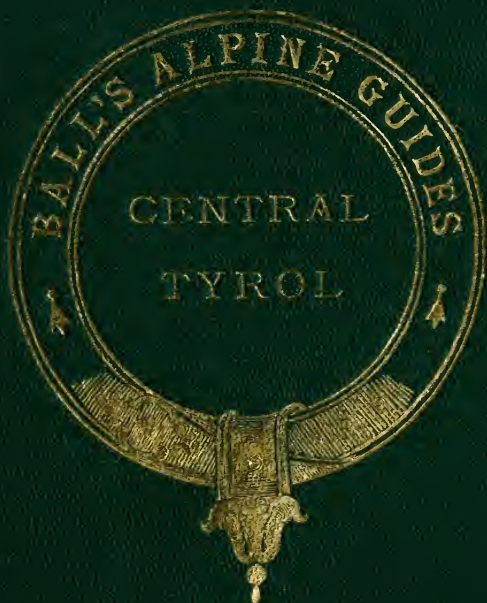


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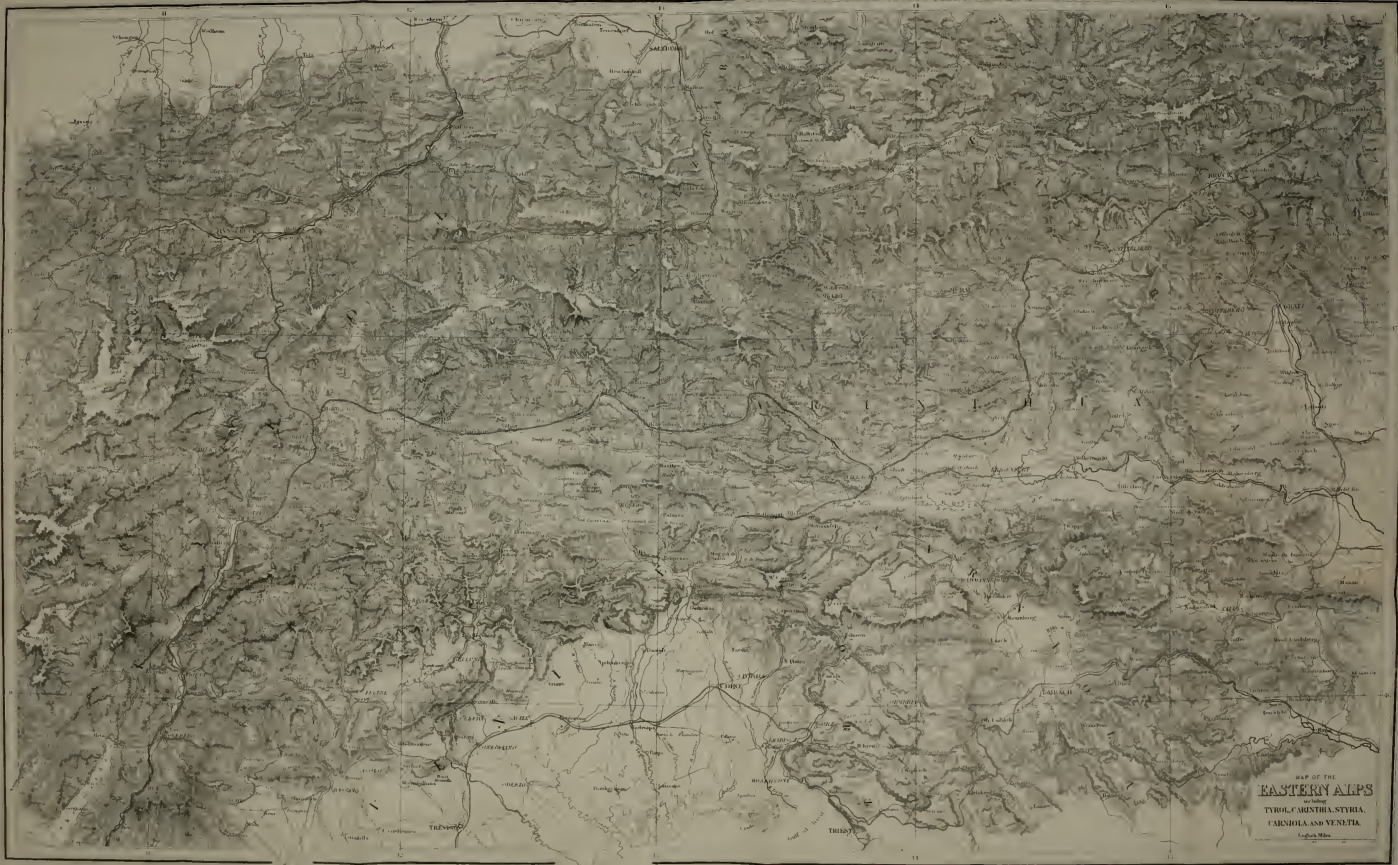
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MAP OF THE
EASTERN ALPS
TYROL, CARINTHIA, STYRIA,
CARNIOLA AND VENETIA.
English Miles

BALL'S ALPINE GUIDES

CENTRAL TYROL

INCLUDING

THE GROSS GLOCKNER

BY

JOHN BALL, F.R.S., M.R.I.A., F.L.S., &c.

LATE PRESIDENT OF THE ALPINE CLUB

LONDON

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1873

LIST OF MAPS.

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ABBREVIATIONS AND EXPLANATIONS.

The following are the chief abbreviations used in this work:—

hrs., m.—for hours and minutes. When used as a measure of distance, one hour is meant to indicate the distance which a tolerably good walker will traverse in an hour, clear of halts, and having regard to the difficulty of the ground. In cases where there is a considerable difference of height, the measure given is intended as a mean between the time employed in ascending and descending, being greater in the one case and less in the other.

ft., yds.—for feet and yards. The heights of mountains, &c., are given in English feet above the level of the sea, and are generally indicated in the manner usual in scientific books, by the figures being enclosed in brackets, with a short stroke.

m.—for mile. Unless otherwise expressed, distances are given in English statute miles.

rt., l.—for right and left. The right side of a valley, stream, or glacier, is that lying on the right hand of a person following the downward course of the stream.

The points of the compass are indicated in the usual way.

Names of places are referred in the Index to the pages where some useful information respecting them is to be found.

Throughout this work the reader is frequently referred for further information to the Section and Route where this is to be found. When the reference is made to a passage occurring in the same Section, the Route alone is mentioned.

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CENTRAL TYROL ALPS.

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THE geological map of the Alps, east of the Adige, shows a broad band of crystalline rocks extending from W. to E., and flanked to the N. and S. by a zone of sedimentary rocks, chiefly of jurassic and triassic age. It has been seen in the preceding chapters that on the N. side the geological boundary almost exactly coincides with a great line of valley running parallel to the main chain. On the S. side the boundary is equally well defined, though somewhat more sinuous. At the W. end the converging branches of the Adige that meet at Botzen divide the central range from the Orteler group and the dolomite Alps, while towards the E. the valleys of the Rienz and the Drave form a continuous line of depression, nearly corresponding to the S. limit of the crystalline rocks. The central range reaches its culminating point in the Grossglockner, but about 25 m. east of that peak begins to subside to a much lower level, while at the same time it forks into two parallel branches, which are divided by the valley of the Mur running parallel to the direction of the main chain.

Austrian writers commonly designate the entire range of crystalline rocks, from the Adige to the Schneeberg, as the 'Central Alps.' But in a general arrangement of the entire Alpine chain, this term cannot be applied to a subdivision of the Eastern Alps, and it is not easy to suggest any other suitable collective name. In the present chapter we include only the higher western division of the range, for which the most fitting designation seems to be that of Central Tyrol Alps. It is true that the province of Tyrol includes portions of the northern and southern ranges lying beyond the limits of the central chain, and that the latter at its eastern extremity extends into Carinthia and the province of Salzburg; yet it remains true that the range, as here defined, may be called, *par excellence*, the main chain of the Tyrol Alps. It is bounded to the N. by the Inn and the Salza, to the W. by the Adige from

its source to Botzen, to the S. by the Eisack and Rienz, and then by the valley of the Drave. The eastern limit is not quite so well marked. Orographically the most natural boundary is that indicated by the valleys lying between St. Johann im Pongau and Spital on the Drave—the Gross Arlthal, Maltathal, and Lieserthal; but for the purposes of this work it is more convenient to fix as the eastern limit the high road from Radstadt to Spital, crossing the two low passes of the Radstädter Tauern and the Katschberg. Although this road enters the valleys of the Enns and the Mur near the sources of those rivers, it does not cross the W. boundary of Styria, and for all practical purposes is the direct line of communication between Salzburg and the upper valley of the Drave. The range included within these limits is divided into two very distinct portions by the deep depression leading on either side to the Brenner Pass, the lowest in the entire range of the Alps. To the west of that limit the peaks are collected in groups and short ridges not forming a continuous range; while on the E. side the chain extending from the Wild Kreuzspitze to the Hochalpen-Sp. is one of the best defined and most continuous in the Alps. In a distance of nearly 100 miles there is no pass below 8,000 ft. in height, and there are but four that do not much surpass that limit.

Most strangers who visit the Tyrolean Alps keep to the main valleys, where they find the conveniences of carriage roads and good inns; and comparatively few have explored the remoter valleys that penetrate the recesses of the higher mountains. Whatever other advantages the common method may offer, it certainly cannot lead to much acquaintance with the Alpine region of Tyrol. In Switzerland, and on the Italian side of the Alps, it is easy to enjoy most of the finest scenery by keeping to beaten paths, and in many places carriage roads lead near to the base of the highest peaks, but such

is by no means the case in Tyrol. Although the country has been pretty thoroughly explored by German mountaineers and men of science, the affluence of strangers is not such as to bring about much local provision for their comfort. Amidst the far more civilised population of this region there is no risk of encountering the filth and misery of Dauphiné, or the unfrequented parts of the Valais, but the traveller who would enjoy the finest scenery of the high Alps of Tyrol must put up with rough accommodation and indifferent food.

SECTION 48.

OETZTHAL DISTRICT.

THE western portion of the Tyrolese chain is a high mountain mass surrounded on two sides by the upper course of the Adige, which at first flows southward for several miles, and then bends to the eastward, and follows that direction as far as Meran. The streams bearing part of the drainage of this mass to the Adige diverge from it in various directions, and no one of them drains a large surface. The case is otherwise on the NE. side. The highest summits of the group enclose the head of the Fenderthal and Gurglthal, and several large glaciers pour their streams into those two glens which unite at the head of the Oetzthal. The torrent from that considerable valley, reinforced by tributaries from the Stubay Alps, flows northward to join the Inn below Imst.

The best mode for forming an idea of the somewhat complicated orography of this district is to fix attention on the Weisskugel (12,277'), the second in height of its peaks, which rises a few miles E. of the sources of the Adige, and very near the watershed between

that stream and the Inn. The highest peaks of the group lie in two ranges that diverge from that mountain—the one about due E., the other to NE. The former is the dividing range that parts the waters flowing to the Inn from the basin of the Adige; but the latter surpasses it in height, including the highest peaks and the greatest glaciers. From the latter three lofty ridges run due N., parallel to the Oetzthal, towards the Inn, and between them lie two Alpine valleys, too long neglected by travellers, the Kaunserthal and Pitzthal. Including some accessory ridges of considerable height, these ranges make up the group of the Oetzthal Alps. With this is nearly connected the smaller group of the Stubay Alps, lying between the Oetzthal and the Brenner Pass. In a general arrangement of the Eastern Alps these are usually placed together, inasmuch as the Stubay group has more relations with the Oetzthal Alps than with the range, extending from the Brenner to the Maltathal in Carinthia. But as the principal valleys of the Stubay group descend towards the E. in the direction of the Brenner road, it has appeared a matter of obvious convenience to describe them in a separate section. Although the Oetzthal Alps are surpassed in height by many groups described in the preceding portions of this work, they are deservedly reckoned by German writers amongst the most considerable of the subdivisions of the great chain. The large number of high peaks, and, still more, the height of the passes in this district, show that it is one of those in which the largest mass of matter has been raised to the greatest height above the level of the continent. Within an area of 921 square miles we find 14 peaks surpassing 11,000 Vienna feet (11,408 Eng. ft.), and at least 60 that fall between 10,000 and 11,000 Vienna ft. (10,371 and 11,408 Eng. ft.), while the lowest pass over the main ranges enclosing the valleys of Fend and Gurgl is 9,514 ft. in height. Fully three-fourths of the

entire space surpasses the limit of 6,000 ft., and 164 square miles lie within the snow-region. If the solid mass were spread out uniformly, it would form a plateau 8,332 ft. above the sea-level. If we add that the group includes over 230 glaciers, several of which are amongst the most considerable in the Alps, it becomes evident that the region here described is not only important to the physical geographer, but must offer many inducements to the lover of high Alpine scenery. Much of this may be enjoyed by ordinary tourists who arrive without the slightest difficulty at the central points—Fend and Gurgl; but it is reserved for the active mountaineer to make a thorough acquaintance with the district. There are good inns in the Oetzthal, and fair quarters at Unser Liebe Frau and St. Leonhard in Passeyerthal, but in the higher valleys it is necessary to apply for entertainment to the village clergymen, it being understood that a reasonable charge is made at the traveller's departure.

Ample information respecting the orography of this district is given in Karl v. Sonklar's elaborate work on the Oetzthal Alps, referred to in the preliminary notes to this volume; and further particulars useful to the mountaineer may be gleaned from several papers in the annual volumes of the Vienna Alpine Club.

It is convenient to include in this section the description of the great road through the upper valley of the Adige from Landeck to Botzen, which marks the western boundary of this district, and the great line of depression between the Central and the Eastern Alps.

ROUTE A.

LANDECK TO MERAN AND BOTZEN.

	Austrian miles	Eng. miles
Ried	2	9½
Pfunds	2	9½
Nauders	2	9½
Mals	3½	16½
Eyers	2	9½
Schlanders	1½	7
Naturns	2½	11½
Meran	2	9½
Vilpian	2	9½
Botzen	1½	8½
	<hr/>	<hr/>
	21½	100½

In preceding portions of this work, it has been seen that several of the chief roads of Northern Tyrol converge at Landeck, in the upper valley of the Inn. That leading from Bregenz, on the l. of Constance, through the Vorarlberg, is described in § 34, Rte. A. The roads from Bavaria by Immenstadt, or Füssen, and Reutte, and that from Innsbruck through the Innthal, are described in Sections 41 and 42. The road described in the present Rte. is one of the main lines of communication from the north to the south side of the Alps, being very nearly as slow as the more frequented line of the Brenner, but less direct. The distance from Innsbruck to Botzen by Landeck is nearly double that by the Brenner (§ 49, Rte. A), but the road is in all respects more interesting.

This road has frequently suffered from inundations, but has of late been in good condition. There are good inns at Meran and Schlanders, and tolerable ones in most of the villages on the road. A post-carriage plies daily throughout the year between Landeck and Botzen, and besides a country carriage, or Stellwagen, runs between Meran and Mals. In summer additional Stellwägen ply daily between Landeck and Mals, and Mals and Meran, and twice a day between Meran and Botzen. They travel slowly, and, except from the front seats, little of the country can be seen.

Above Landeck, the valley of the Inn becomes a narrow defile, and turns sharply to the E. for a distance of 5 or 6 m. The high-road is carried along the rt. bank to the bridge of *Pontlatz*, famous in Tyrolese history, for the destruction of a Bavarian force that attempted to force the passage in 1703, and that of a still larger body of French and Bavarians in 1809. Here the road crosses to the l. bank, and the valley widens out as it resumes its normal direction towards SW. [The pedestrian going from Innsbruck to the Finstermünz may shorten the way by leaving the high road a mile below Imst, and following the track along the W. side of the Pitzthal for about 5 m. A path then turns out of the main valley, mounts SW. to the hamlet of Piller, and crosses the *Pillerjoch* (4,621'), a low and easy pass, whence one path descends to the Pontlatz bridge, and another keeps to the l. and leads directly to Prutz. The mountain lying between the Pillerjoch and Landeck, round whose base the Inn follows so circuitous a course, is the *Venetberg* (8,233'). It commands a fine view of the neighbouring valleys, and the snowy range to the S.] The road returns to the rt. bank of the Inn at *Prutz* (2,719'), with a village inn (Rose), standing at the opening of the Kaunserthal (Rte. E), which leads into the heart of the glacier region. On the opposite side of the river, at some height above the valley, are the baths of

Obladis (3,920'), said to be amongst the best managed in Tyrol. A handsome building, belonging to a company, accommodates visitors at very moderate prices. Light carriages can go from Ried as far as the village of Ladis, half an hour below the Baths. The salt spring is used internally as well as for baths. The high-road passes under the rock whereon stand the ruins of the very ancient castle of *Landeck*, and in about 2 m. from Prutz reaches the post station of *Ried* (Inns: Post, Adler; both indifferent), a pretty village, 2,887 feet above the sea, picturesquely placed

below the castle of Sigmundsried, at the opening of the *Fendelserthal*, a short glen leading to a low pass into the Kaunserthal. After passing Tösens, the road once more crosses to the l. bank of the Inn, nearly opposite the opening of the *Tschuppachthal*, and follows the same side of the valley to

Pfunds. The post-station with an inn (Post) is in the hamlet of Stuben, on the l. bank, where there is an interesting old church with a carved wood altar. The modern church is in the principal village (Inn: Traube) on the rt. bank of the stream, at the opening of the *Radurschelthal*, a wild and somewhat dreary Alpine glen, running SE. to the base of the *Hochglockenthurm* (10,997'). By the N. side of that peak, two passes lead to the head of the Kaunserthal; while there is an easier track, W. of the peak, to Mallag, in the Langtauferer Thal.

A short distance beyond Prutz, the valley of the Inn gradually narrows, and we enter the famous defile of *Finstermünz*. The old road was carried for several miles along the l. bank, but this has been superseded by the very remarkable line of road which was completed in 1855. Crossing the Inn, for the last time, about $1\frac{1}{2}$ m. above Pfunds, it ascends gradually along the face of a range of nearly vertical cliffs of secondary limestone. In most places a shelf has been formed for the road by blasting the face of the rock, but there are 3 tunnels and 2 galleries formed artificially for protection from avalanches and falling stones. At a spot called *Hoch Finstermünz*, where the rocks form a small platform, room has been found for two or three houses, one of which is a fair country inn, commanding a remarkable view. Many hundred feet below is seen the tower and the ancient bridge of Finstermünz (3,152'), whence the old and steep road climbed the rocks on the rt. bank leading to the gap through which it escaped from the valley of the Inn to the upland valley of Nauders. This point, fortified as early as the 11th century by

the German invaders of Italy, is defended by a new fort whose guns sweep all the approaches. Beware of sketching near here. For the pedestrian, the old road, no longer passable for vehicles, is on the whole more interesting than the new one. The abrupt contrast between the gloom that dwells in the depth of the defile, and the broad daylight of the summit of the pass, is lost by the new road. Travellers entering Tyrol from the Engadine do well to send their luggage from Martinsbruck to Nauders. They should walk from the former village by the narrow track on the l. bank of the Inn (§ 36, Rte. A) to the old bridge of Finstermünz, and then ascend by the old road to Nauders.

On escaping from the defile, the road continues to ascend for some two miles farther to

Nauders (Inns: Post, good and reasonable country quarters; Mondschein, old-fashioned, cheap). The village, with its old castle, stands 4,356 ft. above the sea, near the summit of the plateau, dividing the basin of the Inn from that of the Adige. Those who halt here should take a short and pleasant stroll on the S. side of the road leading hence to Martinsbruck, to the summit of the ridge dividing the little upland valley from the Engadine. The ridge in question here forms the frontier of Switzerland, and commands a pleasing view of the lower Engadine, and the range dividing it from the Patznaunthal.

The road to Italy ascends gently from Nauders along the little stream of the *Stillebach*, and in about 4 m. reaches the height of land where the waters begin to fall towards the Adriatic. A small lake, or pool, lies very near the summit of the plateau, which is 4,596 ft. above the sea, and is called *Reschen-Scheideck*, from the village of Reschen, lying near the lake. Excepting the Brenner, which is lower by 8 ft., this is the lowest depression in the chain of the Alps dividing Italy from the rest of Europe. The traveller has scarcely attained the summit-level when a noble view of the

Orteler and its attendant peaks is opened due S., and reappears at intervals, inviting the traveller to a closer acquaintance with the grand scenery of Trafoi and Sulden, and the Laaserthal, whose peaks are seen to the l. of the Orteler. The infant Adige, or Etsch, after issuing from the *Reschensee* flows through two other lakes—*Mittersee* and *Heidersee*, between which is the hamlet of *St. Valentin* (Inn: Post), where the diligence changes horses, 2 Austrian m. from Nauders, 1½ m. from Mals. The upper end of the valley below the last-named village is locally known as *Malsser-Heide*, and was the scene of a signal victory gained by the Grisons Swiss, in 1499, over a superior force of Austrian troops. The course of the Adige continues due S. as far as

Mals (Inns: Post, or Adler; Hirsch), and then bends to SE., soon assuming the due easterly direction which it maintains as far as Meran. The high-road keeps to the l. bank of the stream, leaving on the opposite side the ancient town of *Glurns* (3,176'), at the opening of Val Mustair (§ 37, Rte. L), the upper part of which belongs to Switzerland. A pedestrian wishing to visit the Stelvio Pass may go to Santa Maria in that valley, thence ascend by the Wormser Joch to the Italian side of the Stelvio, cross that pass, and return to the high-road of the Adige by Trafoi.

From Mals to near Meran the valley of the Adige is called *Vintschgau*, which is the Germanised form of the Italian *Val Venosta*. That name is derived from a Rhaetian tribe, said to have inhabited the valley, and has been preserved as the surname of a distinguished family in Val Tellina. Numerous castles mark the former importance of the upper Vintschgau as one of the chief routes into Italy. After passing *Schluderns*, at the opening of the *Matscherthal*, the peak of the Orteler again comes into view at *Spondinig*, where the road of the Stelvio, having issued from the Stilsferthal at Prad (§ 37, Rte. A), joins our route. Those who do not make a longer excursion should go as far as Trafoi, at the

foot of the Orteler Spitze. Little more than 1 m. beyond Spönding is the post-station at

Eyers (Inn: Post, tolerable, dear). A post-carriage runs daily to Bormio. The main valley here is rather bare and little interesting, except when some of the high peaks on the S. side of the valley come into view. This is the case at *Laas*, a poor village nearly destroyed by fire in 1861, standing opposite the opening of the *Laaserthal* (§ 37, Rte. E). The scenery improves on approaching the next post-station.

Schlanders (Inn: Post, good and clean). The landlord here is acquainted with the neighbouring valleys, and can give useful information. A table is hung up in the inn containing many particulars respecting the high passes leading into the Vintschgau, which may be consulted with advantage by mountaineers. The following are the distances there given for the passes connected with the *Martellthal*, and the rates charged by the guide Sebastian (doubtless S. Janiger mentioned in § 37, Rte. C) :

Martell to Rabbi, by Ulten, 11 Stunden, 6 fl.
" " by Soilendferner, 10 St., 6 fl.
" " to Val di Sole, by the Hohenferner, 8 fl.
" " to Sulden, by the Madritschberg, 5 fl.
" " to Bormio, over the Cevalferner, 12 Stunden. 10 fl.

The scenery hereabouts is interesting. To the N. a narrow cleft in the mountains is the opening of the *Schlandernaunthal* (Rte. C). The rock is a coarse red sandstone (verrucano?), and produces a peculiar vegetation. The culture of the vine commences here, and several wild plants of the warm region show themselves, while various Alpine species, such as *Oxytropis Halleri*, descend near to the village. A short distance below *Schlanders* the road passes to the rt. bank nearly opposite the opening of the *Martellthal* (§ 37, Rte. C). Mountaineers approaching the Orteler district from the S. cannot do better than ascend that fine valley, and cross one or other of the glacier passes leading from it to *Sulden* or to *Sta. Catarina*. After pass-

ing *Latsch* (Inn: Hirsch), the road recrosses the Adige, which is here a sluggish stream, often overflowing the valley, and causing unhealthy swamps. On a rock above the road is *Castelbell*, an ancient stronghold, nearly destroyed by a fire some years ago. *Seseli varium* has been found on the rocks here, and *Euphorbia Gerardiana* and *Achillea tomentosa* are common in gravelly places. A few miles farther is the opening of the *Schnalserthal* (Rte. B), one of those that on the S. side penetrate most deeply into the mass of the Oetzthal Alps. That valley may be entered by a path from *Staben* on the rt. bank of the torrent, or from the larger village and post-station of

Naturns (Inn: Post), lying $\frac{1}{2}$ m. below the opening, 1,697 ft. above the sea. The Vintschgau here has a somewhat bare and dreary aspect, the soil being formed of débris from the surrounding mountains. Below *Rabland* the valley is contracted, and a barrier of rock, called the *Töll*, which is cut through by the river, seems to close the way. The high-road here crosses to the rt. bank, and ascends about 200 ft. to the summit of the ridge, when a very beautiful scene is unexpectedly opened before the traveller. Up to this point the course of the Adige from *Mals* has been a continuous, but very gradual, descent of about 1,500 ft. in 35 m., and for half that distance it has flowed along the N. base of the ridge that on the opposite side bounds the *Ultenthal*. Here that ridge ceases abruptly, and the river bends at a right angle to SSE., while the level of the valley falls suddenly by about 700 ft. The *Töll* forms the E. limit of the Vintschgau, and the lower reach of the valley of the Adige from hence to *Botzen* is known to the German inhabitants as *Etschland*. The broad floor of this rich valley, crowded with villages and hamlets, whose spires rise amid the rich foliage of the chestnut and walnut, is girdled by vine-planted hills, beyond which rise the higher mountains on either side. A rather rapid descent carries the traveller down to the rt. bank of the *Etsch*, and after crossing a bridge, he turns away

from the river to reach the ancient capital of Tyrol,

Meran (Inns : Erzherzog Johann, or Post; Graf von Meran; both large and good hotels; there are several second-class houses: Rössel; Weisses Kreuz; Sonne, &c.). This place is famous for the mildness of its climate, being sometimes intolerably hot in summer, but much frequented in spring, and especially in autumn, when the hotels are full, and many visitors are accommodated in *pensions*, paying from 2½ to 3½ florins a day. The town contains tolerable shops and cafés, and a theatre is sometimes open in September during the full season. Meran occupies the site of a Roman station, said to have been destroyed by a *Bergfall* at the beginning of the 9th century; and its early history is that of the Counts of Tyrol, under whom it enjoyed many privileges. It stands 1,114 ft. above the sea, close to the opening of the *Passeyerthal* (Rte. B), whose torrent, the *Passer*, has often caused destructive inundations. A massive dyke, erected to save the town from its encroachments, is a favourite promenade of its inhabitants. The chief street traversing the town from W. to E. has covered arcades on either side, and the foot-way is floored with wooden boards. The *Pfarrkirche*, dating from the first half of the 14th century, contains some tolerable pictures and statues by Tyrolese artists, and several ancient monuments. The lofty tower commands an admirable view. The *Spitalkirche*, with curious ancient wood carving, also deserves a visit. The neighbouring slopes produce fair wine, and this is one of the places especially resorted to by believers in the grape-cure. Other invalids follow the *Molkenkur* (whey-cure), which is practised here from April to October. Hot and cold baths are found in the town.

