the first, which belongs to the Naturfreunde Touristverein, and is fronted with a spacious terrace provided with lounge chairs for sun-bathing, etc. I think the finest view of the whole length of the N. faces of the Hochtor group from the Planspitze to the Grosser Oedstein is from this hut.

There are many routes up the Grosser Buchstein, of varying degrees of difficulty, particularly up the S. and E. faces, one or two of which are said to be amongst the most difficult of the district. The easiest and usual ascent is from the Buchsteinhaus and takes about  $2\frac{1}{2}$  hours from the hut, or  $4\frac{1}{2}$  hours from Gstatteboden ; the route, which is marked the whole way, skirts round the west precipices of the mountain, over steep slabby rocks, to the bottom of a long and narrow gully, called the 'Schlucht,' full of boulders and scree ; this opens out on to the plateau above mentioned and from which the top is easily reached in a short half-hour. The long traverse across the slabs struck me as if they might be awkward after a snowfall or in bad weather, and, in one or two places, I should have been glad of scarpetti. Another easy ascent is direct from Gstatteboden through the Rohr, the first of the two large corries before mentioned ; I wanted to come down this way, but was advised not to descend without scarpetti. The Klein Buchstein is a fine pyramid of rock and, together with the Tiefflimauer, can give some good and difficult climbing. The arête between the two Buchsteins is long and difficult ; I was told it required from 12 to 14 hours to traverse the whole arête from the Frauenmauer to the Ennstaler Hut. Except the northern face, which is a precipice, the Tamischbachthurm is merely a good walk and the easiest climb of the neighbourhood ; a well-marked path leads to the top past the Ennstaler Hut in  $3\frac{1}{2}$  to 4 hours from Gstatteboden ; the descent can be made to Hieflau.

#### *The Admonter Reichenstein Group.*

This group, although of smaller extent than some of the others, is, I think, the most striking of them all ; its form is a narrow arête, precipitous on both sides and very dolomitic in appearance, reminding one somewhat of parts of the Langkofel group. The Reichenstein, 2247 m., is the highest point,

at the eastern end above the Johnsbachtal, followed by the Sparafeld, 2245 m.; the Kalbling, 2196 m.; the Riffel, 2115 m.; and the Kreuzkogel, 2025 m. The Reichenstein itself is entirely separated from the rest of the range by a cleft, 1000 ft. deep, called the Wildscharte.

There is a good hut, the Mödlinger Hut, 1521 m., on the S. slope of the Reichenstein, from which all the peaks can be reached; it is an easy walk of two hours from Johnsbach. There is also another small hut in the Gofegraben, on the N. slopes of the Reichenstein, the Gofershütte, 1020 m., for the difficult and somewhat dangerous climbs up the northern faces of the Reichenstein and Sparafeld.

The two easier ascents in this group are the Sparafeld and Kalbling from the Kalbling Gatterl, a col on the south foot of the Kalbling, which is best reached direct from Admont in 3 to 3½ hours up the Feitelgraben and the Siegelalm; it can also be reached from the Mödlinger Hut, in about 2 hours, by descending into the Flitzenthal and climbing up the other side. From the Kalbling Gatterl a marked track mounts steeply through a forest of the dwarf mountain pine and then along a narrow ledge round the precipices of the Kalbling to a small upland grassy plateau, called the Speikboden, in about an hour from the Gatterl; from here it is an easy ¼ hour's climb along the arête to the top of the Kalbling, or ½ hour to the Sparafeld. I had a fine view from the Kalbling, embracing the Totes Gebirge, Dachstein, Gross Glockner and Venediger, and far south across Carinthia to the Karawanken.

Another good climb in this group is the 'Gratwanderung' over the Kreuzkogel and Riffel to either the Sparafeld or Kalbling, altogether about 4½ to 5 hours from Admont—it presents no great difficulty. The Reichenstein is not very difficult from the south but requires care, and may be dangerous from falling stones, and all the climbs up the N. faces of the Reichenstein and Sparafeld are very difficult.