The neighbourhood of Meran is remarkable for numerous castles, most of them now in ruins. The most interesting of these is *Schloss Tyrol*, which gave its name to several successive ruling families, and, through them, to the entire territory lying between the Bava-

rian frontier and the states of the Venetian republic. The castle stands N. of the town, and 1,081 ft. above it, commanding an admirable view over the adjoining valleys. It contains some very curious ancient stone-carving. There is a tolerably direct way from Meran by a bridle-path passing the village of Tyrol, and a more circuitous char-road (very rough). Those who take the latter way may with little loss of time visit two other castles—*Zenoburg* and *Brunnenburg*—originally dependencies of the chief stronghold.

Many agreeable walks may be made in the neighbourhood of Meran, as well as longer excursions amongst the high mountains that enclose the *Ultenthal* and the *Passeyerthal*.

The road from Meran to Botzen lies all the way through agreeable scenery. The post-road is carried along the l. bank, but there is a country road, longer, but more agreeable to a pedestrian, running along the base of the mountain on the opposite side of the valley. Several ancient castles stand at either side of the entrance to the *Ultenthal*. One of the largest of these (that of *Lebenberg*) was rebuilt about fifty years ago. The garden interests travellers from the north entering Italy for the first time. The pomegranate, oleander, agave, and orange here live in the open air, the winter temperature being milder than that of the plain of Lombardy. Another still inhabited castle, called *Fragzburg*, is perched on a rock at a great height above the valley. One path to Fondo in Val di Non (§ 37, Rte. I), leaves the valley of the Adige at *Lana*, another at *Andrian*, several miles farther down the valley. There are not many objects of interest near the main road. The valley is flat, and in places swampy, probably unhealthy. Near the post-station of *Vilpian* the pale grey pinnacles of the dolomite range of the *Rosengarten*, SE. of Botzen, come into view. The character of the vegetation assumes a more and more Italian character, as after passing *Terlan*, famous for its excellent wine, the road turns

away from the Adige, and runs along the base of the hills to

Botzen (Inns: Kaiserkrone, a large handsome house, with a café on the ground floor; of less pretensions are the following, *Mondschein*; *Schwarzer Adler*; *Goldener Hirsch*), described in § 49, Rte. A, one of the chief stations on the rly. between Innsbruck and Verona.

thal and Stubay groups. Most strangers, even though they should not attempt the higher passes, will not omit to visit Fend or Gurgl (Rtes. C and D), and but few will keep to the direct path described in the present Rte. There are inns at Umhausen (good), Lenggenfeld (fair), Sölden (improved), Schönau (very poor), Moos (poor), and St. Leonhard (fair). It is scarcely possible to accomplish the distance in two days.

Travellers approaching the Oetzthal from the side of Innsbruck should turn aside from the high-road at a chapel near Haimingen, a little W. of Silz, and follow a char-road, passing chiefly through forest round the base of the mountain, which leads in 3 hrs. from that place to Oetz. A pretty waterfall of the torrent issuing from the *Stuibenthal* is passed on the l. hand.

The traveller, entering the Oetzthal from the side of Landeck or Imst, follows the high-road for some way beyond the latter village, and then turns aside and crosses a bridge over the Inn to Roppen. Thence a very hilly road crosses the projecting spurs at the N. base of the *Wildgratkogl* (9,744'), and descends to *Sautens*, a village near the opening of the Oetzthal, on the l. bank of the Ache, by which generic name the torrent draining the great glacier region at its head is designated. Crossing the stream by a wooden bridge, the road in $\frac{1}{2}$ hr. more reaches

Oetz (2,518'), a pretty village, with a neat country inn (beim Cassian), in a sheltered basin, where good crops of maize are still raised at the base of the *Achenkogel* (9,866'). Above this village the chief product is flax, of which large quantities are annually sent over the Timbler Joch to the *Passeyerthal*. The first step in the ascent of the valley is a short distance above Oetz, where the Ache rushes between gneiss rocks through a narrow defile. The road crosses to the l. bank, and soon returns to the opposite side, when it enters the rather extensive basin wherein stands

Umhausen (3,399'). The inn (beim Marberger) is an excellent specimen of

ROUTE B.

IMST TO MERAN, BY THE OETZTHAL AND TIMBLER JOCH.

	Hrs. walking	Eng. miles
Oetz	4	12
Umhausen	2	6
Lenggenfeld	2½	7
Sölden	3	8½
Zwieselstein	1	3
Moos	7½	17
St. Leonhard	2	6
Meran	4	12
	26	71½

Carriage-road to Umhausen; the rough char-road to Sölden was partly carried away in 1865, but is probably now repaired; bridle-path from Sölden to Meran.

The chief valley of this district, and the most considerable of the tributaries of the Upper Innthal, is the Oetzthal. As mentioned in the introduction, it is enclosed at its head by the two main ridges of the Oetzthal Alps, and on the E. side by the rival group of the Stubay Alps. Glacier passes of more or less difficulty lead across those ranges to the adjoining valleys, and the only pass not guarded by glacier is that of the Timbler Joch, here described, which is the lowest depression between the Oetz-

Tyrolese country quarters kept by obliging people. It is prudent to lay in supplies of white bread and cold meat here. The host's brother (or son?), Anton Marberger, is recommended as a guide, as are also F. and A. Schöpf, who live in the village. The great rock rising above the valley by Umhausen is called *Engelswand*, the name being explained by a pious legend, one of many still current in the valley. Above the village, on the E. side of the valley, is the *Grosse Stuibenfall*, a very picturesque waterfall of the *Hairlachbach*, including an upper and lower cascade, whose united height is 490 ft. [Following the path that mounts beside the waterfall, and leads to the village of *Niedertley* in the *Hairlachthal*, the traveller may ascend to the *Gleirscher Joch*, and descend thence, through the *Gleirscherthal*, to St. Sigismund, in the *Selrainerthal* (§ 49, Rte. D). The same pass may be reached from a point about midway between Umhausen and Lengenfeld, and is the most direct way from either of those places to Innsbruck.]

Above Umhausen the road is very rough, and fit only for country-carts. In rainy weather it is liable to be covered over or carried away by torrents charged with mud and gravel that issue from narrow clefts in the mountain. The entrance to the defile of *Maurach* is partly barred by a great mound, probably an ancient moraine. The defile is wild and picturesque: the track twice crosses and recrosses the stream by bridges whose construction cost the lives of many workmen. Amid scattered larches, and pines rooted in crevices of the rock, the track ascends to the next step (*Thalstufe*) in the valley, a green plain 4 or 5 m. in length. *Lengenfeld* is a collective name for several hamlets scattered over this space, but is commonly applied to the hamlet of *Fischbach* near its S. end, where the church (3,856') with a sharp spire, painted bright green, and the principal inn (*Oberwirth*, very fair) are found. There is another inn (*Unterwirth*), but neither is as good as that at Umhausen.

Nicholas Etschmann is said to be the best guide here. There is a rough but not difficult pass to *Trenkwald* in the *Pitzthal* by the *Bradler Joch*, and another more arduous over the *Ranachferner* to St. Leonhard in the same valley. In the opposite direction the *Fischbach* issues from the *Sulzthal*, running deep into the recesses of the *Stubay Alps*, and to the E. base of the *Schrankogl*, the second peak of that group. See § 49, Rte. E.

The scenery above *Lengenfeld* constantly increases in savage grandeur as after advancing for nearly 1 hr. under the precipices of the *Burgstein*, to *Hube*, from which place a pass (said to be difficult) leads to *Mittelberg* in the *Pitzthal* by the *Gschrabkoglgletscher*, the track enters another defile where massive hornblende rocks close together, barely leaving space for the torrent and the rough cart-track. At *Brand*, the *Ache* is crossed to the L. bank, the valley opens a little, and the track mounts to some height above the torrent, and after traversing a larch wood descends into the basin of

Sölden (4,442'). There is a small, but clean inn (beim *Karlinger*). *Alois Ennemoser*, one of the best guides for this district, and *Ferdinand Platter* live here, but are often at *Fend* in summer. The landlord's son is also well spoken of. At *Sölden* the valley assumes the characteristic aspect of the central recesses of the Alps. A few patches of rice, oats, and potatoes, are hemmed in by pine forest, above which rise steep slopes of rock and Alpine pasture, surmounted by the peaks of the snowy range. The most prominent of these is the *Nöderkogel* (10,375'), crowning the ridge that divides the valleys of *Fend* and *Gurgl*. The ill-famed *Bildstöckl* pass, over the *Winacherferner*, leads in 12 hrs. to *Neustift* in *Stubay*. *F. Platter*, who knows it well, expects 8 fl. Another less difficult pass leads to the head of the *Pitzthal* by the *Pitzthaler-Jöchl* (9,806'). See Rte. G.

Above *Sölden* the bridle-track enters another ravine, the wildest and grandest

of the entire valley. Throughout its entire length, but especially here, numerous wayside pictures and votive tablets commemorate accidents to life or limb due to avalanches, floods, falling rocks, and the varied chances of man's life in the Alps. In 1 hr. steady walking, the traveller reaches *Zwieselstein* (two inns, the new one not bad), standing, as the name implies, at the bifurcation of the main valley, 4,791 ft. above the sea. The branch mounting due S. is called Gurglthal (Rte. D), while the longer branch, mounting SW., is the Fenderthal (Rte. C). The way to the *Timbler Joch* ascends for a short distance through the Gurglthal on the rt. bank of the torrent, but soon turns to the l. into a short lateral glen called *Timblthal*. The rough path, which is passable for laden mules, crosses to the l. bank of the torrent through this glen, returning to the opposite side about $\frac{1}{2}$ hr. below the top.

In 3 hrs. from *Zwieselstein* the traveller attains the *Timbler Joch* (8,298'), the lowest pass between the Reschen-Scheideck and the Brenner, and the only one well fitted for four-footed beasts. The pass may be reached from Gurgl by the Angerer Alp, and thence by a narrow path carried along the face of precipitous rocks. In fine weather a guide is not necessary, but when clouds lie on the pass, it is quite possible to miss the way, as the track is in places ill marked. The distance from the summit to Moos in the *Passeyerthal* is counted $5\frac{1}{2}$ hrs., but in descending 4 hrs. amply suffice. The way is steep for about 20 min., but thenceforward the descent is gentle, keeping a SE. direction to *Schönau* (5,042'), a miserable hamlet, with an inn which would be resorted to only in case of necessity. Here the track bears to the rt., and crosses the torrent before reaching *Rabenstein* (4,495'). From this northernmost branch of the *Passeyerthal*, several passes lead to Sterzing by the *Ridnaunthal* and the *Ratschingerthal* (§ 49, Rte. H). At the beginning of the fifteenth century a *Bergfall* in the lower

part of the valley leading to Moos barred the course of the *Passer*, and led to the formation of a lake that extended nearly to *Rabenstein*. The partial yielding of the barrier thus formed led to several inundations that spread havoc through the valley even to *Meran*, till about 1790 a channel was opened that finally drained the lake, whose bed is now a green basin. A very poor inn (*Seehaus*) stands here, about 2 m. below *Rabenstein*. The path thence descends steeply, and follows the stony slopes, first along the rt. bank, then by the opposite side to *Moos* (3,183'), a village standing at the junction of the *Pfelderthal* with the main branch of the *Passeyerthal*. The streams meet at rt. angles, and their united torrents flow a little S. of W. from hence to *St. Leonhard*. The inn is poor, but better than those higher up the valley. The scenery here is very fine. There are two paths descending the valley from *Moos*, of which the more direct is that by the l. bank. The longer but more picturesque way mounts to the village of *Platt*, and thence follows the rt. bank. The distance is commonly counted $2\frac{1}{2}$ hrs., but in descending it is easy to go in little more than $1\frac{1}{2}$ hr. from *Moos* to

St. Leonhard (Inns: *Weisses Ross*, *beim Strobl*, good; and two others), the chief village of the *Passeyerthal*, 2,273 ft. above the sea. The valley here bends sharply at a rt. angle, a little W. of S., and the higher peaks are lost to view. The scenery is comparatively tame throughout the descent to *Meran*, but the traveller familiar with the story of the heroic resistance of the Tyrolese to the French and Bavarian invasion in 1809, will visit with interest the home of *Hofer*, the leader of the national struggle and its foremost victim. The church and cemetery of *St. Leonhard*, which had been occupied as a military position by the French, were taken by storm by the Tyrolese. About $\frac{1}{2}$ hr. below *St. Leonhard* the track which keeps to the l. bank of the *Passer* passes the wayside inn—*Wirthshaus am Sand*—once kept by *Andreas*

Hofer, who derived from it the common designation 'der Sandwirth.' The house is still an inn, and contains several memorials of the popular hero. The hut where he lay concealed, until betrayed to the French in January 1810, is about $1\frac{1}{2}$ hr. distant, on the ridge SE. of his home. It may be taken on the way to Botzen, as a track leads thence across the ridge into the Pensertal, or NW. branch of the Sarental. Below the next village of St. Martin the path traverses a spot called Kellerlahn, where, after heavy rain, a slowly moving stream of mud descends from the mountain side, crosses the track, and finally falls into the Passer. Men attempting to cross this treacherous current have found it impossible to extricate themselves; and some lives have thus been lost. The remainder of the walk to Meran is hot, and not very interesting, till that town is approached. The track by the l. bank passes the castle of Schönna, near which is the very ancient church of St. George. The shorter way by the rt. bank traverses *Saltaus* (inn kept by uncivil people) and *Kuens*. The last parish priest of the latter village acquired reputation as a poet and antiquary. The priest's house commands a very fine view. The castle of Tyrol (Rte. A) may be taken on the way from hence to Meran, but the direct road enters the town through the *Passeyerthor*.

ROUTE C.

SÖLDEN TO THE VINTSCHGAU, BY THE FENDERTHAL.

As was mentioned in the last Rte., the main branch of the Oetzthal, and that which penetrates most deeply into the heart of the snowy Alps, is the *Fendertal*, which unites its torrent with that of the Gurglthal at Zwieselstein. The path from Sölden to Fend (also written Vent) turns to the rt., and crosses the Ache before it reaches the first houses of Zwieselstein, but there is another way, shorter, but rougher, which crosses the shoulder of the mountain, and avoids the junction of the two valleys. The path keeps to the l. side of the valley, for the most part at a great height above the torrent, which rushes through a deep chasm, sometimes lost to view. At Freistäbl, the first group of houses, the defile widens a little, but contracts again before the traveller reaches *Heiligenkreuz* (5,378'), where wine and an omelette, and, in case of need, one or two beds, may be found at the house of the curate. A bridge, thrown at a great height above the torrent, here leads to the opposite side of the valley, above which rises the peak of the *Ramolkogl* (11,527'), but the traveller keeps to the l. bank, and in 5 hrs. from Sölden reaches

Fend (6,168'). now often written Vent, one of the highest villages in the Alps, a small group of houses beside a church. As it first comes into view, backed by the glaciers at the head of the Rofenthal and Spieglerthal, which are divided by the peak of the *Thaleitsspitz* (11,172'), it forms a striking picture. The inn is very poor, and all strangers apply to the parish priest, that excellent mountaineer, Herr Senn, who can accommodate 16 or 18 persons. His house-keeper makes a moderate charge according to the supplies furnished. These

include meat, eggs, wine, coffee, milk, butter, white bread, and chickens. Cyprian Granbichler, the best guide here, was lost in 1870. Ignaz Schöpf now ranks first. Nicodemus Klotz, of Rofen, once famous, has retired, but he has four younger brothers, of whom Leander is said to be the boldest. Josef Gstrein is probably second best. Save the first, none of these are comparable as ice-men to the good Swiss and Savoy guides, but they are competent to lead strangers over the known passes. Josef Scheiber is said to be much improved. A tariff of charges has been established, mostly reasonable.

As Fend lies in the centre of an almost complete circle of high peaks, it offers very attractive quarters to the mountaineer. It is said that no fewer than twenty glaciers are drained into the valley, most of which are accessible with more or less difficulty. Of the numerous glacier passes those leading to the Vintschgau are described in the present Rte. Of these, two leading to Naturns, through the Schnalserthal, are moderately easy. The others here mentioned are mountaineers' passes, rarely used even by the native hunters. Full information respecting most of them is contained in the valuable work of von Sonklar already referred to.

Excursions from Fend. The mountaineer undertaking excursions from Fend must recollect that the guides of this district are not as well up to ice-work as the best Swiss and Savoy guides, nor equally familiar with the necessary precautions. He should therefore personally look to the sufficiency and solidity of the rope, and will do well to carry his own ice-axe if he has acquired some practice with that weapon.

The ascent which will most tempt mountaineers is that of the *Wildspitz* (12,390'), the highest point in this region. The ascent was made in 1865 by Messrs. Tuckett, Fox, and Freshfield, taking nearly the same course followed by Herr Specht of Vienna in 1857. This in part followed a projecting buttress of the mountain called *Urkund*. Mr. Tuckett

advises future travellers to go right up the *Rofenkahr* Kees, keeping at some distance below the ridge of the *Urkund*, until they reach a *Sattel*, or col, between that and the final slopes of the *Wildspitz*. From that point the peak was attained in 1 hr., and in subsequent ascents 5 hours of actual walking have sufficed to reach the top. *Tariff*—two guides at 5 fl. each. For the way to the *Pitzthal* see Rte. F.

The view from the *Weisskugel*, or *Hinter Wilde Eisspitz* (12,277'), is decidedly finer than that from the *Wildspitz*, as it overlooks many of the neighbouring valleys. It is accessible from the *Hintereris Joch* (see below), which may be reached from Fend, and in rather less time from *Kurzras* at the head of the *Schnalserthal*. The guides, who once asked 20 fl. each, are now satisfied with 10 fl.

The *Similaun* (11,810') is easily reached from the *Niederjoch* (see below), or direct from *Unser Frau* by the ridge E. of the *Tissentalphal*, to a point called *Kasererwartlerl*, and finally by the eastern arête after crossing the *névé* of the *Grafferner*. The summit commands an admirable view.

The *Ramolkogel* (11,527'), called by *Sonklar* *Anich Spitze*, with one of the finest panoramic views in this district, is easily reached in 5 hrs. from Fend.

The *Kreuzspitz* (11,410') is, however, now preferred by most visitors to Fend as affording one of the best panoramic views, and being easily accessible even to ladies since a path has been completed nearly to the top. It turns to the rt. from the way to the *Niederjoch* (see below) at the *somarhütte*. Of nearer points of view one of the best is the *Mutboden*, rising N. of Fend, and reached in 2 hrs.

1. *To the Schnalserthal and Naturns, by the Nieder Joch* (9,847'). 6 hrs. from Fend to *Unser Frau*; 4 hrs. thence to *Staben*, or 4½ hrs. to *Naturns*. This was long supposed to be the lowest, as it is the most direct way to the *Schnalserthal*; but is in fact higher, rather more laborious, and more difficult than the

Hoch Joch, next described. Two mountaineers with a rope may perhaps dispense with a guide in settled fine weather, but, although the writer has gone alone this way in one day, from Fend to Meran, he strongly advises travellers not to follow his example. It is a far better plan to halt at Unser Frau, and employ the spare time in the ascent of the Similaun.

Less than a mile above Fend two glacier streams issuing from two glens or recesses in the icy chain join their waters. The easternmost of these, flowing nearly due N., issues from the *Spieglerthal*, also called *Niederthal*, and leads to the Nieder Joch. The way keeps at first to the W. side of the torrent. On the opposite side rises the snowy range that separates Fend from Gurgl, whose chief summits are the *Ramolkogl* (11,527'), *Firmianspitz* (11,275'), and *Schalfkogel* (11,562').

In about $1\frac{1}{2}$ hr. from Fend the traveller reaches the base of the *Marzoll Glacier*, which descends laterally from the S. into the glen, and bridges over the stream which issues higher up from the *Niederjochferner*. The way lies along the moraine of the Marzoll Glacier, to a ruined hut called *Smarlhütte*, and thence up rough slopes, till in about 3 hrs. from Fend it enters on the ice of the *Niederjochferner*. The true direction is indicated by little pyramids of stone heaped up on the ice. As the traveller rises, he obtains wider views of the surrounding peaks. Before him rises the white pyramidal summit of the *Similaun* (11,810'), which is attainable without difficulty in $2\frac{1}{2}$ hours from the upper plateau near the pass. The descent should be made by the head of the *Grafferner*, and the *Kasererwartel* (see above). Near the latter point is a curious mass of seemingly erratic blocks of porphyry and various other rocks. The Fend guides expect five florins for the ascent from the Nieder Joch side.

The *Finailspitz* (about 11,600'), rising between this and the Hoch Joch, is easily ascended from this side, and also, but less easily, from the Hoch Joch.

On reaching the *Nieder Joch*, at the lowest point of the ridge, the glacier comes abruptly to an end, and a single step on the rock suffices to bring the traveller to the verge of the very steep range enclosing a wild glen called *Tissenal'p'thal*. At the first moment the descent appears formidably steep, almost a precipice; but on looking down the traveller will see indications of a faintly marked track carried up the broken face of the rocks, and in point of fact, the descent is not difficult. Keeping somewhat to the rt., he reaches a slope of débris at the base of the rocks leading down into the wild and dreary hollow which soon opens into the head of the *Schnalserthal*, near a group of huts called *Obervernagt* (5,600'). Amid very grand scenery the path descends by the l. bank in $\frac{1}{2}$ hr. more to

Unser Liebe Frau (5,314'). There is a very fair country-inn here, with 4 beds, kept by Joh. Spektenhauser (der Unterwirth), and another nearer the church—not bad—(beim Sauter). Gabriel Spektenhauser (first-rate) and Urban Grisch are the best guides here. As at most places in Tyrol, a tariff for guides has been established. Many interesting passes, most of which are noticed below, may be taken from this as a starting point.

The walk from *Unser Frau* through the *Schnalserthal* is very interesting, the scenery being throughout of a high order. The path lies at first along the l. bank of the *Schnalse*, also called *Tscherninbach*, then crosses to the rt. bank, and in 1 hr. reaches *Karthaus* (4,793'), a village with a country inn standing on an eminence high above the torrent. Nearly opposite is the *Pfossenthal* (Rte. D), one of the most savage recesses of the Tyrolese Alps. Below *Karthaus* the path keeps to the rt. bank, usually at a great height above the stream. Some of the grandest larches in Tyrol (or in Europe) formerly adorned this valley, and a few very fine trees still remain near the track. On the opposite side of the valley the village of *St. Catharina* (4,063') also stands on a point very

high above the torrent. About 1 hr. below Karthaus is *Ratteis*, a group of houses, with an inn. The most picturesque point on the way is $1\frac{1}{2}$ hr. below *Ratteis*, where the path passes the ruined castle of *Jufahl*, commanding a noble view of the *Schnalserthal*, the adjoining portion of the *Vintschgau*, and the surrounding mountains. In $\frac{1}{2}$ hr. the path descends thence to *Staben* on the high-road a little W. of the opening of the valley. At the very fair inn in that village it is often possible to procure a vehicle for *Meran* or *Schlanders*; but the prospect is more secure at the *Post* at *Naturns* (Rte. A). Charge for a char (*einspänniger Wagen*) to *Meran*, about 3 fl. In going to *Naturns* the traveller should take a path that turns to the l., about $\frac{3}{4}$ m. above the castle of *Jufahl*, and reaches the level of the *Vintschgau* about $\frac{1}{2}$ hr. west of *Naturns* by a very steep descent. At the lower end of its course the *Schnalse* has cut a very deep cleft, forming an impassable defile, through which it rushes into the valley of the *Adige*.

2. To the *Schnalserthal* by the *Hoch Joch* (9,515'). 7 hrs. from *Fend* to *Unser Frau*. A new path has been constructed at the instance of the active parish priest of *Fend*, and two mules are available at each side of the pass for the benefit of tourists. This way is fully an hour longer than that by the *Nieder Joch*, but it is more used, and the scenery, on the whole, is finer. Following the western branch of the valley where it forks above *Fend*, a walk of rather more than 2 m. leads to *Rofen* (6,705'). The shortest path is that by the l. bank of the torrent. Since the *Stelvio* road has ceased to be maintained at government expense, this is probably the highest spot in the *German Alps* which is inhabited throughout the year. A *Steinbock* (bouquetin) carved in stone upon an ancient house commemorates the heraldic device and privileges of nobility granted to the former owner by *Frederick* of the *Empty Purse*, when he here, at the foot of the glaciers, found a secure refuge

from his enemies. *Rofen* is the dwelling place of the *Klotz* family, reputed the best guides in the valley. From this spot the branch of the valley derives its name, *Rofenthal*. It is enclosed by several of the highest summits of the *Oetzthal Alps*. Immediately N. of *Rofen* rises the *Wildspitz* (12,390'), followed towards the W. by the *Prochkogl* (11,926'), *Plattekogl* (11,056'), *Langtauferspitzz* (11,629'), *Weisskugel* (12,277'), and on the opposite side by the *Fineilspitz*, *Kreuzspitz* (11,410'), and *Thaletspitz* (11,172'). From a cleft on the W. side of the *Plattekogl* the *Vernagt Glacier* descends into the valley. The oscillations of this glacier, as it alternately advances and recedes, have caused disasters nearly as extensive as the better known inundations of the *Dranse* near *Martigny*. Thrice in the 17th century it so completely barred across the valley above *Rofen* as to form a large lake, which finally burst the ice-barrier, and caused floods, which were much more destructive in the lower *Oetzthal* than in the immediate neighbourhood of the glacier. Similar accidents have been repeated on a smaller scale in the present century, for the last time in 1848. The new path keeps to the slope above the rt. bank of the torrent, and then crosses the débris left by the *Vernagt Glacier* in order to reach the upper slopes intervening between that and the three great ice-streams which converge towards the head of the valley. From the NW. descends the *Kesselwand-Gletscher*, which joins the more extensive *Hintereis-Gletscher*, flowing eastward from the *Weisskugel* and the *Innere Quellschpitz*; while the *Hochjochferner* descends from the ridge to the S. and SW., approaching very near the *Hintereis-Gletscher* in the lower part of its course. A mountain inn, supplying refreshments and beds in case of need, has been opened here. The way lies for $\frac{1}{4}$ hr. over moraine, and then for $1\frac{1}{2}$ hr. over the glacier, till the *Hoch Joch* (9,515') is attained in about 4 hrs. from *Fend*.

The views on either side of the numerous peaks, rising out of a vast extent of surrounding glacier, are very striking. Although the glaciers of this region lie very near to each other, and are sometimes divided only by snow-covered ridges, they are generally formed in distinct basins, and it is not correct to describe them, as some writers have done, as though they were outlets from a single continuous ice-reservoir.

The descent from the *Hoch Joch* is, for some distance, over snow slopes steep enough to allow of glissading. Before long the traveller reaches the rocks that enclose the head of the Schnalserthal. The way formerly lay to the l., but a new and improved path to the rt. is now complete. 1 hr. suffices to reach *Kurzras* (6,637'); a group of huts offer refreshments and, in case of need, three beds. The landlord of the huts (der Bauer) is said to be a good guide for some of the neighbouring peaks. The walk from hence to *Unser Frau* is extremely enjoyable. The way lies partly over meadows, partly through larch forest, and the surrounding scenery is grand and beautiful. After joining the path from the *Nieder Joch*, the traveller, in about 3 hrs. from the summit, reaches *Unser Frau*.

3. *To Schlanders by the Taschl Jöchl*. About 12 hrs. from Fend. The traveller who has crossed the *Hoch Joch*, and descended thence to *Kurzras* (see above), may reach *Schlanders* on the same day, by crossing a pass called *Taschl Jöchl*, leading from the latter place to the head of the *Schlandernaunthal*. The summit (9,067') commands a remarkable view of the snowy range of the *Oetzthal Alps* on one side, and that of the *Orteler* on the other. In descending on the S. side, the way passes some small lakes, and thence to an Alpine pasture lying at the head of the *Schlandernaunthal*, which is a wild hollow, inhabited only in summer when herdsmen visit the head of the glen. It is a walk of 3 hrs. from the *Alp to Schlanders* (Rte. A), ending by a very steep

descent, as the path avoids the gorge through which the torrent rushes to enter the *Vintschgau*. This is a long day's walk, requiring fully 12 hrs., exclusive of halts. A curious little Lapp-land plant, *Ranunculus pygmaeus*, was first found in Tyrol near a small glacier above the pass here described. Starting from *Unser Frau*, the most direct way to the *Schlandernaunthal* is by the *Mastaun-scharte*, at the head of a short glen called *Mastaunthal*, opening SW. of the village. The pass (about 9,645') commands a noble view on both sides. It lies on the N. side of the *Mastaunspitz* (10,488'), and not to the S., as laid down on *Sonklar's* and other maps.

4. *To Mals by the Langgrub Joch* (10,005') and *Matscherthal*. Fend to *Unser Frau* 7 hrs.; thence to *Mals* 10 hrs. The *Matscherthal* is counted as one of the most beautiful of the lateral valleys of the *Vintschgau*. Well cultivated at its lower end, and producing excellent crops, its Alpine pastures are reckoned among the richest in Tyrol. The beauty of its herds, and the numerous wolves that wage war against them, are equally proverbial. The mountaineer will be still more attracted by the grandeur of the peaks and glaciers that enclose its head. The names of the chief summits, commencing on the SE. side of the valley, are the *Remspitz* (10,512'), *Salurnspitz* (11,260'), *Hintereisspitz* (10,721'), *Innere Quellspitze* (10,889'), *Weisskugel* (12,277'), and *Portlesspitz*. Until very lately the only known pass leading into the head of the valley was that named on the government map *Langgrub Joch*, but known as *Matscher Joch*, in the *Schnalserthal* and *Upper Vintschgau*. The traveller taking this route from Fend should, on the first day, proceed to *Unser Frau* (either by the *Nieder- or Hoch Joch*), and will there find in *Urban Grisch* a competent guide. No particulars respecting the pass have reached the editor.

5. *To Mals by the Hintereis Joch and Matscherthal*. About 13 hrs. from Fend. In 1865 Messrs. Tuckett, Fox, and

Freshfield, with F. Devouassoud of Chamouni, and P. Michel of Grindelwald, having reached the Langtauferer Joch (see below) in $5\frac{3}{4}$ hrs. from Fend, turned to the l., and ascended the Langtaufererspitz (11,626') by its N. arête, and descended thence southward to the upper part of the Hintereis Glacier. They then mounted to a snow col on the S. side of the Weisskugel, about 11,400 ft. above the sea, now known as the *Hintereis Joch*. From the summit of the pass the Weisskugel was climbed without difficulty in 1 hr., and the return to the pass effected in 25 min. The descent into the head of the Matscherthal was very steep.

'Keeping first to the S., beneath the cliffs that extend SE. from the pass, and to the l. of a rocky point protruding from and dividing the upper névé of the Mateser Glacier, they then bent round to the rt., and having reached the brow of the lofty and magnificent ice-fall, cut their way diagonally across its upper and less dislocated portion to the rt. lateral moraine, reached in $1\frac{1}{4}$ hr. Following this, or the slopes of rock and turf, the end of the glacier was passed in 20 min., the highest châteaux reached in $\frac{3}{4}$ hr., Matsch in $1\frac{3}{4}$ hrs., and Schluderns in 1 hr. more.' Throughout the lower part of the valley the main torrent, Klambach, has cut a deep trench, which at length becomes an impassable defile, and the lateral torrents descending from the mountains on either side have also cut deep ravines. There is here a choice of paths. The way by Schluderns is rougher but more picturesque. Some way below the village of *Matsch*, on a high promontory in the angle formed by such a ravine and the main stream, stand the ruins of two castles, Unter-Matsch and Ober-Matsch, once belonging to the powerful Counts of Matsch. The way to *Tartsch* and *Mals*, which stand in the open valley a little above the opening of the Matscherthal, is by a cart-road along the slopes on the NW. side of the valley. This gradually turns to the W. as it descends by the rounded

shoulder of the mountain, to *Tartsch* (Rte. A). The course taken by Mr. Tuckett's party from Fend to the Hintereis Joch obviously involved a considerable détour. There is no doubt that the most direct way from Fend is by the Rofenthal up to the foot of the Hintereis Glacier and then by its main branch ascending in a direction rather S. of W. An alternative course was discovered by Mr. Holzmann in 1868 more suited for a traveller whose guide was unused to ice-work. Starting from the Glieshof, near the head of the Matscherthal, the Weisskugel was climbed, partly by the Matscher Glacier, partly by steep-looking rocks on the S. face of the peak. Thence he descended to the Hintereis Joch, and crossed the ridge to the rt., separating the Hintereis from the Steinschlag Glacier, which occupies the extreme uppermost end of the Schnalserthal. The way lies to the l., keeping near the ridge that bounds the glacier, and it is then easy to descend to Kurzras, or to reach the path over the Hoch Joch a few minutes below the summit. By this route the summit of the Weisskugel has since been reached in less than 5 hrs. actual walking from Kurzras.

6. To *Reschen*, or *St. Valentin*, by the *Langtauferer Joch* (10,335') and *Langtaufererthal*, 11 to 12 hrs. from Fend. The ascent to the Langtauferer Joch lies about due W. from the foot of the Hintereis Glacier. Care must be taken to avoid the branch of that glacier that descends from the Hintereis Joch at the S. foot of the Weisskugel, and to keep a tolerably direct course along the base of the Hoch Vernagt wand. The descent on the W. side of the pass lies over the Langtauferer Ferner, which is less steep than most of the glaciers lying on the outer declivities of this group. At its head the main branch of the Langtaufererthal descends to WNW. as far as the first group of houses, called *Mallag*, belonging to the village of *Hinterkirch*. Two glacier passes lead from hence into the Kauserthal (Rte. E). That best known is the *Weisse See Joch* (9,657'); the

other keeps nearer to the base of the *Hoch Glockenthurm* (10,997'). A little below Mallag another path, keeping a little W. of N., and passing over the *Tscheyer Scharte* to the l. of the last-named peak, leads into the head of the *Radurschelthal*. This is a rarely traversed Alpine glen, inhabited only by herdsmen in summer, whose torrent joins the Inn a few miles below the defile of *Finstermünz* (Rte. A). A traveller bent on exploring the least known valleys of this district might accomplish the passage of the *Tscheyer Scharte*, and then cross a second pass on the N. side of a summit called *Kaiserjoch* (10,198'), leading through a lateral glen (*Kaiserbergerthal*) from the *Radurschelthal* to the *Kaunserthal*.

It is a walk of $3\frac{1}{2}$ hrs. through the *Langtaufferthal* from Mallag to Graun, on the high road a short way S. of the *Reschen-Scheideck* (Rte. A), where the *Carlinbach* issues to join the infant *Adige*. Having regard to the quantity of water which it bears down from the glaciers at the head of the valley, this may be considered the chief source of the *Adige*. Several hamlets are passed between *Hinterkirch* and *Pedross*, which is the chief place near the opening of the valley. About half-way two narrow glens are seen to open on the S. side. One of these passes to the E., the other to the W. of the *Danzewell* (10,311'). Both glens lead to practicable cols over the ridge dividing the *Langtaufferthal* from the *Planailthal*. The latter wild glen lies between the first and the *Matscherthal*, but does not penetrate so deeply into the snowy range as do the neighbouring valleys.

On reaching Graun the traveller may either turn northward to *Nauders*, or, if his course be down the *Vintschgau*, he will find a less attractive inn at the post-station at *St. Valentin*.

ROUTE D.

SÖLDEN TO MERAN (OR NATURNS) BY THE GURGLTHAL.

In describing the interior recesses of the *Oetzthal Alps*, we have hitherto omitted to notice the branch of the valley whose opening was seen S. of *Zwieselstein*. The *Gurglthal* is not inferior to the *Fenderthal* in attractions for the mountaineer, except that it does not offer so great a variety of expeditions to his choice.

The best way from *Zwieselstein* to *Gurgl* is by a path that mounts rather steeply through forest on the l. bank of the main torrent, till, above the opening of the *Timblthal* (Rte. B), it crosses to the rt. bank near a waterfall formed by the torrent from that glen. The valley here opens and fairly enters the Alpine region, leaving that of coniferous trees, none but scattered arollas (*Siberian pines*) being henceforward seen. In about 1 hr. from the bridge the traveller reaches *Pill*, the lowest hamlet of *Gurgl*. Several small groups of houses are passed in succession, and as the surrounding peaks appear to close round the head of the valley, and the traveller thinks himself approaching close to the foot of the glaciers, a turn of the path round an intervening green hillock discloses the church and small village of *Gurgl* (6,238'), the highest in the Eastern Alps. There is no inn, but strangers are kindly received by the parish-priest, and find very fair quarters, for so remote a spot, when the house is not overcrowded, as sometimes happens in summer. The former parish-priest, *Herr Trientl*, lately removed to *Gries*, near *Lengenfeld*, has given an interesting account of the valley

in the second annual volume of the Austrian Alpine Club.

The traveller who wishes to enjoy the scenery of this district cannot do better than make his first halt in the upper Oetzthal at Gurgl, and after devoting a day or two to the neighbourhood, go from hence to Fend by the Ramol Joch; but those who have already seen the Fendertal may take Gurgl on the way to the valley of the Adige, crossing one or other of the passes mentioned below. The best guides here are Blasius Grüner, Peter Paul Gstrein, and Rupert Scheiber. A tariff of charges has been established, considerably higher than formerly. For the higher peaks the rate is from 4 fl. to 6 fl.; and in many cases two guides are considered necessary for a single traveller.

The indispensable excursion for the visitor to Gurgl is that to the *Eissee* and *Great Oetzthaler Glacier*. There is a path by the l. bank of the torrent; but it is steep and difficult, and that by the opposite side of the valley is preferred. About 20 min. above the village the latter track reaches the Gaisbrücke, a bridge crossing the torrent from a lateral glen called *Gaisberg*, rarely visited by tourists, but interesting to the naturalist and geologist. At its head is a rather considerable glacier which may be visited by a detour from the path to the *Eissee*, but deserves more leisurely examination. Above it rise the peaks of the *Granatenkogel* (10,783') and the *Kirchenkogel* (10,790'). The first derives its name from the abundance of large garnets found in the mica slate. As they have been much sought after, good specimens are not now easily found. On the opposite or S. side of the glacier, the mica slate passes into a micaceous clayslate, with veins (or alternating layers?) of crystalline limestone, connected with a large contiguous mass of dolomite. Fine specimens of quartz crystals have been found on the S. lateral moraine of the glacier.

Continuing his course up the main branch of the Gurglthal from the Gaisbrücke, the traveller in 1 hr. reaches the opening of the *Rothmoostal*, a lateral

glen parallel to the Gaisberg, also leading to a large glacier lying between the *Kirchenkogel* and *Rothmooskogel* (10,773'). H. Trientl narrates an accident that befell a guide from Pfelders who accompanied two English travellers across this glacier to Gurgl in 1863. His life was saved after falling to a depth of nearly 70 feet into a crevasse.

Crossing the torrent from the *Rothmoosferner*, the traveller follows the path about SSW. to Schönwies, where sheep and goats are pastured in summer. A rather steep ascent follows, but the path has been lately improved, and on turning a corner of rock the traveller suddenly finds himself face to face with the great glacier, appropriately named *Grosse Oetzthaler Ferner*, as it is seen in the back ground from the lower part of the main valley. In the early summer the attention of the traveller will be at once arrested by the *Eissee*, or *Gurgler Lake*. This is formed in the same manner as other small glacier-lakes in Switzerland and Tyrol, but, when full, is on a larger scale than any of them. The torrent from the Langthaler Ferner which flows from due S. into the head of the Gurglthal is arrested by the larger glacier, which fills the trough of the valley. In the spring and early summer, when the Langthaler torrent is much increased in volume, the waters accumulate till they fill the entire space between the two glaciers, forming a lake about 1 m. in length, nearly $\frac{1}{2}$ m. broad, and 400 ft. deep at the lower end where it abuts against the lower glacier. Large masses of floating ice form miniature ice-bergs on its surface, and the conditions which have caused the disastrous inundations in the neighbouring Rofenthal (Rte. C) seem to be repeated. In fact, some damage was done in the early part of the last century by the rapid outflow from the lake, but, as an ordinary rule, the accumulation stops when the stream has reached the level of the lower glacier on its W. bank. Mainly by a process well explained by Sonklar, the water excavates a passage under the ice dam, while at the same time a stream near the

bank gradually deepens its bed, and so the lake is drained without a dangerous outburst of the pent-up waters. A small grove of arollas is seen near the base of the Grosse Ferner at the unusual height of about 7,100 ft.

The mountaineer should ascend the northern peak of the *Schwärzenspitz* (9,751'), between the two great glaciers of the valley. It commands a noble view.

The easiest pass from Gurgl to Fend is doubtless that by the *Ramol Joch* (10,537'), lying between the *Ramolkogel* (11,655') and the *Stotterhorn* (11,257'). A path has been constructed of late years, and 6 hours steady walking fully suffice for the passage. Following the steep path by the l. side of the torrent, the summit is attained by the slopes W. of the great glacier, and the descent lies over the *Spiegelferner*, whose torrent runs into the lower part of the *Niederthal* (Rte. C) about 1 hr. above Fend. It appears easy to combine the ascent of the *Stotterhorn* with the passage of the *Joch*; but that of the *Ramolkogel* costs more time. A more direct way from Gurgl to Fend lies over the *Fallferner* (6 to 7 hrs.). This course is interesting chiefly for the prodigious development of the ancient moraines on the W. side of the *Gurglthal*. It is said that from 60 to 80 parallel moraines may in some places be traced on the slope extending from the bottom of the valley to a height of 2,600 ft. The ascent of the *Nöderkogel* (10,375'), the summit of which is easily reached in 5 hrs. from Gurgl, may also be taken on the way from that village to Fend.

Passes from Gurgl to Meran. The easiest way from Gurgl to Meran is the circuitous course by the *Timbler Joch* noticed in Rte. B. It is a very long day's walk. A shorter way to *Rabenstein* in the upper *Passeyerthal* is by the *Königsthal*, a short glen, whose torrent falls into the *Gurglthal* at *Sägemühle*, about $\frac{1}{2}$ hr. below the village. The pass, called *Säber Joch*, is said to be very rough, rather difficult, and to cost as much time as the way by the *Timbler Joch*. The most direct way to *Plan* in

the *Pfeldersthal* is by the *Rothmoosferner* (see last page). This glacier rises by successive steep slopes alternating with nearly level terraces. Some wide transverse crevasses are difficult to pass when not covered by solid snow bridges. The S. side is easy, and *Plan* is reached in $5\frac{1}{2}$ hrs. from *Gurgl*. The ordinary way to the *Pfeldersthal* is by the *Langthaler Joch* (9,939'). This pass, reached in $4\frac{1}{2}$ hrs. from *Gurgl*, lies to the E. of the *Hochwildspitz* (11,410'), one of the highest summits in the main range S. of *Gurgl*—the corner-stone whereat meet the *Gurglthal*, *Pfeldersthal*, and *Pfossenthal*. The ascent is by the *Langthalerferner*, which is divided from the *Grosse Ferner* by the ridge of the *Schwärzenspitz*. The glacier comes to an end at the summit, and a steep, but not very difficult, rock descent leads down to *Lazins* at the head of the *Pfeldersthal*. The way being long, an early start is expedient. The view, which extends eastward to the snowy peaks of the *Tauern Alps*, and southward to the dolomite mountains of *Fassa* and *Cadore*, is magnificent.

In descending from the *Langthaler Joch*, the traveller has a choice between three different courses. He may bear to the rt. in order to cross the *Gruben Joch* (9,548'), which leads from the head of the *Pfeldersthal* to that of the *Pfossenthal*, passing between the *Hochwildspitz* to the N. and the *Hochweisspitz* (about 10,370'?) to the S. This would lead to *Karthaus* in the *Schnalserthal*, but the shortest and most interesting way to that place is by the *Gurgl Joch* (see below).

The second course offered to the mountaineer is to bear to the l. and descend the *Pfeldersthal* to *Plan* (5,341'), the chief village of the valley, and on that account often called *Pfelders*. It is reached in $3\frac{1}{2}$ hrs. from the summit of the pass. There are now two inns at *Plan*, and it is no longer necessary to seek hospitality at the priest's house. 2 hrs. lower down, near the opening of the valley, is the village of *Platt*. The *Pfeldersthal* is a lateral glen which joins the main

branch of the Passeyerthal at Moos (Rte. B), but, as its level is much higher, the path descends rapidly from Platt, and the torrent, after passing through a ravine, issues in a fine waterfall—the *Platter Fall*—a short distance from Moos.

As the Pfeldersthal descends nearly due NE. from its head to its junction with the upper Passeyerthal—i.e. in a direction nearly exactly opposite to that of the lower part of the valley between St. Leonhard and Meran, the course last described is very circuitous, involving fully 11 hrs. steady walking from the Langthaler Joch to Meran. A much more interesting way, rougher, but scarcely half as far in actual distance, is by the *Spronser Joch*. To reach this the traveller, after descending to Lazins, a group of huts near the head of the Pfeldersthal, merely crosses the latter valley, and begins to mount, nearly due S., through a lateral glen called *Lazinserthal*, which leads to the pass (8,440' ft. high). The view of the range of snowy peaks on the opposite side of the Pfeldersthal is said to be very fine. On the S. side of the Spronser Joch the path lies for a considerable distance through an upland valley containing five or six small lakes, whence a rapid descent leads into the *Spronserthal*, a wild glen enclosed between steep walls of rock. The traveller may follow this down to its junction with the Passeyerthal near Meran, or he may take a rather more direct way, passing by Schloss Tyrol (Rte. A), and descending by the path from thence to the town. In this way Meran may be reached in 10 hrs. steady walking from Gurgl. A guide is required, not only for the passage of the Langthaler Joch, but also for the way from Lazins to the lower part of the Spronserthal.

Gurgl to Naturns by the Gurgl Joch and Pfoessenthal. The pass over the head of the great Oetzthaler Glacier, and the descent through the Pfoessenthal to Karthaus in the Schnalsertal, is very rarely effected, though one of the most interesting excursions in this dis-

trict. An ascent of 2 hrs. from the Eisse, partly over the glacier, partly by steep slope: on the E. bank, leads to the *Steinerne Tisch* (9,560'), a huge block lying close to the edge of the ice. Here begins the névé, and of course the rope should be put on. A Dr. Bürstenbinder from Berlin, refusing to adopt that precaution, was hauled up a corpse from a crevasse into which he had fallen. In 1½ hr. from the *Steinerne Tisch*, or less if the snow be in good order, the traveller reaches the summit of the *Gurgler Joch* (9,956'), lying between the *Hochwildspitz* (11,410') and the *Karlespitz* (11,256'). Although the descent into the Pfoessenthal is at first extremely steep, the people of the Schnalsertal annually send a large flock of sheep this way to the pastures above Gurgl. Many accidents are recorded. In June 1844, the flock was surprised by a snow storm on the glacier, and more than 200 sheep, with one of the shepherds, were frozen to death.

At *Eishof* (6,790'), a large stone house at the head of the Pfoessenthal, the traveller joins the path leading from the Pfeldersthal over the Gruben Joch, and then descends, at first due W., through this wild valley, one of the deepest and most savage in Tyrol, but rarely traversed by the foot of a stranger. From *Mitterkaser*, where the Pfoessenthal bends to the S., a path leads to *St. Katharina*, on the E. side of the Schnalsertal. If the traveller be bound for Naturns he may keep to the track on the l. side of the valley. Should he design to return to Fend, or traverse any of the passes described in Rte. C, he will cross the main valley to Karthaus (10 hrs. from Gurgl), and seek night-quarters there, or at the better inn at *Unser Liebe Frau*.

The passage of the Gurgl Joch may be combined with the ascent of the *Karlespitz* (11,256'), commanding a very fine view of the surrounding peaks and glaciers. This is effected by a steep climb along a rocky ridge that extends southward from the summit. Instead of returning the same way and descending

to the Pfossenthal, the traveller may descend to Fend across a great basin of névé above the head of the Schafferner, which falls into the Niederthal close to the lower end of the Marzot Glacier. In 3 hrs. (fast going) the path in the Niederthal is reached from the summit.

Another route sometimes taken from Gurgl to Fend lies over the summit of the *Schalfkogel* (11,562'); this is shorter than the way by the Karlespitz, but the view is said to be less interesting.

The writer has seen no notice of the ascent of the *Rothbergspitz* (11,904')—called *Rothenspitz* on Sonklar's map—next to the *Weisskugel*, the highest summit in the range dividing the Adige from the Inn. It rises NW. of Mitterkaser in the Pfossenthal and outtops the Similaun by 94 feet.

ROUTE E.

LANDECK TO FEND, BY THE KAUNSER- THAL AND GEBATSCH JOCH.

It was remarked in the introduction to this section that the Fenderthal, or main branch of the Upper Oetzthal, is walled in on the NW. side by the highest of the ridges making up the group of the Oetzthal Alps. This, which has by Sonklar been collectively called *Weisskamm*, contains the three highest summits of the entire group, and nowhere sinks below the level of about 10,400 ft. The three parallel secondary ridges that stretch northward from the *Weisskamm* towards the Innthal enclose two valleys, the Kaunserthal to the W., and Pitzthal to the E., that deserve far more attention than they have received from travellers. Glaciers of the grandest character enclose each valley at the upper end, and very interesting passes afford to the mountaineer a choice of agreeable routes for approaching Fend, or travelling thence to the Innthal. The greatest of these glaciers, the longest in the Alps E. of the Adige, is the *Gebatschferner*, also written *Gepaatschferner*, which falls into the head of the Kaunserthal. The

pass connecting this great glacier with Fend, recently called *Gebatsch Joch*, offers a sample of the strange effects of vague rumour in exaggerating the perils of Alpine adventure. The pass appears to have been at one time frequently used by the natives of Fend, who passed that way to the pilgrimage church of Kaltenbrunn in the Kaunserthal. Of late it has been rarely used, and has acquired the name of a dangerous pass. Even in a work so generally accurate as the second edition of Schaubach, published in 1866, it is alluded to as only to be attempted 'at peril of life, and probably impracticable since Nicodemus Klotz no longer undertakes to act as guide.' The 'Jahrbuch of the Austrian Alpine Club,' however, contains two accounts of the pass which was traversed early in July 1860 by Herr Weilenmann, and about six weeks later by Dr. A. v. Ruthner. As in all similar expeditions the constant use of the rope is indispensable, and when there is little snow on the upper part of the *Gebatschferner*, the crevasses may give some trouble, but in their ordinary condition the glaciers on both sides seem to be singularly free from difficulty, as may be inferred from the fact that Herr Weilenmann reached the pastures of the *Plattheyberg* above *Rofen* in 5 hrs. from the *Gebatschalp* in the Kaunserthal. The confusion existing as to the true names of many of the peaks and glaciers in this district, and the want of agreement between the best maps, makes it difficult to follow the narratives above alluded to without risk of error.

The *Kaunserthal* was referred to in Rte. A, as the post-road to the *Finstermünz* passes the opening of the valley at *Prutz*, about 3 hrs. above *Landeck*. From the foot of the *Gebatsch Glacier* to near *Kaltenbrunn* (5 hrs. walk) the valley descends due N., but then turns westward, and for 2 hrs. more keeps a course but little N. of W. to *Prutz*. The range on the W. side of the valley includes the following principal summits, some of which are liable to be confounded with others of the same

name in this district. *Karls-spitz* (10,253'), *Zirmes-spitz* (9,652'), *Glockhaus* (10,159'), *Kaiserjoch* (10,198'), *Glockenthurm* (10,998'), and lastly the *Weisscespitz* (11,618'), rising above the W. side of the Gebatsch Glacier, and joining the main range of the Weisskamm. In the range dividing the Kauser and Pitz valleys the main summits in ascending from N. towards S. are the *Aifenspitz* (8,403'), *Prischelkopf* (9,545'), *Watzkopf* (9,551'), *Blickspitz* (11,047'), and the range is linked to the Weisskamm by the *Oelgrubenspitz* (about 11,000').