### *The Hochtor Group.*

This is a massive mountain range and the most extensive of the five groups; it provides the greatest number and some of the finest and most difficult climbs in these Alps. It consists mainly of a long chain of peaks running from N.E. to S.W. from the Planspitze to the Grosser Oedstein, scarred and broken up in every direction by steep and deeply cut gorges and ravines. There are also two minor, parallel, outlying ridges—

the Jahrlingmauer and Zinödl ridge, separated from the main chain by the Ennseck col on which is situated the Hess hut, and the Lugauer, which forms the eastern boundary of a glen called the Hartelsgraben.

The Hochtor is the highest point of the Ennstaler Alps, and the principal peaks of the main range are: the Planspitze, 2120 m.; the Rosskuppe, 2154 m.; the Hochtor, 2365 m.; the Haindlkarthurm, 2257 m.; the Festkogel, 2272 m.; the Grosser Oedstein, 2355 m.; and the Kleiner Oedstein, 2081 m. The height of the Zinödl is 2190 m., and the Lugauer, 2219 m.

There are two huts serving this group: the Hess hut, on the Ennseck at the eastern foot of the Hochtor, 1687 m., is the important one, with 18 beds and 50 mattresses. There is also a small hut, the Haindlkar Hütte, 1100 m., provided only with mattresses and 'bewirtschaftet' for the first time this summer; it is grandly situated in the wild Haindlkar at the foot of the N. faces of the Hochtor and neighbouring points, and is well worth a visit from Gstatterboden—a morning's walk of about  $2\frac{1}{2}$  hours there and back. The views of the almost vertical precipices of these northern faces are very grand—that of the Hochtor falls in one sheer plunge of nearly 3000 ft.; the hut is used for the climb up the Peterscharte and the very difficult ascents up the Hochtor, Rosskuppe, Dachl, etc.

The easiest way to reach the Hess hut is *via* Johnsbach, past the upper and lower Koderalm, in  $2\frac{1}{2}$  to 3 hours; there is a well-marked path all the way, and the views obtained of the Oedstein are very grand; I thought this the finest peak of these Alps, rising as it does abruptly on every side for 5000 to 6000 ft. above the valley. It is also reached direct from Gstatterboden in about  $3\frac{1}{2}$  hours by what is known as the Wasserfallweg; this is a very steep marked path up through a narrow and, in part, precipitous cleft in the cliff face; the middle part, for about 300 ft., is so well engineered and provided with ladders, iron stanchions and wire ropes as to present no serious difficulty to anyone with a steady head. Just before reaching the hut one passes a remarkable specimen of nature's architecture, called the Tellersack; this is a huge corry or cirque, elliptical in shape, rising precipitously for over 1500 ft. to the top of the Gugelgrat just below the summit of the Hochtor; it is broken up from top to bottom by a series of steps or terraces, and has the appearance of a cyclopean amphitheatre or arena. By a stretch of the imagination one can picture the spirits of the mountain disporting themselves there before man appeared and invaded their sanctum.

As regards the climbs in this group there are very many of various degrees of difficulty, from comparatively simple ones to some of the most difficult and strenuous rock-climbing said to be found in the Alps. The admirable pocket guide 'Artaria,' mentioned later, describes them all very fully and precisely; it states that as many as two and a half dozen different routes have been forced up the N. precipices of the range from the Planspitze to the Oedstein, requiring in some cases the use of artificial aids, such as 'Haken' or 'pitons,' rope-rings, etc.

The easiest ascents are the Planspitze and the Hochtör from the Hess hut. The Hochtör by the Josefinen Steig and the Gugelgrat is quite a good climb, although I found it somewhat strenuous; the Josefinen Steig is a limestone cliff intersected by scree-sprinkled ledges and narrow chimneys leading up to a high col, then a long traverse across the steep slabs of the Gugel and the S. face of the Hochtör. The route is profusely protected on the more risky places with wire-ropes, etc., and takes about 2½ hours from the hut and the same for the descent. Just before reaching the top, there is a very striking view looking down the Tellersack to the Ennseck; also from the top of the Hochtör one can appreciate the sharp arêtes running respectively north and south to the Planspitze and the Oedstein. I thought this ascent distinctly more difficult than the Grosser Buchstein.