As happens in nearly all the valleys radiating from the snowy group of the Oetzthal Alps, the *Faggenbach*, which drains the Kauserthal, has at the opening of the valley cut a very deep cleft, through which it issues to join the Inn at Prutz. A sharp ascent of more than 800 ft. leads from that village to *Kauns* (3,557'), a thriving village, with an ancient castle (Bärenck), repaired and modernised by its present owner. Overlooking in some places the deep gorge of the Faggenbach, the path along the rt. bank leads in 2 hrs. from Prutz to

Kaltenbrunn (4,181'). A large and handsome church, with but half a dozen houses, one of which is a rough but tolerable inn, marks a spot much resorted to by pilgrims from the neighbouring valleys. The name is apparently derived from a jet of very pure and cold water that is made to issue from a crucifix of life size opposite the church porch. In approaching this place from the Innthal below Imst, the shortest way is by the lower part of the Pitzthal, and the path of the Piller Joch, then following a track leading along the W. base of the Aifenspitz to Kauns. In approaching Kaltenbrunn, the stranger might suppose himself near the head of the valley, as above it the mountains seem to close together, but a short distance farther on an abrupt bend in the course of the stream opens before the traveller the long reach of the upper valley, extending without

a break to the foot of the Gebatsch Glacier. The scenery is somewhat monotonous, the more so as the higher summits are often shut out from view. The valley is very subject to avalanches in winter and spring, no less than 36 habitual avalanche-channels being pointed out on the slopes on either side. Further peril and loss to the natives of the valley is caused by the impetuous torrent of the Faggenbach, which often overflows its channel, bearing down masses of sand and gravel over the pastures and fields. The destruction of the forests is, as usual, the main source of mischief. The only village is *Feuchten* (4,325'), a very small place, with a rough but tolerably clean inn, kept by Gfall. Near at hand is the *Gsöllbachfall*, a waterfall of much local repute. It is formed by the Gsöllbach, a torrent descending from the Distenkopf, which springs over nine successive ledges of rock, in as many cascades, whose united height is 1,375 ft. Four of these are visible from the ordinary path, but the supply of water is often insufficient. The *Brunigbach* fall, higher up in the valley, which descends 498 ft. in a single bound, is more picturesque. Several passes, noticed in Rte. G, lead from the lower part of the Kauserthal to the adjoining valleys. Another pass leads westward from Feuchten to the Innthal through the *Christinathal*. The higher of the *Verpeilspitzen*, two very steep (supposed inaccessible) obelisks of rock that project from the snowy range E. of Feuchten, has been twice climbed by travellers, each time under the guidance of Gabriel Spektenhauser. On the second occasion the descent was made to Feuchten.

There are several scattered groups of houses above Feuchten, at one of which, called *Rifenhof*, dwell the brothers Auer, of whom the younger, named Johann, is counted the best guide in the valley. He accompanied M. Weilenmann, and other subsequent travellers, over the pass to Fend. An avalanche of mud, gravel, and stones, poured down through a cleft on the E. side of the

valley in 1862, has ruined the best pasturages in the valley, and reduced the few inhabitants to poverty. Four hrs. from Feuchten, or $5\frac{1}{2}$ hrs. from Kaltenbrunn, the traveller reaches the *Gebatschalp* (6,225')—also called *Oelgrubenalp*—with the last huts, close to the foot of the great glacier. Connected with the Pitzthal by the *Oelgruben Joch* (Rte. G), and with the *Langtaufererthal* by the *Weisse See Joch*, and close to the largest glacier of the Eastern Alps, this spot may serve as a centre for many interesting excursions, and the German Alpine Club has judiciously built at a place some 20 min. above the chief hütten a place of refuge for travellers. For a general view the best point is the *Wonnetberg* (9,625'), a western outlyer from the *Oelgrubenspitz*, commanding an admirable view of the *Gebatsch Glacier*.

This great ice-stream is divided at its lower end by the *Rauchkopf* (9,796'), a massive island of rock, round whose eastern side the larger arm of the glacier falls in a rather steep ice-fall, while the narrower branch descends on the W. side. The easiest way to reach the upper plateau of the glacier is to climb the rocks of the *Klein Rauchkopf*, lying E. of the main mass, and separated from it by an ice-couloir. On reaching the summit, the *Hochnagelwand* (11,623') is seen due S., while a range of dark rocks called *Schwarze Wand* encloses the glacier on the SE. side. The pass to *Rofen* and *Fend* lies on the E. side of the first-named ridge. It is said that the upper part of the *Gebatsch Glacier* is very difficult when the *névé* is so far melted as to leave exposed the great crevasses by which it is intersected, but no such difficulty was encountered by either of the travellers who have given an account of the pass, and Mr. Weilenmann reached the summit in $3\frac{1}{2}$ hrs. from the *Gebatschalp*. The height of the *Gebatsch Joch* has not been measured, but has been estimated by Mr. Tuckett at about 10,800 ft.

The next high summit to the E. is the

Prochkogel (11,926'), beyond which the *Wildspitz* asserts its supremacy over all the surrounding peaks. Contrary to the current belief on the subject, the *Gebatsch Joch* leads to the NW. branch of the *Hoch Vernagtferner*, and not to the *Kesselwand Gl.*, or N. branch of the *Hintereis Glacier*. In descending it is expedient to bear to the l. down the gentle slopes of *névé* that lead to the point where the *Rofenthalferner* joins the main stream. No difficulty is found in leaving the glacier on its E. bank, near to the highest pastures of the *Plattheyberg* above *Rofen*, which is easily reached in another hour. See Rte. C.

ROUTE F.

IMST TO FEND, BY THE PITZTHAL.

Although the majority of travellers will naturally choose the easy route from the valley of the *Inn* to *Fend* or *Gurgl*, through the *Oetzthal* (Rte. B), not a few mountaineers may be tempted to prefer the way through the *Pitzthal*, here briefly described. There is a choice between three rather difficult glacier-passes leading directly to *Fend*, and the less arduous passes noticed in the next Rte., connecting the head of the valley with *Sölden* or the *Kauserthal*.

Not taking into account the lateral glen of the *Taschachthal*, the head of the *Pitzthal* descends from S. to N. for about 9 m. parallel to the *Kauserthal*, till, at *St. Leonhard*, it bends to the l., and for about the same distance follows a NW. direction to *Kreith*, where it unites with the little glen descending from the *Pillerjoch*, turns to NE., and joins the valley of the *Inn* a little below *Imst*. The distance from the opening of the valley to the *Mittelbergalp* near the foot of the great glacier is counted as 11 *Stunden*. Crossing the *Inn* by the *Langenbrücke* below *Imst*, a cart-track mounts to *Arzl*, a large scattered village, overlooking the junction of the *Gurglthal* (§ 42, Rte. A), and the *Pitzthal* with the *Inn*. The track thence

mounts along the l. bank of the torrent to *Wens* (2,831'), $1\frac{1}{2}$ hr. above Arzl, a thriving village, with massive stone houses, overlooked by the still inhabited castle of Hirschberg. It will not escape the traveller's notice that the short lateral glen, opening to SW., and leading over the low Pillerjoch to Prutz, is the orographic continuation of the upper valley of the Inn, and affords one more instance of the truth that the direction of the existing valleys and depressions of the Alps is not what should be expected by those who believe that these originate exclusively in erosive action. The path to the Pillerjoch passes by Kreith, while that leading up the main valley crosses the torrent to *Jerzens*, near to the *Stuibenfall*, a fine waterfall, not to be confounded with others of the same name in the Oetzthal and elsewhere. Henceforward the slopes on the E. side of the valley are extremely steep, merely showing patches of snow and short tongues of glacier protruding through the openings in the range. On the opposite side the slope is gentler, and many short lateral glens lead up to the glaciers that extend almost continuously along the ridge. Not less than fifteen are said to send their torrents from that side into the Pitzthal. The track which is practicable for rough country vehicles as far as St. Leonhard, keeps to the rt. bank between Jerzens and Ritzenried, soon after crosses to the l. bank, but returns to the opposite side to Harlach, and in $6\frac{1}{2}$ hrs. from Arzl leads the traveller to

St. Leonhard (4,584'). This is the chief place in the valley, and might serve as headquarters for a traveller wishing to explore the fine ranges that enclose it on either side. The names of the chief summits in the Kaunsergrat are enumerated in the last route. Those of the opposite ridge between this and the Oetzthal (or Pitzkamm of Sonklar), reckoning from N. to S., are as follows:—*Wildgratkogl* (9,744'), *Hohe Feiler* (10,092'), *Feuerkogel* (10,100'?), *Hohe Geige* (11,128'), *Puikogl* (10,965'), and *Schwarze Kögele* (10,675'). The

latter, said to command an especially fine view, is reached with little difficulty from Mittelberg. The passes over both these high ranges are noticed in the next Rte. Passing on the way the hamlet of *Trenkwald*, in 3 hrs. from St. Leonhard, the traveller reaches *Plangeros* (5,464'), the highest village in the valley, where a small inn (*Traube*), kept by very civil people, supplies lodging and entertainment. Here trees become scarce, and too few remain on the slopes to ward off avalanches from the houses, scattered through the upper valley. The path passes three hamlets belonging to *Plangeros*—*Tieflehn*, *Manndorf*, and *Mittelberg* (5,880'). The latter is a mere group of *hütten*, very near to the foot of the great *Mittelberg Glacier*, whose ice-fall, said to be the grandest in Tyrol, is full in view. Here the main valley comes to an end, but a wild lateral glen, *Taschachthal*, opens to the SW. It is surrounded by high glaciers, of which the *Taschach* and *Sechsegerten* Glaciers descend from the main range N. of the *Wildspitz*, while over the *Oelgrubenferner* lies a way to the Kaunserthal. Travellers may now find good shelter for the night at the *Taschachhütte*, lately built by the German Alpine Club. The best guides in the valley are 'der Bauer,' in Mittelberg, and a man (name unknown) at the preceding hamlet of Manndorf. The better guides of the Oetzthal (especially *Alois Ennemoser*) and *Gabriel Spektenhauser* of *Unter Liebe Frau*, are probably much more useful than any native of the valley.

The westernmost pass, which may be called *Taschach Joch*, was traversed by *Dr. Ruthner* in 1858. Mounting from *Rofen* by the *Platteberg* to the upper plateau of the *Vernagt Glacier*, as on the way to the *Gebatsch Joch*, the pass leading to the *Taschachferner* was approached by the SE. corner of the plateau. From thence he descended through the *Taschachthal* to *Mittelberg*.

The highest and most difficult, but probably the finest, of the three passes was effected by Messrs. *Tuckett*, *Freshfield*, and *Fox*, in 1865, on the same day

on which they ascended the Wildspitz (Rte. C).

After descending eastward from the Wildspitz to the head of the Rofenkar-Kees, and then keeping round well to the l., they dropped down upon the lowest point in the ridge connecting the Wildspitz with the *Weisskopf* (11,209'), often called Fender Weisskugel. The pass, connecting the névé of the Rofenkar with that of the Mittelberg Gl., has been called *Mittelberger Joch*, and, being but little below the summit of the Weisskopf, may be estimated at about 11,000 ft.

The descent was made by 'the eastern of the two great bays into which the Mittelberg Gl. is divided by the Hochwand, and no difficulties were encountered till the brow of the upper ice-fall was reached at the point where the highly crevassed *Hangendeferner* comes down from the E. at rt. angles to the main ice stream.' A passage through the séracs was soon effected, and the rt. lateral moraine was reached in 2 hrs. from the pass. Two hrs. more of steep climbing were required to reach the terminal moraine, whence the *Hütten* of the Mittelbergalp were reached in another $\frac{1}{4}$ hr.

An easier way for descending from the Wildspitz to Plangeros was discovered in 1869 by Messrs. Noon, Pendlebury, and Berreiter of Lunsbruck. Turning westward from the summit, and keeping well to the l., they easily reached the level snow-field at the head of the Taschach Glacier. Then keeping a general NW. direction, and passing some crevassed glacier, their course was barred by impassable crevasses till turning E. they found an easy descent along the ridge dividing the Taschach from the Mittelberg Glacier, and finally completed the descent by the former ice-stream.

The pass of the *Schwarze Schneide* has probably been long known to the people of the upper Pitzthal, but the first recorded passage was by M. Epsenhardt, of Berlin, with the curate of Plangeros, in 1863. It is described

by Herr Senn, parish priest of Fend, in the 2nd annual volume of the Austrian Alpine Club. This route to Fend involves two passes, of which that of the *Schwarze Schneide* traverses the dividing ridge between the Pitzthal and Oetzthal, while the *Seiter Jöchel* connects the Tiefenthal Gl. (or Seiterferner) with the head of the Rettenbachferner. The way from Mittelberg mounts, as in the passage of the Mittelberger Joch, by the rt. bank or E. side of the great lower ice-fall, and in a similar way surmounts the ice-fall of the Hangendeferner by ascending the steep western slopes of the Karleskogel. It does not appear that any serious difficulty is encountered in reaching the summit of the pass which traverses the ridge called *Schwarze Schneide*, probably about 10,000 ft. in height. The view in both directions is very striking. To the E. descends the *Rettenbachferner*, a glacier of considerable extent, though inferior to the great ice-stream that has accompanied the traveller during the ascent. If followed by the traveller, it would lead him through the Rettenbachthal to Sölden in the Oetzthal. To reach Fend, it is necessary to cross the névé at the head of the Rettenbach Gl. in a direction somewhat W. of S. to reach the *Seiter Jöchel* (about 9,850'), a depression in the ridge dividing that glacier from the much smaller *Tiefenthal Glacier*. There is no difficulty in the descent from the second col to the Mutboden mentioned in Rte. C as commanding one of the finest views near Fend. From 8 to 9 hrs., exclusive of halts, should be allowed for this way from Mittelberg to Fend. Those who do not attempt any one of these laborious glacier passes may well make the ascent of the *Mittagskogel* (10,357'), overlooking the Mittelberg Glacier. The view is highly spoken of by Sonklar. It is impossible in the present work to do more than refer the reader to the interesting observations on the glaciers of this valley contained in the work of that careful writer.

ROUTE G.

TOUR OF THE OETZTHAL ALPS. LENGENFELD, OR SÖLDEN, TO ST. LEONHARD IN THE PASSEYERTHAL.

An enterprising mountaineer favoured by a run of fine weather may enjoy such a series of fine glacier-passes as cannot be easily matched elsewhere in the Alps, by accomplishing the complete tour of the Oetzthal Alps from the Oetzthal to the Passeyertal, and visiting on the way the upper part of each of the valleys mentioned in the introduction to this section that radiate from the central mass. In the preceding Rtes. most of the passes that would be taken in this tour have been noticed, but it will be convenient to enumerate them in order here.

Between the Oetzthal and Pitzthal, and this and the Kaunserthal, there is a choice among various passes, of which those nearest the main chain here obtain precedence.

Passes from the Oetzthal to the Pitzthal.

1. *Pitzthaler Jöchel* (9,806'). Leads from Sölden to Plangeros in 6 to 6½ hrs. The Editor has received an account of this pass, as made from Plangeros to Sölden by Mr. Holzmann with Tobias Ennemoser as guide. Ascending by the rt. bank of the torrent, without crossing to the Mittelberg huts, they reached in 1 hr. the end of the Mittelberg Gl. Still ascending by the rt. moraine for ½ hr., nearly to the foot of the icefall, they then turned due E. and in 50 min. reached a stone pyramid visible from below. Leaving the small Schwarzkögel to the rt. a further ascent of 1 hr. leads to a second stone pyramid which is close to the top of the Polles Pass. Turning to the rt., and climbing a slightly projecting rock marked by a pole, a few steps more lead to a third stone pyramid marking the summit of the Pitzthaler Jöchel, of which the height has perhaps been exaggerated. A short couloir leads down to the *Rettenbach Glacier*, rather steep but not difficult. In ascending

it may be better to keep to the slope above the l. lateral moraine. Less than 1 hr. suffices to reach the opening of the Rettenbachthal from the foot of the glacier, and after crossing the main torrent the traveller may reach Sölden in 35 min. more.

2. *By the Gschrabkogel - Gletscher.* Above Hube, in the Oetzthal, between Sölden and Lengenfeld, a short glen called *Pollesthal* leads to the above-named glacier, also called *Polles Gletscher*. The pass at the head of that glacier is only a few hundred ft. N. of the Pitzthaler Jöchel, and the descent is by the way above described.

3. *By the Bradler Joch* (about 9,500'). This connects Lengenfeld with the *Hundsthal*, a wild rough glen that joins the Pitzthal near Trenkwald, a short way below Plangeros. This pass, which does not involve the passage of glacier, takes 7 hrs. exclusive of halts. A more difficult course from Lengenfeld to St. Leonhard is sometimes taken across the *Ranachferner*, but scarcely deserves to be counted as a pass.

4. *By the Grübel Joch* (9,050'). A tract mounts from Umhausen through the *Lairschthal*, and after passing close under the S. side of the Wildgratkogel, turns southward, and again resumes its westerly direction till it reaches the Pitzthal at *Grübel*, ½ hr. above Ritzenried.

Passes from the Pitzthal to the Kaunserthal.

1. *By the Oelgruben Joch* (9,400'). This pass, which appears to be easy considering its height, is taken from Mittelberg at the head of the Pitzthal by mounting through the *Taschachthal*. About 7 hrs. suffice to reach the Gebatschalp from Plangeros. In going from Plangeros, it is shorter to take a path to the rt. of the Mittelberg huts, and just above the opening of the Taschach valley to cross to the rt. bank of the torrent, returning to the l. bank about ½ hr. farther on. After passing in front of the great ice-falls of the *Taschach Glacier*, which seen from below appears

to bar the valley, an upper basin is reached which is closed by the Sachs-ererten Glacier. This is reached in 3 to 3½ hrs. steady walking from Plan-geros. The lower part is crossed diagonally in order to attain to the small *Oelgrubenferner* and to the summit of the pass. The latter name is given to the small glaciers on both sides of the ridge. A long slope of débris leads down to the Lower Oelgruben Gl., which is traversed for some way, keeping near the rt. lateral moraine. Below this a tract leads down into the head of the Kaunserthal; and on reaching it, it is necessary to turn to the l. and ascend the valley (less than 200 yds.) to reach the bridge crossing the torrent to the Gebatsch Alp. The traveller may either seek shelter at the Alpine Club hut (Rte. E), or go to Feuchten; fully 3 hrs. descending the valley.

2. *By the Verpeil Joch.* The traveller who has reached Trenkwald from Lengenfeld by the Bradler Joch (see above) may on the same day traverse this pass between the Sonnerkogel and Schwahenkogel, leading in 6 hrs., exclusive of halts, to Feuchten (Rte. E). The way is said to be very rough and steep, requiring a local guide; and the difficulty of finding one would present a serious obstacle to the traveller wishing to effect both passes on the same day.

3. *By the Tiefenthal Joch* (8,703'). This leads from St. Leonhard to Kaltenbrunn, and is easier than the last. The track passes under the *Peischelkogel* (9,546'), and is said to command fine views.

4. *By the Nieder Jöchl* (7,846'). This is the easiest and most frequented of the passes connecting the Pitzthal and Kaunserthal. It is best taken from *Harlach* (Rte. F), about halfway between St. Leonhard and Ritzenried, and by it Kaltenbrunn is reached in 5 hrs., exclusive of halts.

Passes from the Kaunserthal to the Langtaufererthal.

The direct way from the Gebatschalp, at the head of the Kaunserthal, to

Mallag, in the Langtaufererthal, is by the *Weisse See Joch* (9,657'). The course is about due SW. to the *Weisse See* (8,273'), a small glacier-lake. Thence, amid very grand scenery, the traveller mounts, bearing a little to the l. to the glacier that covers the summit of the pass. From 6 to 6½ hrs. suffice to reach Mallag, the highest hamlet of Langtaufers. There is another pass, or a variation on the *Weisse See Joch*, as to which the scant notices that have reached the writer are not accordant. It is said to pass close under the *Glockenthurm* (10,997'), and to be longer than the ordinary route.

The traveller who would add one more to the number of unfrequented valleys visited in the tour of the Oetzthal Alps may take the head of the Radurschelthal on his way to the Langtaufererthal. About 1 hr. below the Gebatschalp he may follow a track that mounts westward to the *Kaiser Joch*, and descends into the head of the Radurschelthal; and he may reach Mallag on the same day by turning about due S., and crossing the *Tscheyer Scharte* (Rte. C). This would involve a very long day's walk.

A Pass from Mallag to the head of the Matscherthal, between the *Freibrunnerspitz* (11,719') and the *Weisskugel*, is mentioned by Sonklar under the name *Matscher Joch*. It was pointed out by shepherds at Mallag, who spoke of it as dangerous and very rarely used, but no traveller is known to have passed that way. As mentioned in Rte. C, there are two passes leading from the middle part of the Langtaufererthal to the *Planailthal*. It is most likely that the herdsmen of that valley are acquainted with some pass leading across the ridge SW. of the *Portlesspitz* (10,066') to the *Matscherthal*.

Pass from the Matscherthal to the Schnalserthal.

The only one known is the *Langgrub Joch*, better known in the Schnalserthal as *Matscher Joch*, noticed in Rte. C. Particulars as to this pass, which lies

immediately N. of the *Salurnspitz* (11,260'), are much desired.

Pass from the Schnalserthal to the Passeyerthal.

The easiest way from Unser Frau to Moos, or St. Leonhard, in the Passeyerthal, is by the Pfosenthal and the *Gruben Joch* (9,548') leading to the head of the Pfelderthal (Rte. D). It is worth remarking that the ascent of the Similaun might be taken in the way from Unser Frau to the Pfosenthal, as it is doubtless practicable to descend from that peak to Mitterkaser or Eishof, in the latter valley. Ildefons Kobler, of Rableid, in the Pfosenthal, is recommended as guide, and Pixner, inn-keeper at Plan, can lead travellers from the Pfelderthal over the Gruben Joch.

The complete tour of the Oetzthal peaks, here suggested, will include six passes with an average height of very nearly 10,000 ft.

SECTION 49.

STUBAY DISTRICT.

THE Brenner pass, as has been remarked in the introduction to this chapter, divides the main chain of the Tyrol Alps into two unequal portions, of which the western division includes the two irregular groups of the Oetzthal and Stubay Alps, while the eastern division is traversed by a nearly continuous range extending from near Sterzing to the frontiers of Styria. The line of valley followed by the road from Innsbruck to Brixen is thus, in an orographic sense, a boundary between two well-marked divisions of the Alpine chain. Of the western division the most considerable portion has been described in the last section, and there remains only a small but lofty group of high mountains, commonly called the Stubay Alps, from the name of the chief valley which penetrates deeply into their recesses. This

is to be described in the present section. As the drainage of the Stubay valley, and that of the other principal valleys of this group, is borne to join the Inn or the Eisack through the line of depression traversed by the Brenner road, the latter is also naturally to be described in this place.

Although little visited by English tourists, the Stubay Alps lie close to one of the most frequented of alpine highways. Without quitting the railway carriage or the high road, the traveller may gain a glimpse of several of the higher peaks, but he can form no adequate idea of their dimensions, nor of the glaciers that enclose their inner valleys. Enclosed between the Oetzthal, the Inn, the Brenner road, and the Jaufen Pass, the Stubay group fills an area of about 610 square miles. Its highest summit, the Wilder Pfaff, attains 11,512 ft., and at least thirty-three peaks exceed 10,000 Vienna ft. (10,371 Eng. ft.) in height. If spread out uniformly over the whole area, these Alps would attain the height of 7,164 ft. over the sea-level.

The Stubay Alps have been thoroughly explored by MM. Barth and Pfaundler, who have carefully measured the heights of nearly all the principal peaks, and have published the results of their labours, with a detailed map, in which 71 separate glaciers are laid down, in a volume entitled 'Die Stubayer Gebirgsgruppe,' published at Innsbruck, in 1865.

The best headquarters for the mountaineer in this district are at Neustift, in the Stubaythal, and at Gschnitz, but some fine scenery is accessible in a day's walk from the inn at the summit of the Brenner Pass or from the town of Sterzing.

Besides the road of the Brenner and the main group of the Stubay Alps, we include in the present section the much lower pastoral district of the Sarntal, lying between the Passeyerthal and the Eisack, which may conveniently be visited by the pedestrian on the way from Botzen to Sterzing.

ROUTE A.

INNSBRUCK TO BOTZEN, OVER THE
BRENNER PASS, BY ROAD.

	Austrian miles	Eng. miles
Schönberg	2	9½
Steinach	1½	7
Brenner	1¼	8¼
Sterzing	2	9½
Mittewald	2	9½
Brixen	2	9½
Klausen	1½	7
Atzwang	2	9½
Botzen	2	9½
	<hr/> 16½	<hr/> 79¼

Reference has been made in several preceding portions of this work to the great breach in the continuity of the chain of the Alps which is marked by the valley of the Adige. Following up the course of that river from the neighbourhood of Verona, where it issues from the mountains through the deep and broad valley that extends in a nearly straight line for more than 80 m., we reach the point, less than 900 ft. above the sea, where the main river is formed close to Botzen, by the junction of the Etsch, or upper Adige, with the Eisack. The road leading by the Etschthal from Landeck in the upper valley of the Inn to Botzen was described in the last section. The opening through which that road is carried from the banks of the Inn to the lakes at the head of the Adige has orographically the characteristics of a true break or gap in the Alpine chain, whereas that at the head of the Eisack, which forms the Brenner Pass, corresponds rather to a dislocation in the range, similar to that forming the passes of the Simplon and Maloya. The Brenner is, however, lower by a few feet than the pass leading to Landeck, and it has from the earliest times had far greater political importance, as this offers a very direct, and the other only a circuitous, route from the valley of the Danube to the plains of Northern Italy. By this road the legions of Drusus, passing beyond the natural boundaries of the empire, established the sway of the Roman Cæsars over

the semibarbarous tribes of the Rhæti and the Alemanni, and by the same passage the reflex flood of barbarian invasion has ever since continued to inundate the plains of Lombardy and Venetia. It was but natural that this should (in 1772) be the first Alpine pass made practicable for carriages, and that it should be destined to be the first over which the locomotive draws its load. As some travellers will continue to use the post-road, and pedestrians descending from the higher valleys may traverse portions of it, it is here described in the first place, and a notice of the railway is added under a separate heading. The distances by post-road, as given above, are doubtless somewhat overrated.