More serious propositions are:

(1) Up the Peterfad to the Peterscharte from the Haindlkar, then over the Rosskuppe and up the sharp and steep arête of what is called the 'Dachl' to the Hochtör; this is considered to be as fine an arête climb as can be found in the northern limestone districts of the Austrian Alps.

(2) The arête from the Hochtör to the Grosser Oedstein over the Haindlkarthurn and the Festkogel.

(3) The Grosser Oedstein from Johnsbach over the Kirchengrat and the Johnsbacherschartl.

Among the very difficult climbs I might mention various routes up the N. face of the Planspitze; the N. face and N. arête of the Rosskuppe<sup>2</sup>; the N. face of the Dachl; the N. face of the Hochtör; and the N.W. face and arête of the Grosser Oedstein. The N. face of the Dachl deserves a special mention, and the following particulars were given me by the caretaker of the Haindlkar hut. It was first attempted

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<sup>2</sup> *A.J.* 43, 401.

in 1929, the party requiring to drive in no less than 90 pitons, but they were unsuccessful and had to return defeated. The ascent was however forced in August of last year, by a party of three, who used a further 30 pitons, took 3 days over it, and passed the nights on wooden trestles fastened, together with themselves, on to the rock face<sup>3</sup>; it was climbed once again last season by Poppinger and party, a well-known and expert rock-climber from Vienna, and whom I met at the Haindlkar hut; it was ascended for the third time this August by a party of three from Graz. This unfortunate (*sic*) peak is now festooned with no less than 120 pitons for the benefit of those who may come after; such ascents seem to me more in the nature of rock gymnastics than true mountaineering, but I suppose it is difficult to draw the line!

Except up the N. and N.W. faces, the Zinödl is an easy climb of 1½ hours from the Hess hut. The Lugauer is best climbed from Hiefiau or Radmer and presents no very great difficulties.

#### *The Fölz or Kaiserschild Group.*

This is the smallest and least important of the Ennstaler Alps; both the Kaiserschild, 2083 m., and the Hochkogel, 2106 m., can be climbed without difficulty from Hiefiau, Radmer or Eisenerz.

The first explorer of these Alps appears to have been Heinrich Hess, who made many of the first ascents in the early 'eighties, as well as E. Zsigmondy and L. Friedmann; they were followed about 15 years later by E. Pichl and others, who discovered the more difficult climbs. Most of the ascents do not give more than from 2000 to 2500 ft. of actual rock-climbing, and the rock, although smooth and weather-worn, seems generally good and sound, specially on the arêtes; the Reichenstein and the Oedstein, I was told, are somewhat rotten and unreliable, and in certain cases the risk of falling stones must be faced. On the slopes and slabs the almost universal sprinkling of small scree and detritus is unpleasant in nailed boots and, except for the easiest climbs, scarpetti or *Kletterschuhe* are desirable and, for the more difficult, essential. It is now many years since I donned scarpetti and I was struck with the form now in use; instead of the old plaited straw sole on a layer of felt or cloth, the sole is made of thick, com-

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<sup>3</sup> *A.J.* 43, 394.



pressed pure cotton felt, ribbed on the under side and known as 'manchon.' They are said to be much safer on *wet* rocks, on which from my own experience the older ones were insecure; a cheaper form is made from a mixture of cotton and waste paper, but are not so good and do not last. It is probable that the present form is now in general use.

These Alps are the happy hunting-ground of students and others, mainly from Vienna or Graz, either place requiring only a few hours' railway journey. As might perhaps be expected many accidents have occurred, generally from the usual causes—inexperience, bad weather, or the desire for emulation. It is a tragic sight to walk round the little cemetery at Johnsbach, of which one-half is filled with the graves of fatal accidents, mostly all young men. There were no less than 12 fatal accidents during last season, but, so far as I have heard, there has been no loss of life this year.