After leaving the town of Innsbruck, by the arch erected in honour of Maria Theresa, the road traverses the suburb of *Wilten*. The abbey, famous during the middle ages, stands on the site of the Roman *Veldidena*, which was levelled to the ground by Attila. On leaving the village of *Wilten*, the road turns SW., and at once begins to ascend a green hill, lying in the angle between the *Sill* and the *Inn*. This is the *Berg Isel*, a spot famous in the popular annals for three victories gained by the Tyrolese peasantry under *Hofer* and *Speckbacher*, against the French and Bavarian forces, in 1809. After gaining a very fine view of Innsbruck and its neighbourhood, the road turns southward, and enters the valley of the *Sill*, or *Unter-Wipptal*. The old road was in places steep, and not quite safe, but the new road, laid out by Italian engineers, maintains a very gentle inclination throughout the ascent of about 2,700 ft. to the summit of the pass. In commencing the ascent along the l. bank of the *Sill*, the only prominent object is the peak of the *Serles* or *Waldraster-spitz* (8,898'), rising boldly somewhat W. of S. Before long, the road crosses the impetuous torrent of the *Rutzbach*, issuing from the *Stubaythal* (Rte. E), by a single arch of wide span. Just beyond the bridge is the hamlet of

Unter-Schönberg (2,243'). This stands at the N. end of a high promontory between the Sill and the Rutzbach, which is crowned by the little village of *Ober-Schönberg* (3,271'), commanding a very fine view of Innsbruck and the neighbouring Innthal, and the mountains that guard it on the N., and, on the other hand, of the Stubaythal and the peaks and glaciers that enclose it to the SW. The new road, with much advantage to the post-horses, but to the loss of tourists, winds along the slopes above the Sill on the E. side of the promontory, avoiding the village. The pedestrian is strongly advised to keep to the old road, and those who travel by hired carriages can follow the same course, leaving their vehicles near the bridge over the Rutzbach, and re-joining them an hour later, about $\frac{1}{2}$ m. S. of Ober-Schönberg.

The new road, although it loses all view of the Stubaythal, is not altogether devoid of objects of interest.

On the opposite side of the Sill rise the *Glungetzer* (8,781') and the *Kreuzjoch* (9,141'), two summits commanding very fine panoramic views. Between them is a pass leading to Volders, in the lower Innthal (§ 43, Rte. B). Nearly 2 leagues beyond Schönberg is the thriving village of

Matrey (Inns: Stern; Krone; Weisse Rose), the chief place in the valley of the Sill, 3,391 ft. above the sea. The castle, belonging to Prince Anersberg, is picturesquely placed. Here the high-road is joined by a char-road from Hall, which is carried along the rt. side of the valley, and shortens the way to the Brenner Pass for those approaching it from the Lower Innthal who have no occasion to pass through Innsbruck. This road leaves the Innthal near the castle of Amras, and passes several villages and hamlets. From Mühlthal or Ellbögen the traveller may ascend the Glungetzer, or traverse the Rosen Joch to the Voldererthal. For a notice of the pretty walk to Neustift, see Rte. E.

A little above Matrey the road passes opposite to the opening of the *Navisthal*,

with a solitary church standing on a rock midway in the glen. Passes connect its head with the Tuxerthal (§ 50, Rte. D), the Wattenserthal, leading to the lower Innthal, and the Schmirnthal. About 3 m. from Matrey the road reaches

Steinach (Inns: Post, good; Steinbock), a post-station, 3,651 ft. above the sea, rebuilt since 1853, when the church and most of the houses were burned down. Here the Gschnitzthal opens to WSW. (Rte. G), and the traveller gains a glimpse of the Habichtspitz. A little way beyond the village the road passes for the first time to the rt. bank of the Sill, and just beyond *Stafflach* (Inn: Hirsch, food very good, not cheap) crosses a considerable torrent formed about 1 m. E. of that village by the junction of the streams from two Alpine glens. That seen to ESE. is the *Falscherthal*, also written Valsertal, but not to be confounded with the Swiss valley of that name. The other branch is the *Schmirnthal*. The path through it leads to the village and church of *Schmirn* (4,542'), and farther on to *Obern* (5,065'), $3\frac{1}{2}$ hrs. from Stafflach. Two paths, one over the *Tuxer Joch* (7,618'), the other by the *Schncebruckkopf*, lead to Lanersbach in the Tuxerthal. (See § 50, Rte. C.) Beyond Stafflach the high-road crosses and re-crosses more than once the Sill, here reduced to a mere mountain stream, and passes the little village of *Gries* (3,890'), with a very fair country inn. Here opens to SW. an extremely picturesque little Alpine glen called *Oberberg*, which is also the name of the village at its head, $1\frac{1}{2}$ hr. from Gries, and 4,440 ft. above the sea. The traveller, who there finds very tolerable night-quarters, may mount thence nearly due W. to the *Muttenjoch* (8,133'), leading to Gschnitz, or may reach Anichen, in the Pflerschthal (Rte. G) in $4\frac{1}{2}$ hrs. by the *Grubjoch* (7,021'), or else may return to the high-road at Gossensass above Sterzing (see below) by a pass (7,052') between the Rothspitz and Lorenzenberg.

Above Gries the road for the last time passes to the rt. bank of the Sill, and soon reaches the little lake, *Brenner See* (4,303'), that is counted as its chief source. The lake is fed by two torrents—the *Vennabach*, flowing through a lateral glen on the E. side from the base of the *Kraxentrag* (9,831'), and the stream descending from the Brenner Pass, which preserves the name of Sill. A gentle ascent leads to the depression forming the watershed between the Danube and the Adige, where stands the

Brenner Posthouse (fair accommodation, not cheap for Tyrol), 4,588 ft. above the level of the Adriatic. It commands no distant view. The streamlet seen to form a little waterfall on the rt. of the road behind the posthouse is the principal source of the *Eisack*, which is henceforth followed to its junction with the Adige at Botzen. For more than a mile the road is nearly level, till, after passing the *Brennerbad*, a small establishment beside a warm mineral spring, it begins to descend rather rapidly to SSW., crossing and re-crossing several times the narrow stream of the *Eisack*, which here runs through a narrow but not very picturesque glen. [From the *Brennerbad* a path is carried SE. over the *Schlüsseljoch* to Kematen, in the *Pfischthal*, whence the *Zillertal* is reached by the *Pfischerjoch*.] The valley of the *Eisack* opens a little at *Gossensass* (3,520'), where it is joined by the *Pfierschthal* from WNW. As throughout the entire route, ruined castles crown the heights on either side of the road. Below the village the valley narrows for a short distance, but widens gradually as it approaches

Sterzing (Inns: Post; Krone; both good and clean), the principal place in the upper valley of the *Eisack*. This is locally called *Ober-Wipptal*, the *Sill* valley, through which the traveller ascended from Innsbruck to the Brenner, receiving the name *Unter-Wipptal*. Though the position of *Sterzing* is not very picturesque, it affords convenient head-quarters for mountain excursions. The little town, 3,094 feet above the

sea, stands close to the junction of the *Pfischthal*, through which lies a highly interesting route to the *Zillertal* (§ 50, Rte. B), while on the opposite side the *Gailbach* bears down the drainage from the *Ridnaunthal* and the *Ratschingesthal*. Occupying the site of the Roman station *Vipitenum* (*Pfisch*?), *Sterzing* long derived wealth and importance from the silver mines worked in the neighbouring valley of *Ridnaun*. The modern name is probably derived from the *Sesterces* coined here. For some miles below the town extends the marshy flat called *Sterzinger Moos*, the filled-up bed of an ancient lake. Here the *Eisack*, which had hitherto kept a course somewhat W. of S., turns to SE., and at the lower end of the *Moos*, near *Mauls* (good country-inn, beim *Nagele*) enters a defile extending to the post-station (2,611 ft. above the sea) at

Mittewald (Inn: Post, good, but rather dear). The valley between this and *Sterzing* is famous in Tyrolese annals for the heroic exploits of her sons. Here the Elector of Bavaria was driven back with heavy loss in 1703; and the French under *Joubert* retreated in 1797. More memorable still was the campaign of 1809. Marshal *Lefèvre* had despatched from *Innsbruck* a force of Bavarian and Saxon troops to force their way over the Brenner, and effect a junction with the larger French army, which was advancing from *Carinthia* through the *Pusterthal*. When the allied troops had been driven back with heavy loss, the Saxons being all killed or taken prisoners, the French general advanced in person with a larger force, chiefly French. Met in front by the *Capuchin Haspinger*, and attacked on both flanks by *Speckbacher* and *Hofer*, his men were thrown into utter confusion, and a hurried retreat to *Innsbruck*, with the loss of cannon and ammunition, was the invader's only resource.

Several passes lead from this part of the valley. The most frequented is the *Prnser Joch* (7,340'), by which the pedestrian may reach *Botzen* from *Mauls*, or from *Stilfs*, on the opposite side of the

main valley, through the Sarnthal. The pass is on this side called Stilsfer Joch, from the above-named village, but the name is inconvenient, as it is the Tyrolese name for the far better known pass of the Stelvio.

The opening of the defile of the Eisack into the broad valley above Brixen is guarded by the strong fortress of *Franzensfeste* (2,418'), mounting 137 guns, and commanding the road into Carinthia by Brunecken as well as the pass into Northern Tyrol. The road passes through the outworks of the fortress, and immediately after reaches *Unterau*, where there is a good country-inn. While the main road descends the slopes above the rt. bank of the Eisack to Brixen, another crosses that stream by the *Ladritscher Brücke*, and is carried somewhat N. of E. to *Mühlbach* on the *Rienz*, there joining the main line from Brixen to Villach in Carinthia. From this point the traveller overlooks the junction of the Eisack with the more considerable stream of the *Rienz*, which, having flowed nearly due W. as far as *Mühlbach*, there turns abruptly to the S., and merges its name in that of the lesser stream. On the tongue of land dividing the streams above the junction stands the wealthy monastery of *Neustift*. The vegetation assumes a southern character, and the traveller from the N. greets the chestnut, which here begins to predominate over other deciduous trees. Passing the opening of the *Schaldererthal*, which leads by some mineral baths of local repute and the *Schalderer Joch* to *Dürnholz*, in the *Sarnthal*, the high-road runs due S. to

Brixen (Inns: Elephant, ill-managed and dirty, in 1865; *Sonne*, second-class, cheap; *Goldenes Kreuz*). This ancient and dull place, 1,934 ft. above the sea-level, claims the rank of a city, being the see of a bishop who for many centuries ruled a temporal principality. His palace or castle is conspicuous at the SW. end of the town. The cathedral is modern, but the cloisters are ancient and curious. Constant intercourse with Italy has given a some-

what Italian character to the town, which in the language of the South is called *Bressanone*.

A new line of railway from hence to Villach, connecting the S. Tyrol with Styria, and with Trieste, is already commenced. Meantime a diligence goes daily from Brixen to Villach (§ 52, Rte. A), in 26½ hrs., and a *Stellwagen* runs as far as Bruneck. From hence to Botzen the scenery is far more picturesque than throughout the way from Innsbruck. A few miles below Brixen the valley of the Eisack is narrowed to a defile, which extends in a SSW. direction most of the way to Botzen, the road being carried along the rt. bank of the river. The vegetation, assuming a more and more southern character, adds much to the beauty of the scenery, and at intervals the singular forms of the dolomite peaks seen through the glens that open on the E. side of the valley afford a striking contrast to the massive porphyritic rocks that rise on either hand. After passing on the rt. hand the pretty waterfall called *Schrambach-fall*, the road reaches the first post-station at

Klausen (Inns: *Gans*; *Rössel*). The defile of the Eisack is here extremely confined, barely leaving room for a narrow street. Opposite the village opens the *Völlnösthal* (§ 60, Rte. G), a valley interesting to geologists. Its lower end is enclosed by mountains formed of hornblende rock and porphyry, but at its head it is separated from the *Grödnerthal* to the S., and the *Gaderthal* to the E., by a range formed of sandstone and dolomite. On a projecting rock above Klausen stands the convent of *Seben*, commanding a remarkable view. It is said to occupy the site of a Rhætian stronghold, afterwards occupied by the Romans, who erected on the spot a temple to Isis. A monumental crucifix commemorates the fate of a nun who in 1809 sprang from a window overlooking the precipice to avoid the violence of the French soldiery. The road from Klausen to Botzen is locally called *Kuntersueg*, after Heinrich Kunter, a private citizen

of Botzen, who constructed the first road through the defile of the Eisack early in the 14th century. Before that time the communication between Brixen and Botzen was carried on by circuitous paths over the mountains on either side. At *Kollmann* (1,716') the torrent from the Grödnertal joins the Adige, and the *Trostburg*, one of the numerous castles belonging to Count Wolkenstein, stands in a commanding position at the entrance to that very picturesque valley. There is here a tolerable country-inn (*Kreuz*). A path to *Castelruth* and the *Seisser Alp* diverges from the main valley at *Kollmann*, and another rather steeper track mounts thither from *Törkele*, an inn by the roadside, about $\frac{1}{2}$ hr. lower down. The road descends, though not steeply, all the way from *Kollmann* to the post-station at

Atzwang (Inn : Post), 1,452 ft. above the sea. Here the pedestrian may ascend through the glen of the *Finsterbach* to the 'earth pyramids' near *Lengmoos*, and descend thence to *Botzen* by *Klobenstein* and *Oberbotzen* (see below), the tour requiring about 5 hrs., exclusive of halts. The finest part of the defile of the Eisack is between *Atzwang* and *Karneid*. The dark red porphyry rocks rise very steeply on either side of the river, which follows a sinuous course through the deep cleft. Here the railway engineers have encountered the chief difficulties in the construction of the line between *Botzen* and *Innsbruck*, and have had to tunnel through several projecting corners of rock. Hard as it is, the porphyry rock is rapidly disintegrated by the weather, and masses have from time to time fallen on the road. At one point below *Atzwang* a considerable *Bergfall* occurred in 1845, and huge fallen blocks still lie on either side of the roadway. At *Steg* a frequented track crosses the river, and mounts to *Völs* and *Seiss* (§ 60, Rte. C). Here the pinnacles of the *Schleren* are seen from the road towering above the nearer slopes. The road for the first time crosses to the l. bank at *Blumau*, and the valley turns due W. at the junction of the *Gannen-*

bach, which here issues from the ravine leading to *Tiers*. Of the numerous castles that crown the neighbouring heights, mostly out of sight of the road, the most considerable is that of *Karneid*, still inhabited, which guards the entrance to the *Karneidthal*. The wonderful scenery of the road leading that way to *Welschenofen* is noticed in § 60, Rte. D. On recrossing to the rt. bank of the Eisack at *Kardaun*, the road emerges from the defile through which it has been carried for fully 15 m. The gentler slopes on the N. side of the valley are covered with vineyards, producing the excellent wine of *Botzen*, while on the opposite side noble chestnut-trees descend to the level of the valley. The grey foliage of the olive, which here reaches its northern limit, the shrill note of the *cicala*, and the intense heat which commonly prevails here in summer, still further completes the southern character of the scene as the traveller enters the ancient town of

Botzen (Inns : *Kaiserkrone*, a large handsome house, with a café on the ground floor, charges not unreasonable; of less pretensions are the following—*Mondschein*, or *Mezza Luna*; *Schwarzer Adler*; *Goldener Hirsch*). The eastern windows of the two hotels first named command a view of the dolomite peaks of the *Rosengarten*. Standing only 859 ft. above the sea, close to the head of the main valley of the *Adige*, and sheltered from the N. wind by steep mountains, this place enjoys a milder winter climate than the plain of Northern Italy, and though the spring is more backward, the summer heat is intense; the thermometer in the shade often ranging from 90° to 95° Fahr. On this account the citizens retire in summer either to the little country-inns or mineral baths in the surrounding mountain valleys, or else to small country-houses (*Sommerfrischhäuser*) on the adjoining plateau of the *Ritten*. Though the German element predominates, a large portion of the population is Italian, and that language is spoken in many of the shops. The Italian name of the town is *Bolzano*.

It stands at the junction of the Talfer torrent, issuing from the Sarnthal (Rte. K), with the Eisack. A massive dam is constructed to resist the inundations of the Talfer, which has often borne destruction into the town, and another dyke, carried along the Eisack, protects the railway and the lower part of the town from its floods. The architecture and general appearance partakes somewhat of the styles of Germany and Italy, which may be said to meet here. The principal houses have singular projections from the roof (*Dachhauben*) intended to admit air into the upper part, and protect them from the summer heat. Streams of water are conducted through most of the streets. The principal church, built of red sandstone, offers a combination of the German Gothic and Lombard styles, and is worth a visit. The gardens of Count Sarnthein and Herr Moser will interest the traveller from the north of the Alps, unused to such luxuriant growth of the fig, vine, pomegranate, and oleander. Oranges and lemons are common here, but the trees require protection in winter. The neighbourhood of Botzen is of extreme interest to the botanist, and may be said to embrace three distinct floras, including within a space less than half of an English county no less than 1,720 flowering plants. The flora of the main valley of the Adige includes many curious paludose species; e.g., *Aldrovanda vesiculosa*, *Alisma parnassifolium*, *Sturmia Læselii*, *Cyperus glomeratus*, and *C. Monti*. That of the lower mountains, chiefly composed of porphyry and sandstone, is further noticed in connexion with the ascent of the Ritten (see below), and that of the dolomite region (including the Seisser Alp) is described in § 60. An agreeable view of Botzen and the neighbourhood is gained from the Calvarienberg, on the l. bank of the Eisack. The coloured groups in carved wood or stucco, intended to represent the events of the Passion, appear grotesque to the northern eye. To see the dolomite range of the Rosengarten to advantage, the traveller should go as far as the Talfer-

brücke, at the W. end of the town. An excursion of some interest is that to the castle of *Sigmundskron*, standing on a projecting rock on the W. side of the Adige, about 3 m. from Botzen. But a single tower, used as a powder magazine, now remains of an extensive pile that once crowned this point. It commands a very fine view of the dolomite range.

The most interesting excursions from Botzen are undoubtedly those that lead the traveller into the heart of the grand and beautiful scenery of the dolomite Alps described in § 60, but the ascent of the *Rittnerhorn* is an expedition which has lately become popular for the sake of the very fine panoramic view gained from the summit, and the singular earth-pyramids seen on the way. The excursion may be taken on the way from Botzen to Sterzing through the Sarnthal (Rte. K); or may be combined with a visit to the Seisser Alp, or the Grödnerthal, by descending from the Ritten into the valley of the Eisack at Atzwang or Kollmann. The way is by a country-road, or a path leading to the village of *Oberbotzen* (4,143'), lying at the SW. end of the rather extensive tract between the Talfer and the Eisack which is collectively known as the *Ritten*. It may be described as a broken and irregular plateau, rising gradually from S. to N., and culminating in the Rittnerhorn. It is the chief refuge of the citizens of Botzen in the hot season, and a stranger is struck by the amount of substantial comfort implied in the fact that so small a town should furnish owners to the large number of separate dwellings scattered over this tract. Many of these are grouped about Oberbotzen, but the chief centre of the *Sommerfrisch* life is found at *Klobenstein* (3,955'), reached by turning eastward from the road to the Sarnthal. This is quite a gay residence during the hot season, and numerous pic-nic parties are often to be met on the adjoining slopes, or at some point commanding a fine view. There is here a good country-inn, and it affords a convenient centre for several agreeable walks. The chief

objects of interest for strangers are the earth-pyramids. Having traversed the village of *Lengmoos*, the traveller follows a path leading NW. to the glen of the Finsterbach which descends from the plateau of the Ritten towards the defile of the Eisack. There is here a vast accumulation of friable clay formed by the decomposition of the porphyry rock, and the action of the weather and the surface drainage have cut deep trenches in the soil, which have intersected each other in such a way as to leave standing a large number of columns or obelisks, each capped by a large stone, or, more commonly, by a tree. Whenever one of these obelisks loses this covering, the weather exerts its action, and it soon crumbles away.

The ascent of the *Rittnerhorn* (8,064') is very easily made from Klobenstein, and there seems to be no reason why ladies should not ride nearly to the top. The annexed plate will give some idea of the extent of the panorama visible from the summit.

The flora of the Ritten is very rich. It has been carefully studied by Tyrolean botanists, especially by Baron Hausmann, a resident in Botzen, and the author of an excellent Flora of Tyrol. One of the most interesting habitats is a shallow pool called *Wolfsgrubersee*, on whose margin has been found the very rare and curious little grass—*Coleanthus subtilis*, besides *Limosella aquatica*, *Centunculus minimus*, &c. In the lower part of the ascent from Botzen are seen *Onosma stellulatum*, *Avena capillaris*, *Panicum undulatifolium*, *Nothochlœna marantæ*, and other uncommon plants. Among the species interesting to the northern botanist in the neighbourhood of Botzen is *Colutea arborescens*, common on warm slopes. It is often infested with the parasitic *Cuscuta planiflora*.

ROUTE B.

INNSBRUCK TO BOTZEN, OVER THE BRENNER PASS, BY RAILWAY.

Stations	Kilometres	Eng. miles
Patsch	8 $\frac{3}{4}$	5 $\frac{1}{2}$
Matrei	9 $\frac{1}{4}$	5 $\frac{3}{4}$
Steinach	4 $\frac{3}{4}$	3
Gries	9 $\frac{1}{2}$	6
Brenner	4 $\frac{3}{4}$	3
Schelleberg	8	5
Gossensass	8 $\frac{1}{2}$	5 $\frac{1}{2}$
Sterzing	5 $\frac{3}{4}$	3 $\frac{3}{4}$
Freienfeld	5	3 $\frac{1}{4}$
Grasstein	6 $\frac{3}{4}$	4 $\frac{1}{4}$
Franzensfeste	7	4 $\frac{1}{2}$
Brixen	10 $\frac{1}{4}$	6 $\frac{1}{2}$
Klausen	10	6 $\frac{1}{4}$
Waidbruck	5 $\frac{3}{4}$	3 $\frac{3}{4}$
Atzwang	8	5
Blumau	6 $\frac{1}{2}$	4
Botzen	7 $\frac{1}{2}$	4 $\frac{3}{4}$
	126	79

The opening of the first line of railway across the main chain of the Alps was an event the importance of which has scarcely, as yet, been duly felt, either by the European public or by the railway directors themselves. On the completion of this essential link in the chain of communication between the North and the South of Europe, it might have been expected that requisite arrangements would have been made to satisfy the general demand for rapid communication between the North and South, and that by the widest publicity travellers would have been invited to profit by the new facilities thus provided. Instead of this, the really important event of the opening for traffic of the railway over the Brenner took place on the 24th Aug., 1867, with scarcely a passing notice in the public papers. The arrangements for passengers from England, France, and North Germany, who all arrive *viâ* Munich, are still imperfect, and though there is now daily a direct train, with but one change of carriage for first-class passengers, from Cologne to Verona in 32 hrs., much time is lost by the way. The construction of the line, favoured no doubt by the nature of the ground, which offers less difficulties than any mountain railway has hitherto

encountered, reflects great credit on all concerned. The skill of the engineers was exercised in avoiding—rather than in devising—gigantic works. The tunnels are 17 in number, and their collective length not quite 3 miles; and between Innsbruck and Botzen the line has been carried over only 11 bridges. Those familiar with the scandalous jobbery and wasteful extravagance of English railway management will learn with surprise that this first railway across the Alps was completed for less than $2\frac{1}{4}$ millions sterling, or at the rate of about 28,000*l.* a mile.

The chief difficulty encountered in laying out the line arose from the steepness of the ascent from Gossensass, above Sterzing, to the summit of the pass. Fortunately the former village stands at the opening of the Pflerschthal, a glen whose floor mounts to the westward for some miles with a very moderate slope. Near the village of Ast, about $2\frac{1}{2}$ m. from Gossensass, the railway enters a tunnel very nearly $\frac{1}{2}$ m. long, in which it describes a curve not much less than a semicircle. The traveller who enters the tunnel in the bottom of the valley travelling eastward is astonished to find, on issuing from it, that he is moving in the opposite direction, and already at some height above the stream; and, on returning to the valley of the Eisack, within a few hundred yards of the point where he left it, he finds that he has gained an elevation of about 500 feet. In a similar manner the steepness of the slope of the Sill valley, between Steinach and Gries, is much reduced by a lateral deviation at Stafflach, where the road enters the opening of the Falserthal, and returns to the Sill at a higher level.

The traveller should endeavour to place himself on the rt. hand side of the carriage in going from Innsbruck to Botzen, and on the l. hand when proceeding from Botzen to Innsbruck. Very little, however, is seen of the remarkable engineering works connected with the line. Besides the tunnel in the Pflerschthal, already mentioned, the most remarkable

works are near Matri, where the former bed of the Sill has been made use of for the passage of the railway, while the torrent has been turned aside through a tunnel, from which it issues lower down in a pretty waterfall, and near Gossensass, where another tunnel has been constructed to serve as a channel for the waters of the Eisack.

Negotiations are said to be pending between the railway companies concerned for an express train from Ostend to Brindisi, *viâ* Cologne, Munich, the Brenner, and Verona, by which passengers for and from the East may travel without change of carriage, and without needless delay.

ROUTE C.

INNSBRUCK TO IMST, OR OETZ, BY THE SELRAINERTHAL.

The pedestrian going from Innsbruck to the Oetzthal, or to the upper valley of the Inn, may take a course little longer than the high-road, and avoid heat and dust, by following the *Selrainertal*, which runs nearly parallel to the Inn, and is connected by a low pass with the lower end of the Oetzthal. The scenery is extremely pleasing, and from several points fine views are obtained of the snowy peaks of the Stubay Alps.

Starting from Innsbruck, the traveller may choose between the country-road running along the S. side of the Inn, from Wilten to Völs, and thence mounting to Ober-Perfus, or take a rougher track, that turns westward from the Brenner road about 2 m. above Wilten, and traverses the villages of *Natters*, *Götzens* (2,837'), and *Axams*. Either of these courses leads in about 3 hrs. from Innsbruck to *Selrain* (2,958'), the chief place in the valley to which it gives its name. It stands on the rt. bank of the torrent which, having flowed eastward to this point, now turns to NE., and soon joins the Inn a little below Zirl, which is reached from hence in $1\frac{1}{2}$ hr. The village is locally called *Rothenbrunn*, from the red colour of the water of a mineral spring near at

hand. The arrangements for water-drinkers are on a poor scale, but there is a tolerable inn often visited in summer by parties from Innsbruck. A very steep path climbs the hill N. of Selrain, to the ancient church of St. Quirinus, commanding a fine view of the Stubay Alps. S. of the village is the opening of an uninhabited glen called *Fatscherthal*, which leads up to the base of the *Hohe Villerspitz* (10,141'). It is probably not difficult to reach Neustift in the Stubaythal by traversing the ridge connecting that summit with the *Roth Wandspitz* (9,218').

About 1½ hr. above Selrain is *Gries* (3,824') (with a small inn), the chief place in the upper Selrainenthal, at the E. base of the *Freihut* (8,581'), a conical peak, bright with green pastures that stands in the fork of the valley. The summit commands a fine view of the Stubay Alps. The southern branch, called *Lisenzenthal*, is described in the next Rte. The western branch, or *Oberthal*, opens on the N. side of the *Freihut*. The path ascends somewhat N. of W. on the l. bank of the torrent to *St. Sigismund* (4,924'), about 1½ hr. above *Gries*. There is here a poor inn. The hamlet stands at the junction of the *Gleirschenthal* with the main valley. See next Rte. At *Haggen* (5,279'), a group of houses ½ hr. above *St. Sigismund*, another wild glen, the *Kraspesthal*, sends a torrent northward from the *Kraspesferner* to join the stream. An easy ascent of about 1¾ hr. leads from *Haggen* to the nameless pass that forms the western extremity of the *Selrainenthal*. [On the way another path mounts N.E. to the much higher ridge connecting the *Scharflgraspitz* (9,330') with the *Kreuzjoch* (8,773'). On the N. side it descends into the head of the *Kanzthal*, and, passing by the eastern base of the *Hochederspitz* (9,152'), enters the valley of the *Inn* at *Flauerling*, about 1 hr. E. of *Telfs*.]

The track from Selrain to Oetz soon reaches a large herdsman's chalet called *Kühthei* (6,352'), only a few feet below the summit of the pass. Refreshment,

and night-quarters in case of need, may be found here, and the neighbouring scenery has attractions for the mountaineer. On the N. side the *Birkkogel* (9,281') offers a noble view, which combines the Oetzthal and Stubay Alps, with the *Zugspitz* and the other high limestone peaks N. of the *Innthal*. On the S. side the traveller should not fail to visit a short glen, called *Finstertal*, whose torrent issues from the *Kühtheier Seen*, two lakes, the lower and larger of which is 7,421 ft. above the sea. They lie in the centre of an amphitheatre of peaks that approach to, but do not quite attain, 16,000 ft. in height, and are fed by three small hanging glaciers. The torrents that unite below *Kühthei* descend to the Oetzthal through the *Stuibenthal*. In 2 hrs. the path, which keeps all the way to the rt. bank of the *Stuibenbach*, reaches

Ochsengarten (5,170'), the only village in this very poor glen, whose inhabitants suffer at times severely from typhus fever. There is no inn, but the priest supplies refreshment, and has three beds available for travellers. A path crossing the ridge to the N. leads from hence to *Sils*. The *Stuibenbach*, on entering the Oetzthal about 2 m. from its junction with the *Inn*, forms the picturesque waterfall that is admired by travellers going from *Sils* to Oetz (§ 48, Rte. B); but the shortest way to the latter village avoids the waterfall by crossing the torrent some way higher up, and follows a track that winds southward round the shoulder of the mountain. Taking that course, the traveller in 2 hrs. from *Ochsengarten* descends to Oetz. If bound for *Imst*, his shortest way is to follow the path from *Ochsengarten* to *Sils*, and there hire a vehicle; but if he would avoid the dusty high-road, he may take the road from Oetz to *Roppen*, noticed in § 48, Rte. B. An active walker will not employ more than 7½ hrs., exclusive of halts, on the way from Selrain to Oetz, which is thus reached in a long day from Innsbruck.

ROUTE D.

SELRAIN TO LENGENFELD IN THE
OETZTHAL.

A more direct, but more arduous, course from Innsbruck to the upper part of the Oetzthal than that pointed out in the last Rte., is found by turning aside from the main path of the Selrainerthal through one or other of the lateral valleys that descend from the higher peaks of the Stubay Alps.

1. By the *Gries Joch*. 9 hrs. The most direct and probably the most interesting way from Selrain to Lengenfeld is through the *Lisenzertal*, which joins the main branch of the Selrainerthal at Gries (see last Rte.). A constant and rather steep ascent commences near the latter village. The path lies at first on the l. bank of the *Melach* torrent (whence this lateral glen is sometimes called *Melachthal*), but crosses to the opposite bank, and after passing *Kniepes* (5,102'), a cluster of *Hütten* near a fine waterfall, attains the upper level of the *Lisenzertal*, a broad reach of Alpine pasture, backed by a range of high summits, of which the most prominent is the *Fernerkogel* (10,704'). This shows on the N. side as a pyramidal peak of dark rock merely capped with snow; but on the S. and E. sides its flanks are laden with an extensive glacier, the *Lisenzferner*. In the middle of the upper valley is the *Lisenz Alp* (2 hrs. from Gries). Here the traveller finds a large and substantial building, which serves not only for ordinary dairy purposes, but is used as a retreat in hot weather by the canons of Wilten. When not thus occupied, the mountaineer here finds good night-quarters. The ascent of the *Fernerkogel*, which has been effected a few times from this side, passes for a difficult and even dangerous expedition, owing to the sharpness of the ice-arête leading to the summit, which sometimes forms an overhanging cornice. [A very rough path to the Stubaythal crosses the range SSE. of the *Lisenz Alp* by the *Lisenz Joch*

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(9,211')—also called *Horn Joch* (?). The pass lies between the *Hornspitz* (9,605') to SW. and the *Hohe Villerspitz* (10,141'). The ascent lies at last up a pathless slope covered with huge boulders, requiring some activity and caution. On the opposite side the descent is less troublesome, though steep, to the Alp of Oberiss in the Alpeiner branch of the Stubaythal. This way is sometimes taken as a detour from the ordinary route from Innsbruck to the Brenner by travellers who wish in two or three days to form some acquaintance with the valleys of the Stubay Alps. The ascent of the *Hohe Villerspitz* may (?) be combined with the passage of the *Lisenz Joch*.]

About $\frac{1}{2}$ hr. above the *Lisenz Alp* the *Melach* torrent at the foot of the *Fernerkogel* is joined by a stream flowing eastward out of a deep recess in the mountains locally called *Längenthal*. By that way lies the track to Lengenfeld in the Oetzthal. Passing the *Längenthaler Alp* (6,507'), the path mounts due W., by the N. side of a small glacier lying on the NE. flank of the *Seberkogel* (10,709'). Keeping close under the double summit of the *Grieskogel*, of which the higher rises on the rt. hand to 10,638 ft., the traveller reaches in 5 hrs. the summit of the *Gries Joch* (8,652'). From the pass the way at first lies W. under rocks that bound on the N. side the ice-stream of the *Griesferner*, which descends towards the *Sulzthal*. On reaching the lower end of the glacier the way turns S. towards a small tarn that sends a stream in successive cascades to the *Sulzthal*. On its rt. bank a path descends rather steeply to *Gries* (5,121'), the only village in the *Sulzthal*, in about 3 hrs. from the pass. A beaten track leads from thence along the *Fischbach* torrent to Lengenfeld in the Oetzthal (see next Rte.).

2. By the *Gleirscher Jöchl*. 9 hrs. to Umhausen, 10 $\frac{1}{2}$ hrs. to Lengenfeld. This is the shortest way from Selrain to Umhausen, but a rather longer route to Lengenfeld and the upper Oetzthal than that just described. As mentioned

N

In the last Rte., the torrent from the Gleirschenthal joins the main stream of the Selrainenthal at St. Sigismund, the highest village in the latter valley. A track mounts thence along the rt. bank of the torrent through the wild glen of the *Gleirschenthal*, not to be confounded with the Gleirschthal (§ 43, Rte. G), from whence flows one of the sources of the Isar. After ascending for about 2 hrs., the traveller sees before him to the S. the head of the glen, enclosed by a range of snowy peaks considerably exceeding 10,000 ft. in height, while a tributary torrent flows out of a recess on the W. side of the valley. Turning nearly due W., a rough track mounts on the S. side of this stream to the *Gleischer Jöchl* (9,214'). On the W. side this overlooks the *Zwieselthal*, a short glen through which a torrent from a comparatively large glacier flows northward, till it meets nearly at the same point three other torrents, whose united streams descend WSW. towards the Oetzthal through the *Hairlachthal*. A path running along the rt. bank of the torrent through the *Zwieselthal*, but keeping to the l. bank in the *Hairlachthal*, leads to the village of *Niederthei* (4,791'), standing near the point where the latter glen opens into the Oetzthal. From thence the traveller may descend in about 1 hr. to Umhausen, passing close to the *Stuiben waterfall*, mentioned in § 48, Rte. B. If bound for *Lengenfeld*, he may avoid the waterfall, and take a nearly direct path that leads from *Niederthei* to *Au*.

ROUTE E.

INNSBRUCK TO LENGENFELD BY THE STUBAYTHAL. ASCENT OF THE SCHRANK-KOGL.

The Stubay Alps derive their name from that of the main valley which penetrates most deeply into the central mass, and round whose head arise most of the highest summits of the group. The *Stubaythal* is therefore the headquarters to which the mountaineer wishing to explore this group naturally resorts; and as it is connected by high glacier-passes with the adjoining valleys to the S. and W., there is a considerable choice of interesting excursions. The best guides are *Pancraz Gleinser*, of *Fulpmes*, and *Urbas Loisl*, of *Neustift*.

However irregular may appear at first sight the disposition of the chief masses constituting the Stubay Alps, the parallelism of most of the chief ridges and corresponding valleys points to the action of mechanical causes acting on an extensive scale. Sinking minor irregularities, the main ridges run from SW. to NE., or at right angles to that direction. If we fix our attention on the *Wilder Pfaff*, the highest of the group, we find one high ridge, scarcely anywhere subsiding to the level of 10,000 ft., that extends about 10 m. NW. to the *Leuchtkogl* (9,981'), while a much longer, but less lofty, range terminates to NE. in the *Serlesspitz* (8,898'). On the N. side, or within the elbow thus formed, another parallel system of two ridges diverges from the *Wildes Hinterbergl* (10,925'). The higher of these extends NW. to the *Grieskogel*, and there forks into diverging branches; while at rt. angles to it a longer ridge runs NE. to the *Saile* (7,884') near *Innsbruck*. Some of the highest summits of the group are inserted in the space between the central points of these two elbow-shaped ranges, but these also affect a parallel disposition. From the *Ruderspitz* (11,393') a short ridge runs NW. to the *Brunnenkogel*, while a NE. ridge, terminating in the *Milderauspitz*

(8,930'), divides the two main branches of the Stubaythal, and, in the opposite direction, a SW. ridge connects the Ruderhofspitz with the Hochspitz (10,984'). The accessory ranges for the most part conform to the general plan, which is seen in the direction of the minor valleys. By far the larger part of the drainage of these Alps is carried to the Inn, either northeastward through the Wipptal, or NW. through the Oetzthal. It is only at the S. end that a few glaciers send their streams to the Adige through the Passeyerthal, or through the Eisack to Brixen and Botzen.

The passes mentioned in this Rte. are all somewhat laborious, and, excepting that first described, are little known even to the native guides.

In going from Innsbruck to the Stubaythal, the traveller has a choice of ways. That most frequently chosen is to follow the old Brenner road as far as Ober-Schönberg (Rte. A), and then take the track to *Mieders* (3,132'), $\frac{3}{4}$ hr. distant, a cheerful village standing just at the opening of the Stubaythal at a considerable height above the rt. bank of the *Rutzbach*, which has here cut a deep trench through the secondary rocks. The good inn (*Blaue Traube*) was formerly frequented in summer by visitors from Innsbruck. The ordinary course is to cross the *Rutzbach* a little above *Mieders*, and follow its l. bank to

Fulpmes (2,970'), with a good inn (*Pfurtscheller's*). An omnibus, convenient for luggage, leaves this place daily for Innsbruck, returning in the afternoon. Instead of taking *Fulpmes* on the way, the pedestrian may follow the track which keeps all the way to *Neustift* by the rt. bank of the *Rutzbach*.

A more direct way from Innsbruck to *Fulpmes* than that by *Mieders* is to follow a track by the village of *Mutters* (2,666'), which lies on the slopes W. of the *Sill* at the NE. base of the *Saile*. The path winds along the slopes above the junction of the *Rutzbach* with the *Sill*, and passes *Telfes* (3,207'), a pretty village at some height above the l. bank of the former stream, 20 m. from *Ful-*

mes. From the latter village a path leads to *Axams* in the *Selrainertal*, bearing a little E. of N. over a pass called *Halsl* (6,583'), between the *Ampferstein* (8,373') and the *Saile* (7,884'). The latter, which is the easternmost summit of the range dividing *Selrain* from *Stubay*, is sometimes ascended for the sake of its fine view. Although the whole zone between the *Inn* and the *Eisack* is broadly described as being composed of crystalline rocks, the rocks on either side of the lower *Stubaythal* are of triassic age, and partly of dolomitic limestone, whose characteristic forms will be recognised especially in the peaks on the S. side of the valley. In $1\frac{1}{4}$ hr., steady walking, from *Fulpmes* the traveller reaches

Neustift (3,210'), the highest village in the *Stubaythal*. *Salzburger's* inn supplies good country quarters—but the landlord died lately. *Urbas Loisl* (to be heard of in summer at *Ranalt* or *Bärenbad*) and *Pancraz Gleinser* are both good guides. They expect 8 fl. (without food) for the more difficult glacier passes. The position of the village is fine. It is indeed rather distant from the higher peaks at the head of the main valley, but it stands close to the opening of two lateral glens which offer several interesting excursions. Both are formed by ridges running parallel to the general direction of the valley, but the streams that at first keep the same direction are turned aside, and finally join the torrent of the *Rutzbach*.

The less considerable of these is the *Pinnerertal*. It lies between the main ridge dividing *Stubay* from *Gschnitz*, and a short ridge terminating near *Neustift* in the *Eiferspitz* (8,217'). The latter branches out from the main ridge where it reaches its highest point in the fine peak of the *Habicht*. The scenery of this short glen is very wild and striking. 2 hrs. from *Neustift* the traveller reaches the *Pinnerer Alp* (5,012'), where those who make the ascent of the *Habicht* from this side usually pass the night. From thence a path is carried for some distance SW., and then turns due S., and mounts to the *Pinnerer Joch* (8,395'), a pass

lying a short distance E. of the Habicht. From the summit the traveller may descend into the Gschnitzthal (Rte. H), which is reached a little way above the chief village. The ascent of the *Habicht* (10,746'), also called Hager, may be made equally well from Neustift or from Gschnitz, as in either case the summit is reached from the Pinneser Joch. The way is over a glacier lying on the E. slope of the mountain, and the only serious difficulty is in crossing a *Bergschlund*, near the summit, which has sometimes been found troublesome. The panorama is especially remarkable for the view of the neighbouring peaks of the Stubay Alps, nearly all of which are in view. It has been included among the illustrations to the above-cited work of MM. Barth and Pfandler.

The other more considerable glen opening near Neustift is described lower down. The glacier passes leading from that village to Lengenfeld are now to be noticed. They should be undertaken only with a good guide and a solid rope.

1. *Neustift to Lengenfeld by the Mutterberger Joch* (9,893'). 11 to 12 hrs. This pass, chiefly used by the native hunters, is approached through the main branch of the Stubaythal. The way lies for several miles about due SW., by a track which is passable for rough country carts as far as the hamlet of *Volderau* (3,742'), about 1½ hr. above Neustift. Following the track by the rt. bank, the traveller reaches Falbeson, W. of which a torrent issues from a deep recess in the mountains. It is fed by the *Hohe Moosferner*, a large glacier lying on the E. slope of the *Ruderhospitz* (11,393'), and S. of the *Seespitz* (11,202'). which is accessible on this side. Above Falbeson the path turns for a while nearly due S. to *Ranalt* (4,185'), the highest hamlet in the main valley, 2¼ hrs. from Neustift. There is now a very fair mountain inn here—no meat, but eggs and fowls. Those who do not intend to attack the peak of the Wilder Pfaff, or to make a détour to the Sulzenau (Rte. F), may enjoy an admirable view by mounting W.

from Ranalt to the Pfandler Alp, and thence to a projecting point 8,054 feet in height. About ½ hr. above Ranalt the main torrent receives a considerable tributary flowing nearly due N. from a short glen or recess in the mountains called Längenthal. Its S. end is closed by the Längenthalferner, a large glacier, several miles in width, formed by the snows accumulated on the N. side of the range extending from the *Wilder Freiger* (11,253') to the *Feuerstein* (10,713'). It is further noticed in Rte. G. From the junction of the two torrents the rough cart-track runs westward to the *Hütten* of *Schöngelair* (4,531'), and ½ hr. farther reaches *Graba* (4,899'), a châlet conveniently placed for those making the ascent of the Wilder Pfaff by the Sulzenau Glacier. Following the main valley, nearly due E., the traveller reaches the *Mutterberger Alp* (1¾ hr. from Ranalt), whence a steep ascent leads to the *Oberleger* (6,219'), the highest group of *hütten* in the valley, about 4¼ hrs. from Neustift. This lies at the lower end of the Glamergrube, as is locally called the uppermost trough-shaped depression forming the head of the Stubaythal. A very steep ascent leads to the last basin at the foot of the pass, lying between the *Daunkogel* (10,561') and the *Bockkogel* (11,120'). A short way to the rt. of the track the traveller may visit the *Mutterberger See*, a little lake abundantly stocked with fish at the unusual height of 8,250 ft. Amid huge blocks of gneiss the traveller reaches the last steep declivity by which, after crossing a névé-slope for ½ hr., he attains in 4 hrs. from Graba the summit of the *Mutterberger Joch* (9,893'). It commands a fine view of the Wilder Pfaff, but in other directions the prospect is limited. The descent is commenced through a steep couloir, which leads down to a slope of rough débris set at a high angle, and requiring caution; and it is only after a considerable part of the way has been thus accomplished that the traveller finally lands upon the *Sulzthalferner*, a fine glacier filling the upper end of the

Sulzthal. This is traversed diagonally from the rt. to the l. bank, and the level of the valley below the glacier is attained at the SW. base of the Schrankogel, the second in height of the peaks of this group. Another considerable glacier, the *Schwarzerbergferner*, falls into the head of the valley a short way W. of the track. The descent is at first gentle, then much more rapid; two very poor châteaux are passed, and in $1\frac{1}{2}$ hr. from the foot of the glacier, the traveller, keeping due NW. along the Fischbach, reaches

Gries (5,121'), a very poor village, where the mountaineer now finds a friendly welcome at the house of Herr Trientl, formerly parish-priest of Gurgl, whose interesting account of that district is published in the first annual volume of the Austrian Alpine Club. The name Gries recurs very frequently among the valleys of the Tyrol Alps, and in this district there are two other villages of the same name, one near the Brenner Pass (Rte. A), the other in Selrain (Rte. C). If the mountaineer should not be satisfied with the long day's walk, and the noble scenery which he has traversed, he may descend in $\frac{3}{4}$ hr. from Gries to *Lenzenfeld*, and find good quarters at the village-inn (§ 48, Rte. B).

2. *Neustift to Lenzenfeld through the Alpeinerthal.* Allusion has already been made to a glen parallel to the Stubaythal, enclosed at its head by several of the highest summits of this district, whose torrent, after running for several miles from SW. to NE., turns to the rt., and descends somewhat S. of E. into the Stubaythal a little above Neustift. This is the *Alpeinerthal*, known at Neustift as the *Oberberg*, but not to be confounded with the glen of that name near the Brenner Pass. The torrent issues from the *Alpeinerferner*, one of the greatest glaciers of this district, whose main southern branch is locally called *Thalferner*. The beaten track mounts from near Neustift by the l. bank of the *Alpeinerbach*, but it is nearly as short a course to follow the opposite bank and pass *Bärenbad* (4,125'), a rough but clean establishment,

visited for the sake of its mineral waters by peasants from the adjoining valleys. From hence or from Neustift the traveller is recommended to ascend the *Hoher Burgstall* (8,563'), a projecting peak commanding a very fine view of the surrounding Alps. Of two summits, that to the SE. is the higher by a few feet. The right path to it is easily missed. The valley path on the l. bank passes some clusters of stone huts, scarcely to be distinguished at a distance from the masses of rock fallen from the surrounding peaks that give a savage aspect to the scenery. This is scarcely relieved by the masses of dark pine forest that here and there clothe the slopes. The upper level of the glen is fairly entered at the Alp of *Seduck* (4,752'). The path now keeps to the rt. bank, chiefly through pine forest, with the snowy peaks at the head of the glen gleaming here and there through the branches. On the rt. hand the foaming torrent springs from ledge to ledge over successive steps of mica slate-rock, completing a thoroughly characteristic picture of high Alpine scenery. Crossing to the l. bank, the path mounts in 3 hrs. from Neustift to the *Ober-Iss Alp* (5,659'), standing on a gentle slope of upland pasture at the foot of the *Hohe Villerspitz*. From hence diverges the path leading to the *Lisenzerthal* over the ridge SW. of that peak (Rte. D). At one of the huts the stranger finds shelter and refreshment—wine, coffee, eggs, and sometimes bread. The *Alpeinerbach* flows in a deep channel to the l., and a column of cloudlike spray marks from a distance the site of a fine waterfall. A steep ascent by the l. bank leads in $\frac{3}{4}$ hr. to the highest châteaux, called *Alpeiner Alp* (6,702'), at no great distance from the waterfall. Above this point the valley seems to be barred across by a ridge of rock, but this is surmounted by a frequented cattle-track, and on reaching the summit the stranger gains a grand view of the noble amphitheatre of snowy peaks that enclose the head of the valley. This is still more fully enjoyed when,

after passing a solitary unoccupied stone hut, he reaches the foot of the glacier, found by MM. Barth and Pfaundler to be 7,307 ft. above the sea. The surrounding ranges form a quadrangle open to the NE., whose highest summits may be noticed in the following order, beginning about due S. and turning round to W. and N.: *Kreilspitz* (11,012'), *Seespitz* (11,202'), *Ruderhofspitz* (11,393'), *Schwarzerberg*, *Hocheisspitz* (10,837'), *Verborgener Berg* (11,120'), *Wilder Thurm* (10,963'), *Wildes Hinterbergl* (10,924'), and *Brunnenkogel* (10,901'). Between the Seespitz and Wilder Thurm all the snows of this great enclosure are finally united in the great ice-stream of the Alpeinerferner, and the usual object of travellers who reach its lower end is to make a short excursion on its surface, and enjoy its grand scenery. The pass of the *Schwarzerberger Joch* (10,094) lies at the uppermost SW. extremity of the névé feeding the glacier, at the S. side of the Hocheisspitz, and between that and the Schwarzerberg. It has been called difficult and dangerous, but those epithets apply to most high glacier passes when undertaken by inexperienced persons, and without proper appliances. In 1864 Dr. Ruthner traversed the pass, having on the same day made the first ascent of the *Ruderhofspitz*. That peak, 'commanding one of the finest views in this district' [R. P.], may be reached without much difficulty from the Alpeinerferner, and a steep descent effected by the *Muttenberger Alp* to *Ranalt*. From the summit of the *Schwarzerberger Joch* the peak of the *Schrankogel* (11,474'), the chief rival of the *Wilder Pfaff*, is seen rising beyond the upper névé-basin of the *Schwarzerbergferner*, somewhat resembling, on a rather smaller scale, the peak of the *Grivola* as seen from *Les Poussets* above *Cogne*. In June, 1866, Messrs. F. F. Tuckett and F. A. Brown reached the summit by the E. arête in 1½ hr. from the summit of the *Schwarzerberger Joch*. The descent from the latter to the head of the *Sulzthal* is effected mainly by the rt., or northern,

bank of the *Schwarzerbergferner*, and the track from the *Muttenberger Joch* (see above) is joined a short way below the lower end of the *Sulzthal Glacier*.

The writer has received from Mr. *Holzmann* an account of the passage of the *Hinterbergler Joch* (about 10,550'), which he effected from *Gries*, in the *Sulzthal*, to *Neustift*, partly in company with a chamois hunter from *Gries*, and partly alone and in bad weather. Ascending the *Sulzthal* for about 1½ hr. from *Gries*, he turned to the l. up the E. slope of the valley, and in ¾ hr. reached the opening of a wild glen—called *Schraukor*, lying on the NW. side of the *Schrankogel*. Mounting eastward for another ½ hr., they then turned to the N. from a rocky plateau where there is a small tarn, and in 1 hr. 20 m. more attained the ridge connecting the *Brunnenkogel* with the *Winnebachkogel*, and overlooking the head of the *Längenthal*, towards which the descent seems practicable. Turning E. over the névé close to the ridge they climbed a couloir that descends from near the summit of the *Brunnenkogel* (10,901'), and in ¾ hr. more attained the crest connecting that peak with the *Hinterbergl* and looking down on the head of the *Alpeinerthal*. There is a lower point in the same ridge lying more to the rt., but the higher one seems preferable. The summit of the *Brunnenkogel*—only 351 ft. above the pass—was gained in 25 min. The *bergschrand* below the pass being impracticable, it is necessary to keep to the l. over rocks, and descend by a couloir on the E. face of the peak to the névé-basin below. This is a true ice-lake, or closed reservoir, wherein the snow has accumulated until it partially overflows in one direction towards the *Lisenerferner*, and in the other towards the *Stubaythal*, towards which it descends eastward in a steep ice-fall. There is a practicable couloir close to the l. bank, down which a steep descent may be effected. The stream from the ice-fall disappears under the l. moraine of the *Berglesferner*, and the easiest

way is to traverse that glacier, below which a track on the l. bank of the torrent leads down to the Alpeiner Alp—less than 3 hrs. from the summit of the pass. $2\frac{1}{2}$ hrs. (descending the valley) suffice to reach Neustift.