As regards maps and guides of the district, an excellent pocket guide is published by the Artaria Gesellschaft in Vienna, entitled 'Gesäuse und Ennstaler Berge,' by Hess and Pichl, 9th edition; it is most complete, with good illustrations, showing the various routes, etc. It gives full particulars of the walks and excursions from the different centres, and the climbs are most carefully and precisely described; the ascents are divided into 7 categories, numbered 0 to 6, according to the difficulty of the climb; the climbs numbered 5 and 6 are stated to be comparable to the more difficult of the Dolomites, such as the Fünffingerspitze; the Vajoletthürme; the N. face of the Kleine Zinne, and the S. face of the Marmolata. Volume 1 of the 'Erschliessung der Ostalpen,' published by the D. & Oe. A.-V., and an article on the Gesäuseberge, by F. Benesch, in the *Zeitschrift*, 1918, of the D. & Oe. A.-V., give also full particulars and history of these Alps.

As to maps, Messrs. Freytag and Berndt, Vienna, publish a series of tourist maps to a scale of 1/100,000, of which No. 6, 'Ennstal,' embraces these Alps—the various expeditions and ordinary routes are clearly marked with their respective colours. Good maps to a larger scale are also 'Lechner's Topographische Detailkarte vom Gesäuse,' published by the Militär-geographischen Institut, scale 1/30,000, and an excellent map to a scale of 1/25,000, 'Karte der Gesäuseberge,' published by the German and Austrian Alpine Club, with contours every 20 metres, and quite equal in detail and execution to the Swiss Siegfried maps.

Besides climbing proper there are many good walks, both

half and full-day excursions, all fully described in the 'Artaria' guide-book. I might mention the following, however, which pass through the finest scenery of the five groups.

(1) The round walk from Admont through Hall and Weng to the Admonterhaus, from which the Natterriegel can be climbed in an hour.

(2) From Gstatterboden over the Brucksattel at the foot of the Grosser Buchstein and through the Lauferwald either to Weng and Admont or to the Gesäuse Eingang halt on the railway—a short day's walk.

(3) From Admont up the Lichtmesstal by the Schafferweg to Kalbling Gatterl, a col at the foot of the Kalbling, and then on to the Mödlinger hut and back through Johnsbach to the railway halt. This takes a full day.

(4) Through the Johnsbach valley up to the Hess hut; then a short climb to a col called the Sulzkarhund and down the wild Sulzkar and Hartelsgraben back either to Gstatterboden or Hiefiau. This is also a full-day excursion.

(5) Through Johnsbach up the whole length of the Johnsbachtal to the Neuburg Sattel and down the Radmer valley to Hiefiau. Another long day.

Visitors to this neighbourhood should not omit to visit the Benedictine monastic foundation or 'Stift' at Admont. It dates from the eleventh century and contains a fine library, built in the best style of Baroque, and housing a magnificent collection of nearly 100,000 volumes, manuscripts, missals, etc., of the eleventh century onwards. It is only equalled in Austria by the one at Vienna. Also to train or motor to Eisenerz, a town of from 8000/9000 inhabitants who derive their livelihood from a famous mountain of iron ore—the Erzberg; this hill is a pyramidal mass of ore, called Spateisenstein or Siderite,  $\text{FeCO}_3$ , and contains in its raw state 35 per cent. of iron; it rises nearly 2500 ft. above the town and is a remarkable sight, being of a rust-red colour and terraced, like an open slate quarry, into 60 galleries. The church of St. Oswald is a fine example of a fortified church and a good specimen of late Gothic, the carved stone-work of the organ-loft being particularly fine. A pleasant way of making this excursion is to get out at the station before Eisenerz, from which the picturesque Leopoldsteiner See is reached in about 10 minutes; from the lake, a short walk of a little over an hour, over the Ober Prosser, leads to Eisenerz, and makes an easy day's outing.

The vegetation and flora of the Gesäuse present some special features; the pine woods, mostly spruce and larch, come right

down to the valley floors but, owing to the low elevation, they are intermixed with hardwood trees, mainly beech and sycamore; the fairly extensive beech woods in various parts, even at comparatively high elevations, are noticeable.