In approaching the Stubaythal from Matrei on the Brenner road (Rte. A.). the traveller may ascend easily by an agreeable path to *Waldrast*, a pretty inn frequented by excursionists from Innsbruck, and then descend to Fulpmes, or else follow another rather shorter track leading to Neustift by Medraz.

ROUTE F.

NEUSTIFT TO SÖLDEN. ASCENT OF THE WILDER PFAFF.

A pass leading from the head of the Stubaythal to the Winacherthal, which opens into the Oetzthal at Sölden, has long been known to the native chamois-hunters. The bad reputation acquired by previous fatal accidents was confirmed in 1860 by the unfortunate fate of the Rev. W. G. Watson, who, in descending on the SW. side, accompanied by a friend, and a guide named Müller, of Neustift, was lost in a concealed crevasse. The behaviour of the guide on that occasion created an unfavourable prepossession, which was perhaps unjustly extended to Tyrolese guides in general. It must be remembered that a guide in Tyrol means a man who shows the way, but who is in no way responsible for the traveller's safety.

The way from Neustift to Sölden follows the main branch of the Stubaythal, described in the last Rte., as far as the Mutterberger Alp; but a short way above it the path to the Mutterberger Joch is left on the rt. hand, and a path turns off to SSW., and ascends through a ravine called *Wildgrube*, along a torrent that is fed by the *Schauelferner*

and *Fernauferner*—two adjoining glaciers that descend into a recess on the SW. of the valley. The *Wildgrube* leads to a little basin called *Unter-Fernau*, and then by another short and steep ascent the traveller reaches the *Ober-Fernau*, a grassy plain, bright with Alpine flowers, just below the end of the *Fernau Glacier*. From thence the track runs westward along the base of the *Eggesengrat* (8,632'), the summit of which commands a fine view of the surrounding peaks. The way to the pass keeps to the N. side, or l. moraine, of the *Schauelferner*, above which, on the opposite side, rises the peak of the *Schaufelspitz* (10,924'), ascended in 1862 by Herr Specht with Urbas Loisl. Keeping a westerly course the traveller in 2 hrs. from the Mutterberger Alp attains to the moraine of the *Bildstöckl Glacier*, which appears to be the local name for the upper part of the large glacier named *Daunkoglferner* on Barth and Pfaundler's map. Turning SW. an ascent of 2 hrs. more leads to the summit of the *Bildstöckl Pass* (about 9,750'), which is marked with a cross. S. of the cross is a small pool, often frozen over. The pass lies about half-way between the *Winacherspitz* (10,958') and the *Schaufelspitz*. The descent by the *Winacherferner* is steeper than the ascent. Some guides prefer to descend by the E. side, others to keep as much as possible to the rt., but all agree that the course marked on Barth and Pfaundler's map, running down the middle of the ice stream, is utterly objectionable. The best course is apparently that bearing to the rt. side of the glacier. Very near to the pool, just below the summit, are rocks which lead down to the névé of the upper part of the *Winacherferner*. Crossing this in a direction but little W. of due S. the traveller returns to the rocks above the rt. bank, through which a rather steep descent avoids the most difficult part of the ice-fall. Below this the course is over the glacier, keeping close to the rt. bank to avoid crevasses, until the ice is left near a little level space where a

faint track is found that leads down to the Winacherthal, keeping near a small torrent that falls over the steep slope on its N. side. The level of the *Winacherthal*, a short and wild glen visited by herdsmen in summer, is reached about 20 min. above the Karlinger Alp, whence Sölden is reached in $1\frac{1}{2}$ hr. The distance between that place and the Mutterberger Alp is counted as 7 hrs., exclusive of halts, and $1\frac{1}{2}$ hr. more must be allowed between the Alp and Ranaal. It is reckoned a day's work of 10 hrs., including halts. The guides ask 8 florins for leading strangers across this pass.

MM. Barth and Pfaundler have pointed out the existence of another pass on the SE. side of the Schaufelspitz, about midway between that peak and the Aperer Pfaff. It is higher but seemingly more direct than the Bildstöckl. This, which may be called *Fernau Joch*, is 10,041 ft. in height; it was reached by the above-named travellers by the strip of rock and moraine separating the Schaufel Glacier from the Fernau Glacier, in their ascent of the Wilder Pfaff, but it does not appear that the descent into the Winacherthal has yet been effected. This would lie over the NW. branch of the Pfaffenferner, which is much crevassed, and should be undertaken only by experienced ice-men. The statements of MM. Barth and Pfaundler and other travellers respecting this and the Bildstöckl Pass are not quite reconcilable with the map published by those writers. Further discrepancies between the map and the text may be noted in the upper part of the Sulzenau Glacier.

The most interesting route for the adventurous mountaineer between Neustift and the upper Oetzthal is doubtless that by the *Pfaffen Joch* (about 10,600', F.F.T.), first traversed in 1865 by Messrs. Tuckett, Backhouse, Fox, and Freshfield, with which may be combined the ascent of the *Wilder Pfaff* (11,512'), the highest peak of the Stubay Alps. To this peak the name Schaufelspitz, properly belonging to the much lower summit overlooking the Bildstöckl Pass,

was formerly given. The designation now commonly adopted originates in the popular legend of a parson led away by his passion for the chase, who, with his curate, deserted his church and his flock on a holiday, preferring to hunt the chamois on the high glaciers. Bewildered amidst the crevasses, the faithless pastors never returned to the village; and on a stormy day their shades may sometimes be descried, still seeking in vain for an outlet from their icy prison.

The principal peak, lying exactly in the axis of the main branch of the Stubaythal, has a double summit, of which the eastern (locally called *Zuckerhüttl*) is higher by 18 ft. It is flanked on the E. and W. by two dependent peaks, of which the *Oestlicher Pfaff* measures 11,376 ft., while the western point of bare rock is the *Aperer Pfaff* (10,981'). To the SE. of the highest peak is the *Sonklarspitz* (11,410'), and NE. of this, or about due E. of the Oestlicher Pfaff, is the *Wilder Freiger* (11,253'). It is now ascertained that the watershed runs directly between the last-named summits, and that a transverse ridge connects the former with the Sonklarspitz. It is less certain whether or not there may be a continuous ridge connecting the Oestlicher Pfaff with the *Aperer Freiger* (10,673'), and dividing the névé of the Sulzenauferner from that of the Grönaufener. Five large glaciers diverge from the mountain. On the N. side is the *Sulzenauferner*, and on the NE., the *Grönaufener*; to the W., the *Pfaffenferner*; to the S., the *Höhlferner*; and it now appears certain that the great *Uebblethalfener* (Rte. G) extends to the SE. base of the Oestlicher Pfaff.

The first ascent, by MM. Barth and Pfaundler, was made from the Mutterberger Alp. Having reached the above-mentioned pass of the Fernau Joch, between the Schaufelspitz and the Aperer Pfaff, they passed along the S. face of the latter till they reached the depression or pass—subsequently named Pfaffen Joch—between the Aperer and Wilder Pfaff. From hence the latter

shows as a very sharp snow pyramid about 900 ft. in height. Though not very steep, the arête is excessively sharp. Careful step-cutting and perfect steadiness on the part of all the travellers are indispensable.

In the second ascent, Mr. Tuckett and his companions took a more direct and more interesting course by the *Sulzenau*. As mentioned in Rte. E, a copious torrent descends from the S. in a very fine waterfall, and enters the main branch of the Stubaythal at the Graba Alp. A track mounts by the W. side of the waterfall, and in less than 1 hr. from the Alp reaches a grassy plain, the filled-up bed of a lake, 6,063 ft. above the sea, surrounded by several of the highest peaks of this district. It well deserves a visit even by those who do not intend going farther. This basin is walled in on the S. side by a range of steep rocks about 1,000 ft. in height. Down the face of these rocks the streams from the Sulzenau and Grünau Glaciers descend in cascades that have cut a deep channel, and are seen full in front below the ridge of the Aplerer Freiger, which separates the above-named glaciers. A faintly marked track leads up the rocks to the base of the Sulzenau Glacier. This is divided into two branches by a high shelf of rock that runs NNW. from the Oestlicher Pfaff, but does not extend so far as is shown on MM. Barth and Pfaundler's map. The glacier is easily traversed as far as the base of the lower ice-fall, which is surmounted by keeping to the rocky slope on the right bank. Above this is the junction of the two branches of the glacier, and the uppermost, or western, branch is seen to descend in a still loftier ice-fall. This, like the former, is to be climbed by the rocks on the L. hand (or rt. bank), forming the N. end of the ridge or shelf above spoken of. Mr. Tuckett and his companions thus gained the summit of the *Pfaffen Joch* (about 10,600'), in less than 4 hrs. from Graba, excluding halts. Having reached the western summit of the Wilder Pfaff,

and returned to the col, they descended SW. to a basin of névé, at the head of the Pfaffen Glacier; before long this forms an ice-fall, and they were forced to bear to the rt. along its brow for a considerable distance till they were able to cut their way down to some very steep rocks, whence they succeeded, but not without difficulty, in getting down to the head of the Winacherthal, 2 hrs. above Sölden. Future explorers may try whether it is not an easier course to keep due W. across the upper part of the Pfaffenferner, and then cross a ridge beyond which lies a small tarn whose stream runs down to the Winacherthal beside the path from the Bildstöckl Pass.

In both the ascents above described the travellers found that time did not allow them to reach the highest point, or Zuckerhüt, which is connected with the W. peak by an extremely sharp arête, chiefly formed of ice. The higher point has since been attained by Herr Specht, and again, in 1867, by Herr Stüdl. The latter effected the extremely steep and rather dangerous descent from the summit to the Höhlferner, and so reached the highest huts in the Winacherthal.

[Messrs. R. and W. M. Pendlebury, with Gabriel Spektenhauser, with some difficulty in the passage of a large bergschrund succeeded by a steep ice-wall, crossed the ridge connecting the Oestlicher Pfaff and Wilder Freiger from the Graba Alp to the upper névé of the Ueblethalferner. This stretches southward nearly at a level for some distance; by bearing to the l. close under the Sonklarspitz, they reached a second col—a slight depression in the ridge S. of that peak—and without further difficulty descended into the head of the Passeyertal, and so reached Schönau (§ 48, Rte. B). The course followed was much the same as that of Dr. Ruthner (Rte. H).]

ROUTE G.

NEUSTIFT TO STERZING.

In describing the high-road over the Brenner Pass (Rte. A), reference was made to two Alpine valleys, the one opening a few miles above Sterzing, the other just below that town. The active mountaineer may reach either of those valleys by fine glacier from the upper end of the Stubaythal, while making but a short détour from the road between Innsbruck and Sterzing.

It was mentioned in Rte. E that the torrent issuing from a short glen, called Längenthal, flows northward to join the Rutzbach above Ranalt. This issues from the *Längenthalferner*, a glacier of great breadth lying on the N. slope of the range connecting the Wilder Freiger with the *Feuerstein* (10,713'). It is not to be confounded with a much smaller glacier of the same name at the head of the Lisenzerthal, nor with the Längenthal Glacier near Gurgl (§ 48, Rte. D). Over the glacier here referred to lie two Rtes. to Sterzing.

1. *By the Pflerscher Hochjoch* (9,780'). This pass was traversed several years ago by Mr. Marshall Hall, more recently by Dr. Ficker of Innsbruck, and the Editor is indebted for full notes of the way to Mr. Holzmann, who crossed it with Anderl Pfurtscheller of Ranalt, son of the innkeeper, a good local guide. It is not a col, or depression between two peaks, but a passage over the ridge E. of the *Feuerstein*, at a point accessible from the Längenthal Glacier. Ascending by the rt. bank of the torrent, in 2 hrs. from Ranalt, the highest *hütten* of the Längenthal, called Im Grübel, are reached. Crossing the torrent and ascending to SSW. you arrive under a wall of rock that supports the W. branch of the Längenthal Gl. It is now necessary to turn to the l. and ascend to SE. over rocks and snow to reach the lower part of the glacier below the junction of its two main branches. Keeping the same direction, with the *Feuerstein* right ahead, the glacier and its moraines are crossed.

The way then lies nearly due E. up a shallow ravine between the E. branch of the Längenthal Gl. and the S. wall of the valley. To avoid the upper ice-fall it is necessary to turn to the N. and climb the rocks above the rt. bank. Having gained the snow-field above, the course is ESE. towards the snowy ridge that falls to NE. from the *Feuerstein*. Ascending amid partly covered crevasses you reach the edge, in places overhanging, where the ridge falls in a precipice towards the Gschnitzthal. Turning to the rt., and traversing a snow arête between the precipice on the l. and a bergschrund on the rt., you attain to the summit of the pass, where some projecting rocks mark the point of junction of Stubay, Gschnitz, and Pflersch, and command a magnificent view. The descent lies down the arête connecting the *Feuerstein* with the *Schneespitz*. From the lowest point in that ridge it is possible to descend by a couloir to the *Feuerstein* Glacier, lying at the uppermost end of the Pflerschthal; but it is a better way to keep at about the same height along the rocks forming the precipitous southern face of the *Schneespitz*. Passing through a gap in a ridge projecting SE. from that peak you attain the upper level of a great glacier (not laid down on any map) called *Schneespitzferner*, flowing nearly due E. This is traversed without difficulty, and you then traverse two rock basins with remarkable glaciated surfaces, and descend green slopes into the Pflerschthal, which is reached about 20 m. above the church at Boden. Time about 8 hrs. from Ranalt exclusive of halts.

[From the arête below the Hochjoch it is doubtless possible to descend into the Gschnitzthal by the westernmost of three small glaciers, all named *Simmingferner*, and there is another pass from Pflersch to that valley between the *Schneespitz* and the *Eisenspitz* (9,893') over the middle *Simming* Gl.]

The traveller who descends into the head of the *Pflerschthal* by the *Feuerstein* Glacier passes near to a remark-

able waterfall, called Hölle, where the main torrent springs from the level of the upper pastures to the much lower basin, where the highest houses are situated. From the hamlet of *Hinterstein* a path runs southward, close by the *Ellesspitz* (8,608'), to St. Lorenz in Ridnaun, and another crosses the ridge W. of the *Tribulaun* (10,168'), and leads in 6 hrs. to Gschnitz. At the southern foot of the latter mountain, which is the easternmost high peak of the Stubay Alps, is the hamlet called *Boden* (4,123'), with the church and the curate's house, where, in a case of need, shelter and some refreshment may be had. From hence to its opening on the Brenner road the valley is nearly level and well cultivated, containing several hamlets and scattered houses. Above *Anichen* the valley is locally called *Inner-Pförsch*. The railway over the Brenner Pass is carried for about $2\frac{1}{2}$ miles into the lower part of the valley, returning along the slopes on the N. side, so as to regain the valley of the Eisack at a considerable height above Gossensass (see Rte. B). In less than 2 hrs. from *Boden* the traveller may descend gently along a tolerable char-road to *Gossensass* on the Brenner road (Rte. A). Should the traveller intend to return to the N. side of the main chain, he may take a very agreeable way, leading in 6 hrs. from *Anichen* over the *Grub Joch* (7,021') to Gries on the N. side of the Brenner Pass. The path on the N. side passes the *Oberberger Seen*, and descends through the short but extremely picturesque glen of *Oberberg*. See Rte. A.

2. *By the Ridnaunthal*. The Ridnaunthal, whose torrent joins the Eisack a little below Sterzing, in many respects resembles the above-described parallel glen of the Pförschthal, but it is divided from the head of the Stubaythal by the highest peaks and most considerable glaciers of this district. There is but one known pass, the *Grindl Joch*, lying E. of the *Hochalm* (10,262'), and considerably W. of the *Feuerstein*. From the foot of the *Längenthal Glacier* the way is at

first SW., and then about due S. On the S. side the descent is by the steep and rather difficult *Hängendeferner*, below which it is necessary to bear to the l. or SE., until the head of the Ridnaunthal is reached at the Alp of Agels.

About $\frac{1}{2}$ hr. lower down a considerable lateral glen, called *Lazzacherthal*, opens to SW., at right angles to the main valley: through it a path leads over an easy pass to the head of the *Passeverthal* (Rte. G). Descending to ESE., the highest houses in the Ridnaunthal, near the church of St. Lorenz, are soon reached, and in less than $\frac{1}{2}$ hr. more the village of

Ridnaun (4,379'), sometimes called for distinction *Inner-Ridnaun*, with a poor inn kept by kindly people. The church of St. Joseph at this place and the very ancient church of St. Magdalen, on a rock above the path descending the valley, are very picturesque, and deserve the traveller's notice. A defile separates *Ridnaun* from the lower part of the valley, and about $\frac{3}{4}$ hr. descending are required to reach *Mareit*, the chief place in the lower Ridnaunthal. It is overlooked by a large country-house that stands on the site of the ancient castle of *Wolfsturm*. Passing below the pretty village of *Telfs*, that stands on the slopes above the l. bank of the *Gailbach*, the track traverses *Thuius*, and then turns northward to reach *Sterzing* (Rte. A).

The *Gailbach*, which drains the Ridnaunthal, has its chief source in the *Ublethalferner*, the largest glacier of the Stubay Alps. It originates in an extensive névé-basin between the peaks of the *Wilder Pfaff*, *Sonklarspitz*, and *Wilder Freiger*, and is bounded to the W. and S. by a ridge connecting the *Sonklarspitz* with the *Botzer* (10,686'), and extending eastward from the latter peak. From the great ice-reservoir included within these limits a comparatively narrow stream of ice flows eastward into the head of the Ridnaunthal, terminating a short way N. of the *Agelsalp*. MM. Barth and Pfandler effected

a fine pass over the head of this glacier, passing S. of the Sonklarspitz, and reaching the head of the Passeyerthal—locally called Hinterseethal—some way above the point where the path of the Tumbler Joch falls into that valley. They probably descended by the same course afterwards taken by Dr. Ruthner, and later by Messrs. Pendlebury, in crossing from Sulzenau between the Wilder Freiger and the E. peak of the Wilder Pfaff. The first traveller who crossed directly from Ranalt to Ridnaun by the Pfaffennieder and Ueblethalferner was Mr. Holzmann in 1872. He reached Sterzing in 12 hrs. exclusive of halts. See Rtes. F. and H.

ROUTE H.

FEND, OR GURGL, TO THE BRENNER PASS.

There is an increasing disposition among mountaineers to arrange routes through the Alps so as to descend as rarely, and for as short a time as possible, below the region of permanent snow and high Alpine vegetation. With that object numerous 'High-level Routes' have been devised among the ranges of the Pennine and the Central Alps. The conformation of the Tyrolese Alps is less favourable to carrying out a similar design, but it may be convenient to point out the various routes that may be taken by a traveller wishing to keep as near as possible to the crest of the main chain. Most of the valleys and passes that may be taken for that purpose through the Stubay Alps have been noticed in the foregoing routes; but there is one rather considerable valley, Gschnitzthal, besides two or three passes, not hitherto enumerated.

In starting from Fend or Gurgl, the traveller will either cross the Tumbler Joch (§ 48, Rte. B) to the head of the Passeyerthal, or descend to Sölden, and remount towards the higher peaks through the Winacherthal. In the following enumeration the routes are arranged in the order of the various

points on the Brenner, where the traveller would first reach the high-road which is described in Rte. A.

1. *To Steinach.* Starting from Sölden, the traveller may reach the Graba Alp in upper Stubay by the Pfaffen Joch, or the Mutterberger Alp by the Bildstöckl. Both passes are described in Rte. E. He will sleep at either of the above-named châteaux, or else somewhat lower down in the Stubaythal, at *Schöngelair*. As mentioned in the last Rte., the latter place is but a short way above the junction of the Längenthal with the main branch of the Stubaythal. On the E. side the Längenthal is bounded by a short range including the double peak of the Röhenspitzen, the *Aeussere Wetterspitz* (10,063'), and *Innere Wetterspitz* (10,017'); and over this range are two unnamed passes leading to the Gschnitzthal. The shortest way is by the northernmost of these passes lying between the *Aeussere Wetterspitz* and the *Southern Röhenspitz* (9,974'). The former peak, commanding a fine view, is easily reached from the summit of the pass, and which is 9,143 ft. above the sea-level. To reach the more southern pass, it is necessary to follow the Längenthal to the base of the great glacier, and then ascend due E. along a torrent that flows from the foot of the pass.

Whichever of these passes be selected, the traveller descends to the head of the Gschnitzthal, and follows the rt. bank of the torrent to the *Lapones-Alp* (4,636'). The upper part of this valley is uninhabited save in summer, and but a solitary chapel is passed on the way to the principal village. To the l. rises the Habicht, and E. of it the Pinneser Joch, noticed in Rte. E. On the opposite side rise the very bold limestone peaks of the *Tribulaun* (10,167'). These are extremely difficult of access, and the highest, or western, peak is said not yet to have been attained. [West of the Tribulaun are two passes leading to the Pflerschthal (Rte. G). One of these, lying close to that mountain, is most convenient for the traveller going from Pflersch to Gschnitz. The

other, nearer to the head of the valley, is attained by bearing to the rt. a considerable way above the Laponen-Alp, and by that way an active walker may easily reach Pfersch in one day from Schöngelair.] The chief place in the Gschnitzthal is

Gschnitz (4,070'). There is no inn, but strangers are received by the parish-priest. They find here two good guides for mountain excursions—Georg Pitt-racher, and Andreas Salchner. The scenery of the valley hereabouts offers much variety from the contrast between the limestone ridges dividing it from the Pinneserthal (Rte. E), and the crystalline slates that prevail at its upper end. In descending the path keeps to the l. bank. On the opposite side, near the track leading to the Oberbergthal, is the ancient chapel of St. M. Magdalen, or *Magdalenenkirchlein* (5,338'), conspicuously perched on a rock. After passing through a defile between bold limestone rocks, the track approaches Trins, counted 2 hrs. from Gschnitz. Before reaching the village, the traveller passes near to the modern castle of *Schneeberg* (3,960'), standing on a projecting rock above the torrent which separates it from the village of *Trins* (3,885'). Near to it will be seen a ridge crossing the valley, which is the remains of the terminal moraine of an ancient glacier. Trins stands at the S. base of the *Blaser* (7,332'), well known to Tyrolese botanists for its varied and interesting vegetation. Less than 1 hr. suffices for the descent to *Steinach* (Rte. A) on the Brenner road, standing exactly at the opening of the Gschnitzthal.

2. *To Gries.* Reference was made in Rte. A to the short but picturesque glen, called *Oberbergthal*, which opens on the Brenner road W. of the hamlet of Gries. The traveller wishing to take it on his way from the Oetzthal may reach Gschnitz by the way above described, and after crossing to the rt. bank of the torrent mount by a rough path through the forest to a point just below the Magdalenkirchlein. He there enters the Magdalenenthal, a lateral

glen leading to the *Mutten Joch*. This is apparently 8,137 ft. in height, the adjoining summit, called Mutter, reaching to about 4,000 ft. There is another pass some way NE. of the last, called *Oberberger Joch* (7,163'); but this is better suited for a traveller starting from Trins. From either pass the traveller may descend into the Oberbergthal near the village of *Oberberg* (4,440'). An easy descent of 1 hr. leads thence to *Vinaders* (4,097'), the principal place in the valley, only $\frac{1}{2}$ hr. from Gries.

The traveller who has reached the Pferschthal by any one of the routes mentioned below may take the Grub Joch pass, leading from Anichen to Oberberg, mentioned in Rte. G, and thus reach Gries after seeing the finest scenery of both valleys.

3. *To Gossensass.* It was seen in Rte. F that the most direct way from Neustift to Sterzing is through the Pferschthal, which opens on the high-road of the Brenner at Gossensass, the highest village on the S. side of the latter pass. The same route may be taken by a traveller coming from the head of the Oetzthal, who, having reached Schöngelair from Sölden by any of the routes mentioned above, may on the following day traverse the Pferscher Hochjoch to Pfersch, and on the third morning descend to Gossensass, or cross the pass leading to Gries.

4. *To Sterzing by Ridnaun.* The route from the Oetzthal to the Brenner last described is circuitous, and involves two rather difficult passes. The way by the Gschnitzthal is preferable for the traveller whose aim is the N. side of the Brenner Pass, while he whose direction lies S. of that boundary may find a more direct way by the Ridnaunthal. Some light is thrown on the topography of the district by an expedition made by Dr. Ruthner in 1867. Starting from Sulzenau (Rte. F), and ascending by the glacier of the Aperer Freiger, he reached in $5\frac{1}{2}$ hrs. the ridge, now known as the *Pfaffennieder* (9,868'), forming the N. boundary of the Uebenthalferner and connecting the Oestlicher Pfaff with

the Sonklarspitz; he finally descended into the Hinterseethal at the head of Passeyer, making a wide circuit round the E. side of the latter peak.