Styria has a rich and varied flora, some of which are endemic to this part of Austria and, as the ranges to the south of the Ennstaler Alps are mostly of primary formation, the variety is considerable. I would mention especially:

*Helleborus niger*; *Dianthus glaucus*; *Silene pumilio*; *Potentilla clusiana*; *Sempervivum arenarium*; *Valeriana celtica* (Speik); *Achillea clavense*; *Senecio carniolicus*; *Senecio abrotanifolius*; *Saussurea pygmaea*; *Phyteuma Sieberi*; *Campanula pulla*; *Campanula alpina*; *Rhodothamnus chamaecistus*; *Cortusa Matthioli*; *Gentiana pannonica*; *Gentiana frigida*; *Gentiana pumila*; *Pedicularis Jacquini*; etc.<sup>4</sup>

Owing to the steepness of the clefts and gullies and the amount of detritus brought down, one finds many otherwise true Alpine plants at unusually low levels.

Any one interested in the flora should not omit going up the Eisenerzer Reichenstein, easily reached from Eisenerz or the Prebichl Pass; I have rarely seen such a wealth and variety of flora in any part of the Alps I have visited.

There is also sport to be had at and around the Gesäuse. The river Enns gives fair trout and grayling fishing; the trout run from  $\frac{1}{2}$  lb. to 3 lb. and over and take the fly, worm, spinner and artificial minnow. The proprietor of the hotel at Gstatterboden controls the fishing rights both above and below the hotel for about 6 miles, and gives permission to his guests at a moderate charge per month or season.

Roe-deer and chamois are plentiful, as well as black game and capercaillie, and there are a few forests each holding a respectable head of red deer. These forests and the sporting rights generally are now mostly held by the State or by the Stift at Admont, and can be rented for one or more seasons, or permission may be obtained by arrangement for a shorter period. They seem to be regulated on similar lines to deer forests in Scotland, in regard to number of head permitted, etc. The authorities to apply to for permission or rental are the Stift itself or the Landesforstverwaltung at Admont, and the Fürstlich Hohenbergische Forstverwaltung at Eisenerz.

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<sup>4</sup> Some of these names are subject to confirmation by Kew.

Before concluding these notes I should mention two other ranges of hills lying to the south of the Ennstal and easily visited from the Gesäuse—i.e. the Rottenmanner Tauern and the Seekauer Alps, the two most easterly spurs of the Niedere Tauern. They are well worth a visit and are within easy reach either by rail or motor. I left Gstatteboden at 9.30 A.M. by train for Trieben in the Paltental and took the post autobus up the Triebental to the Hohentauern Pass (ca. 4000 ft.), which I reached in time for lunch; from there it is a short two hours' walk to the Edelraute Hut on the Scheiblalp, 1725 m., at the foot of the Bösenstein, 2449 m., the highest point of the Rottenmanner Tauern. From the hut the Bösenstein is an easy and very pleasant climb of  $2\frac{3}{4}$  hours along a fine and rocky arête. The scenery and vegetation of these southern hills, being of primary formation, present a marked contrast to the limestone districts, and reminded me much of our English and Welsh hills; it was a relief to be off limestone and to see the mountain brooks flowing merrily in their natural channels, instead of being swallowed up by a wilderness of glaring scree.

The rocks of the arête of the Bösenstein, from about 7000 ft. upward, were literally carpeted with the cushions of the very beautiful rose-red *Silene pumilio*, which I had never seen before, as well as large patches of the orange-yellow *Senecio carniolicus*.

The Edelraute hut is, without exception, the best and most up-to-date mountain hut I have ever been in, and more like a private chalet or small hotel. It was rebuilt about five years ago by the Viennese Edelraute section of the D. & Oe. A.-V., and no pains or expense seem to have been spared in its design and equipment; it is provided with 24 beds and 76 mattresses and, being also in a good and favourite ski-ing district, is much frequented during the winter and early spring seasons. The hut is situated close to two mountain tarns of crystal-clear water, and surrounded by very fine specimens of the Arolla pine—*Pinus cembra*.

I had no time to get to the Seekauer Alps, but by travelling four stations beyond Trieben to Kallwang, a walk of about  $2\frac{1}{2}$  hours up the Hagenbachgraben brings one to the Schi hut on the Stubenbach (ca. 1400 m.), and from which the Hoch Reichart, the highest point, 2417 m., can be climbed in about 3 hours. The Seekauer Alps are the special habitat of a rare form of gentian—*Gentiana frigida*.

The exploring of these Alps makes a most interesting and very pleasant holiday.