The easiest way to reach Ridnaun from Fend or Gurgl is to cross the Timbler Joch to the head of the Passeyerthal (§ 48, Rte. B), and thence follow a direct and steep, or else an easier and more circuitous, way to *Schneeberg*. That name was formerly given to some extensive mines, now scarcely worked, but is now used for the chapel and inn, considerably above the mine, almost enclosed by peaks, the chief of which (sometimes called *Schwarzseespitz*) is 8,995 ft. above the sea. The *Frauenkirche*, a chapel which must be nearly 7,000 ft. above the sea, is much frequented by pilgrims on the 5th August. Except at that moment, when it is overfull, the traveller finds tolerable quarters in a mountain-inn close at hand. An easy pass leads from *Schneeberg* to the upper end of the *Lazzacherthal*, but it is a still easier course to pass through a tunnel, nearly $\frac{1}{2}$ m. long, formerly used by the miners, which opens on the E. side about 800 ft. below the top of the pass. It is necessary to take lights. The path descends NE. to the point where the *Lazzacherthal* joins the head of the *Ridnaunthal* (Rte. G), through which lies the way to *Sterzing*. The course above described is practicable for ordinary tourists: the enterprising mountaineer, with a good guide, may take a much more difficult, but more interesting, way, starting from *Sölden* in the *Oetzthal*. Following the main torrent of the *Winacherthal* to its source at the foot of the *Höhlferner*, a considerable glacier that originates on the S. side of the *Wilder Pfaff*, and the SW. side of the *Sonklarspitz*, the traveller ascends along the S. bank towards the ridge of the *Schwarze Wand*, which extends a little W. of S. from the *Sonklarspitz*, and forms the E. boundary of the *Höhlferner*. By ascending to the head of the latter glacier to the point N. of the *Sonklarspitz* attained by Dr. Ruthner,

he would gain the upper névé of the *Ueblethalferner*, and might on the same day reach the head of the *Ridnaunthal*. But, according to MM. Barth and Pfaundler, it is necessary to cross the ridge of the *Schwarze Wand* at its S. end, and to descend into the head of the *Passeyerthal*, and seek shelter at one of the highest châteaux. Starting early on the following morning, the traveller ascends by a short but steep glacier to the *Königshofer Joch*, a pass forming the lowest point in the range that encloses on the western side the head of the *Ueblethalferner*, the most extensive glacier of the *Stubay Alps*. It includes a number of branches that flow through openings between the surrounding peaks, and converge in a great basin, which is drained by an ice-stream that issues due E. towards the head of the *Ridnaunthal*. The highest summit on the S. side of the glacier-basin is the *Botzer* (10,686'). From this extends to NW. a ridge including several minor peaks, of which that nearest the pass, called *Königshof* (about 10,370'), is easily ascended from thence. On the opposite side is the *Sonklarspitz* (11,410') which is concealed from the head of the glacier by an intervening range of steep rocks called *Becher*. The map of Messrs. Barth and Pfaundler is undoubtedly incorrect in respect to this portion of the *Stubay group*; and it is not easy to reconcile with it the account of the pass given by Dr. Ruthner in the 4th 'Jahrbuch' of the *Austrian Alpine Club*. It may perhaps be doubted whether future travellers starting from the *Sulzenau* in *Stubay* may not find an easier and more direct way by the *Grünauferner* than by his route. The only information respecting the descent from the *Königshofer Joch* into the *Ridnaunthal* by the *Ueblethalferner* is that gleaned from the work of Messrs. Barth and Pfaundler, who traversed it late in the autumn. At that season it was somewhat difficult, owing to numerous and wide crevasses. They found it expedient to keep throughout somewhat to the N. side of the glacier, twice

leaving the ice for slopes of débris at the foot of projecting rocks. Farther east the glacier descends in an ice-fall, and at a point called 'In Löchern' it is necessary to quit the ice on the l. bank, and descend by the rocks, till the lower end of the glacier is attained below the ice-fall. It is here so level and unbroken that it is locally called *Ebneferner*, and a person approaching from the E. would not suppose that it was the outflow of so vast a mass of ice and névé. On the S. side a glacier-lake is formed in summer by the stream descending from a lateral glen, which finds the outlet barred by the glacier. The lower end of the *Ebneferner* is too steep to be conveniently passable, and the traveller leaves the ice for the last time by the l. bank, and descends into the uppermost end of the *Ridnaunthal* a short way above the *Ober-Agelsalp*, where, in case of need, he finds tolerable shelter for the night. Some way lower down is a wider and more level basin, where stand the châteaux of the *Unter-Agelsalp*, about 2 hrs. above *Ridnaun*. The *Ridnaunthal* is more fully noticed in *Rte. G.*

In taking the course above described, the traveller who has crossed the first pass leading from the head of the *Winacherthal* to that of the *Passeyerthal*, and encounters unfavourable weather on the following day, has the advantage of being able to continue his route by the easy pass between *Schneeberg* and the *Lazzacherthal*.

5. *To Sterzing by Ratschinges.* A little above the point where the *Gailbach* issues from the *Ridnaunthal* into the open basin below *Sterzing*, it receives a considerable tributary torrent from the *Ratschingesthal*, a narrow glen nearly parallel to *Ridnaun*, but less interesting to the mountaineer, as it lies outside the glacier region of these Alps. The easiest and shortest way from *Fend* or *Gurgl* to *Sterzing* is through that glen. Having crossed the *Timbler Joch*, and ascended from the head of the *Passeyerthal* to *Schneeberg* (see above), an easy pass leads thence to the head of the *Ratschingesthal*. For the greater part of its

length this is little more than a defile. At the widest part stands the village of *Ratschinges*. It is chiefly known for quarries of highly crystalline white marble, which would be more extensively used if it were less difficult of access. At its lower end the defile of the *Ratschingesbach* is so narrow that the path is forced to mount to a great height above the rt. bank, after which it descends to the village of *Gasteig*, whence a char-road leads in $\frac{3}{4}$ hr. to *Sterzing* (*Rte. A.*)

ROUTE I.

STERZING TO MERAN BY THE JAUFEN PASS.

	Hrs.' walking	E. miles
St. Leonhard . . .	6	18
Meran . . .	4	12
	<hr/>	<hr/>
	10	30

The mountaineer going from *Innsbruck* to *Meran* will naturally select some of the routes through the *Stubay*

or Oetzthal Alps described in the present or the last section. The tourist who selects the easiest way between those places will prefer to follow the high-road over the Brenner to Sterzing, and thence take the beaten track over the Jaufen Pass. This is a frequented mule-path, easy enough on the east side; but the descent from the pass to St. Leonhard is so steep and rough for the first $1\frac{1}{2}$ hr. that ladies and nervous persons can scarcely be recommended to ride.

On leaving Sterzing the path crosses the Gailbach, and ascends to *Gasteig* (Inn: fair), a village standing close to the junction of a slender stream from the Jaufenthal with the powerful torrent which bears down the drainage of the Ridnaunthal and Ratschingesthal. The *Jaufenthal* is a short glen, without a village, but it has a church and a small group of houses which bear the same name. A track runs thence due S. across the ridge dividing this from Pens in the Sarnthal (Rte. K). On reaching the summit of the ridge at the head of the Jaufenthal, the path descends a little, but a further ascent is needed to reach the summit of the pass. About $\frac{1}{2}$ hr. before this is attained, the traveller passes a solitary stone house, called *Jaufenhaus* (6,545'), intended as a refuge for wayfarers. In case of need better quarters may be found here than at a similar refuge, bearing the same name, which is found on the opposite side of the pass.

The *Jaufen Pass* (6,872'), supposed to derive its name from the Roman designation, Mons Jovis, is reached in about $3\frac{1}{2}$ hrs. from Sterzing. There is another path about equally short, but less frequented, which mounts from Gasteig along the slopes on the S. side of the Ratschingesthal, and joins the common track near the Jaufenhaus. The descent towards Passeyer appears very steep, but no fatal accidents are recorded since a certain bishop, who had accompanied the Elector Louis of Bavaria on his way to Meran, broke his neck here on his way back to Germany. The way lies nearly due E. along the precipitous slopes

on the N. side of the *Waltenthal*, a short glen which joins the Passeyerthal at St. Leonhard. On descending into the glen the path passes the hamlet of *Walten*, where there is a poor inn. As the traveller approaches St. Leonhard he passes close to the ancient castle of *Jaufenburg* now in ruins, except a portion inhabited by a peasant. It commands a very fine view of the Passeyerthal. $2\frac{1}{2}$ hrs. from the pass suffice to reach St. Leonhard; but as that village is lower than Sterzing by 820 ft., 7 hrs. are allowed for the whole distance when the pass is taken from this side. The Passeyerthal, through which lies the remainder of the way to Meran, is described in § 48, Rte. B.

ROUTE K.

BOTZEN TO STERZING, THROUGH THE SARNTHAL.

	Hrs. walking	Eng. miles
Sarnthein . . .	$4\frac{1}{2}$	14
Pens . . .	$4\frac{1}{2}$	14
Sterzing . . .	$5\frac{1}{2}$	15
	<hr/>	<hr/>
	14 $\frac{1}{2}$	43

The district included, and almost enclosed, between the two main branches of the Adige contains, along with the two high groups of the Oetzthal and

Stubay Alps, a more southern group of much lower mountains. This is divided into two equal portions by the *Sarnthal*, a valley originating in the mountains S. of Sterzing, and opening into the broad valley of the Adige immediately N. of Botzen. A glance at the map shows that the most direct line between those towns lies through this valley, and over one or other of the easy passes connecting it with the upper valley of the Eisack. Though the scenery is not of a very high order, this course may be recommended to the pedestrian who would avoid the heat and dust of the high road. In descending the valley the traveller may avail himself of the new road called *Sarner Strasse*, opened in 1854, by engaging a vehicle from the village of Sarnthein to Botzen; but in ascending it does not save much time. The road keeps chiefly to the l. bank of the *Talferbach*, but there is also a footpath by the rt. bank. The former is generally preferred. Leaving on the rt. hand the road to Klobenstein, noticed in Rte. A, the new road turns nearly due N. The villages are for the most part perched on the slopes of the mountains on either hand, and many ancient castles, in more or less ruinous condition, are seen throughout the valley. About $1\frac{1}{2}$ hr. from Botzen two tributary torrents fall in opposite directions into the Talfer. From the W. comes the Dornbach, above which is seen the village of *Afing* (3,383'), and nearly opposite is the junction of the Emmersbach. On the slope above it stands

Wangen (3,468'). About $\frac{1}{2}$ hr. farther the road enters the remarkable defile of the Marterloch, passing under a nearly vertical rock, crowned by a pilgrimage church. Farther on (on the rt. bank) is the mineral spring of *Schörgau*, frequented by the country people; the road keeps to the opposite side until close to the main village, and chief place of the district,

Sarnthein (Inns: beim Schweizer, and several others), 3,164 ft. above the sea. Since the opening of the new road it is resorted to by the people of

Botzen during the *Sommerfrisch* season. On the heights above the l. bank of the stream opposite to the village are the castles of Reineck and Kränzenstein, and in the valley a more modern residence belonging to Count Sarnthein. As the mountains enclosing the valley are easily accessible, there are many paths leading in various directions, to find which, as a general rule, it is advisable to take a guide. One somewhat frequented track leads westward in 5 or 6 hrs. over the *Kreuz Joch* (6,045') to Meran. In the opposite direction paths lead to Klausen or to Kollman in the valley of the Eisack. One of the most agreeable expeditions is the ascent of the *Sarner Scharte* (8,255'), rising due W. of the village. The panorama is much the same as that from the Rittnerhor. (Rte. A). From the top the traveller may descend to Klausen, or else make his way southward to Klobenstein and Botzen.

The Sarnthal, after widening out somewhat in the neighbourhood of the principal village, narrows again as the track runs northward along the l. bank to *Astfeld*, where the main stream of the Talfer is formed by the junction of the torrents issuing from the two uppermost branches of the valley. The NE. branch, or Dürnholzthal, is briefly noticed below: the northern branch, called *Penserthal*, affords the most direct way to Sterzing. The scenery of the *Penserthal* is varied and pleasing throughout the ascent to Weissenbach, where, about $3\frac{1}{4}$ hrs. from Sarnthein, the traveller finds a tolerable country inn. Here the head of the valley opens into view somewhat N. of E., while a path mounts westward, and leads in about 6 hrs. to St. Leonhard in the *Passerthal*.

Nearly 1 hr. above Weissenbach is *Pens* (4,781'), the highest village in this branch of the Sarnthal. It has a rough and poor, but clean, inn. From this village a path runs due N. to the *Jaufenthal* (see last Rte.), and is possibly the shortest way to Sterzing. Another pass, lying a little way farther E., leads to *Gasteig*. The more frequented way is

by a track which follows the torrent to the hamlet of Asten, and then turns northward to ascend the *Penser Joch* (7,340'). On reaching the summit the traveller overlooks a short and deep glen whose torrent joins the Eisack near Mauls. The path to Sterzing winds along the slopes on the N. and W. side of the glen, and finally turns northward over the shoulder of the mountain, and descends to *Stilfs* on the rt. bank of the Eisack, about 4 m. below Sterzing.

The *Dürnholzthal*, the opening of which was left on the rt. hand in ascending from Astfeld, is a very picturesque glen, through which the traveller may find an agreeable way from Sarnthein to Brixen. About 1 $\frac{3}{4}$ hr. from Sarnthein he leaves on his rt. hand the hamlet of *Reinswald*, where there is a decent inn, and 1 $\frac{1}{4}$ hr. farther reaches

Dürnholz (5,203'), where accommodation is found at the house of the priest. Near this is a lake well stocked with trout, whose dark blue waters are imagined to be in connection with the lagoons of Venice. A pleasant path leads in 5 $\frac{1}{2}$ hrs. over the *Schalderer Joch* (about 7,500') to Brixen, passing the village of *Schalders*, with a rustic bath establishment. Another way leads to Klausen by the *Lazfonser Joch*. The latter pass is most easily reached from Reinswald.

[There is a direct way from Pens to Dürnholz by the *Dürnholzer Joch* (7,180'), which may be accomplished in 2 $\frac{1}{4}$ hrs. from one village to the other.]

SECTION 50.

ZILLERTHAL DISTRICT.

IN the last two sections the portion of the main chain of the Tyrol Alps lying between the sources of the Adige and the Brenner Pass have been described. It was seen that this consists mainly of two masses of crystalline rock—a loftier and more extensive south-western mass enclosing the head of the Oetzthal, and a smaller and less elevated north-eastern mass surrounding the Stubaythal and its tributary glens. It was remarked that the Brenner Pass, which opens so deep a passage from the north to the south side of the Alps, corresponds rather to a dislocation than to a breach in the continuity of the main range. Taking into account the general disposition of the masses, and that of the main valleys and minor ridges, the Tyrol Alps W. of the Brenner adhere to that SW. to NE. direction which prevails throughout the Western and Central Alps. On the other hand, the inspection of any ordinary map suffices to show that in Eastern Tyrol, and the region extending thence eastward to the borders of Hungary, the ruling direction of the ridges and valleys diverges little from due W. to E. In the space immediately E. of the Brenner, where the two systems, if prolonged, would intersect, we find interposed a lofty group mainly composed of two nearly parallel ridges that affect an intermediate direction from WSW. to ENE. The longer and more considerable of these is nearly continuous with the range of the High Tauern to the E., but both lie somewhat on one side of the axis of the western main range, and the Brenner Pass corresponds to the dislocation thus caused, very much as the Maloja, the Splügen, and the Simplon passes correspond to similar dislocations. The ridges above spoken of enclose the principal branch of the Zillertal, and they are chiefly drained by torrents that send their waters to the Inn through the same val-

ley, which naturally gives its name to this portion of the Tyrol Alps.

The longer and loftier of the two ridges that enclose the Zillertal extends westward close to the town of Sterzing, and, with but trifling dislocations, forms a continuous range from thence to the Arlscharte, a distance of 100 English m., measured along the nearly straight axis of the chain. In this space there is no pass falling below 8,000 ft., and but very few that even approach that limit, so that taking together the main range of the Zillertal with that of the High Tauern, described in the following sections, they form a far more complete barrier between the North and the South than any part of the Alpine chain of nearly equal extent. No engineer has ever proposed to carry a carriage-road over this part of the Alpine chain, and in a space of 85 miles there is but a single pass serviceable for beasts of burden. One of the slight dislocations above mentioned corresponds to the junction of the Zillertal range extending ENE. from Sterzing with the High Tauern, the point of junction being the summit of the Dreiherrnspitz. Here is the Krimmlertauern Pass (9,071'), which forms the most natural division between the district described in this section and the High Tauern range. Southward the Ahrental, and northward the Krimmlerthal, form a well-marked boundary between this and the district described in the next section. Elsewhere its limits are traced by the valley of the Rienz to the S., by the road of the Brenner to the W., and on the N. side by the valley of the Inn between Innsbruck and the Zillertal—by the latter valley as far as the village of Zell, and thence by the road over the Gerios Pass to Wald in Pinzgau, at the junction of the Krimmler Ache with the Salza.

The way from Bruneck to Wald, by the Ahrental and the Krimmlerthal, is described in Rte. E. but the valley of the Rienz, between Brixen and Bruneck, is more conveniently described in the next section.

The portion of Tyrol included within the limits above defined has until lately been almost completely neglected, not only by foreign tourists, but also by Austrian mountaineers. Most of the highest peaks remained, not only unascended, but unmeasured; and in this way it happened that five or six peaks in succession have enjoyed the reputation of being the highest of the group. It is mainly to Colonel von Sonklar, whose name so constantly recurs in connection with the main chain of the Tyrol Alps, that we are indebted for such accurate information as we now possess. He has not indeed lavished upon this district the amount of laborious investigation which in the Oetzthal and Tauern groups have almost exhausted the field of orographic enquiry, but his papers upon this district in the first and second volumes of the 'Jahrbuch' of the Austrian Alpine Club contain the chief data requisite for a correct knowledge of the two main ridges that form the nucleus of this group.

The longer and more southerly of these ridges, which we shall term the Zillertal main range, is that which extends, as already mentioned, from Sterzing to the Krimmler Tauern—about 36 m. On the S. side this range, through about half its length, falls abruptly towards the Ahrental, and sends out no lateral ridges of considerable height; but on the N. side the secondary ridges are of much greater dimensions. From the ENE. end of the range, near the Krimmler Tauern, a very considerable mass, whose mean height is little less than that of the main chain, diverges to N. and NW., and other considerable secondary ridges are noticed in Rte. B. The highest peaks in the main Zillertal range, reckoning from E. to W., are the *Rauchkogel* (10,661'), *Hollenzkopf* (10,492'), *Löffelspitz* (11,108'), *Schwarzenstein* (11,046'), the five *Horn Spitzen*, which attain 10,842 ft., *Thurnerkamp* (11,189'), *Rossruckspitz* (10,881'), *Mösle* (called on the S. side *Möslenock*) (11,315'), *Weisszinth* (10,841'), *Hochfeiler* (11,535'), *Grasespitz* (11,393'), *Grabspitz* (10,065'),

Wildkreuzspitz (10,271'), and lastly the *Ebengrubspitz* (9,763'). The last, with the somewhat more northerly *Kramerspitz* (9,658'), are succeeded by the much lower summit of the *Trenserjoch*, which forms the western termination of the main range close to Sterzing. The highest of the above-named peaks (*Hochfeiler* and *Grasespitz*) do not lie on the watershed, but in a short lateral ridge projecting northward from the *Weisszinth*. In the mountain mass extending N. and NW. from the *Krimmler Tauern* the principal summits are the *Reichenspitz* (10,866'), *Sicherkopf* (10,708'), *Wildgerlosspitz* (10,771'), and *Gamsspitz* (10,522').

The northern group of the Zillertal Alps is mainly formed by the so-called *Tuxer range*. This is nearly parallel to the main range, but is directed more nearly from NE. to SW., so that if prolonged, the axes of both would meet a little W. of Sterzing. It is shorter, and its mean elevation is less than that of the main range, but its highest peak falls only a few ft. below the *Hochfeiler*. Its chief summits, reckoning as before from E. to W., are the *Grünbergkor* (9,397'), *Riffler* (10,627'), *Rippenköpfe* (10,743'), *Olperer Fuss-stein* (11,451'), *Alpeiner-Fernerspitz* (11,113'), *Sägeward* (10,870')—not to be confounded with the much lower *Hoch Säge* (9,365'), one of the minor peaks of the main range. Somewhat S. of the *Sägeward* is the *Hoheward* (10,780'), and to this succeeds a series of lower summits (none of which attain 10,000 ft.) till the *Tuxer range* terminates towards the *Eisack* between *Gossensass* and *Sterzing* in the low summit of the *Saunjoch* (6,844'). The two principal ranges are united together by a comparatively low transverse ridge connecting the *Hochfeiler* with the *Hoheward*, over which lies the pass of the *Pfitscher Joch* (7,297').

An extensive mountain tract lies to the N. of the *Tuxer range*, filling the space between it and the *Innthal* with ramifications that reach the *Lower Zillertal*. The summits of this range fall for the most part considerably be-

low 10,000 ft. One of the most conspicuous is the *Glungetzerspitz* (8,756'), near *Innsbruck*.

Till lately few of the higher summits of the *Zillertal Alps* had been ascended. The *Hochfeiler* was reached for the first time in 1865 by M. Grohmann, and the *Mösele* in the same year by Mr. Tuckett. The *Löffelspitz* was climbed in 1843 by M. Lipold, and since that date by some German travellers, and by Dr. Brinton; the *Schwarzenstein* has been attained by Dr. Ruthner; and in 1867 M. Grohmann climbed the *Olperer Fuss-stein*. There remain unascended, the *Grasespitz*, *Alpeiner Fernerspitz*, and *Thurnerkamp*, all exceeding 11,000 ft. in height. The last appears difficult, but promises a very fine panoramic view.

Good quarters are found at *Zell* and *Mayrhofen* in the main valley, but these places lie too low for the taste of mountaineers. They will prefer the humbler yet clean accommodation at *Ginzling* or *Lanersbach*. Members of the *Alpine Club*, able to speak German, may safely venture to apply for hospitality at the *Widum*, or priest's house, even in places where this is not accorded to all travellers. Of course in such cases the traveller should leave a suitable gratuity with the housekeeper.

ROUTE A.

INNSBRUCK TO LEND, BY THE ZILLERTHAL AND PINZGAU.

	Eng. miles
Jenbach (by railway)	23 $\frac{1}{4}$
Fügen	5 $\frac{1}{2}$
Zell	8
Gerlos	10 $\frac{1}{2}$
Wald	10 $\frac{1}{2}$
Mittersill	14
Lengdorf	7
Bruck	10
Taxenbach	7
Lend	5
	100 $\frac{3}{4}$

This is a route frequented by tourists; and although the portion between Wald in Pinzgau and Lend does not lie within this district, it has appeared more convenient to describe it here rather than refer the reader to another section.

The valley of the Inn between Innsbruck and Kufstein is described in § 43, Rte. B. Travellers approaching the Zillertal usually leave the railway at *Jenbach*; but pedestrians from the Kufstein side may stop at *Brixlegg*. The distance from either of these stations to Strass, where the road to Zell turns aside from the main road along the Inn, is about 1 $\frac{3}{4}$ m. An omnibus plies daily, leaving Zell at 8.30 A.M., reaching Jenbach at 12.30, and returning thence about 2 P.M. Carriages are usually to be found at Jenbach, either at the station or at the post in the villages; but it is safer to order one beforehand. The road is good as far as Zell, but between that place and Wald it is too rough for any but common carts, and those who do not walk must ride. The charges for horses and guides along this route are higher than is usual in Tyrol.

The visitor to the Zillertal who is not too hurried, may feel interest in obtaining some little acquaintance with the manners and customs of its inhabitants. The people of this valley are considered throughout Tyrol as in a special degree 'racy of the soil.' The artistic element is strong in their composition. The valley has produced not

a few painters and sculptors. The love of music and dancing is universal, and the Zillertal minstrels, especially those who perform at Zell, bear a high reputation. Unhappily, this pleasant trait is counterbalanced by the almost equally general love of strong drink. A festivity which commences under the auspices of the Muses usually degenerates into a bacchanalian orgy.

The road from *Strass* keeps to the W side of the valley at some distance from the l. bank of the *Ziller*. The scenery of the lower valley is pleasing, but not very striking; the lower slopes on either hand are animated by numerous neat villages and hamlets, with many of those sharply-pointed church spires that are characteristic of N. Tyrol. Some high summits, especially the *Ahornspitz*, are visible in the background, but the bolder peaks of the main range are not visible from the main valley.

At *Schlitters*, the first village beyond Strass, the pastoral glen of the *Ochsen-thal* opens to SSW., enclosed by a range which scarcely surpasses 7,000 ft. in height. The next village, about 3 $\frac{1}{2}$ m. from Strass, is

Fügen (Inns: Post; Stern; Aigner's; the latter is visited for the sake of the musical performances of the landlord and his family), the chief place of the Lower Zillertal. The church contains some fine carving by a native artist. This is the most convenient starting-point for the ascent of the *Kellerjoch* (7,633'), which rises to the SW., and about an equal distance SE. of Schwaz, in the Innthal (§ 43, Rte. B). The panoramic view is highly spoken of. The higher summit of the *Gilfertsberg* (8,201') stands at the head of the *Pankratzenthal*, the torrent from which is traversed by the road about 1 $\frac{1}{2}$ m. S. of Fügen. It should command a still more extensive view. After passing *Uderns* and *Ried*, the traveller sees on the opposite side of the valley, beside the village of *Stumm*, the opening of the *Heerenthal*, a wild glen that drains on one side the group of summits NW. of Gerlos, that culminate in the *Thorhelm*

(§ 44, Rte. D). The head of the glen should offer some fine scenery. Some 2 m. farther, the road crosses a slight eminence by Aschau, that commands a very pleasing view of the valley. Little more than 2 m. beyond Aschau is

Zell (1,850'), the chief place in the valley, with numerous inns. The Post on the l. bank is good, but rather noisy; excellent music in the evening; next is the Welschwirth, a good country inn; neither is cheap for Tyrol. The Bräuhaus is rustic, cheap, good dinners; and besides this the Neuwirth, Engel, and Greißerers are recommended. The chief inns and the church are on the rt. bank of the Ziller. The inns are crowded on Sundays and holidays, and nowhere can the traveller find more characteristic scenes of rural Alpine life. The afternoon is devoted to shooting-matches, followed by song and dance, in which the athletic forms of both sexes, arrayed in their ancient costume, are seen to advantage. These amusements, seasoned by copious libations, are kept up till a late hour. The stranger who may be tempted to mix in these revels, must be prepared to accept the challenge when invited to drink a health either in wine or brandy. A refusal is deemed a serious affront.

A small gold-mine near the village does little more than pay the cost of working it.

At Zell, a portion of the range of snowy peaks enclosing the main branch of the Zillertal comes into view. Of these the nearest conspicuous summit is the Gross Ingent (9,562'). The traveller bound for the Pinzgau unwillingly turns aside from the wild and striking scenery of the main valley, to commence the ascent of the low pass that here connects Tyrol with Salzburg. The charge for a horse to Wald or Krimml is 9 fl.; and that for a guide (quite unnecessary) 4 fl.

The ascent to Gerlos commences very near the village of Zell. At a rotive column to the Madonna the path bears to the rt., at first S., and then mounts to the E. the slope of the *Hainzenberg*, which is the spur of mountain that

divides the trough of the Gerlos Pass from the Upper Zillertal. Footpaths save the traveller's feet from the rough cart-road, and at intervals he enjoys the shade of the pine-forest. A neat little church, with adjoining priest's house, serves for the scattered inhabitants. Towards the summit of the slope the view backward, extending the whole length of the Lower Zillertal, with its many villages and church-spires enclosed between the mountains on either side, is very charming. At about 1 hr. from Zell, is a wayside inn (*Auf dem Etschen*). The Gerlos torrent, hitherto lost to sight in a ravine on the l. hand, is now approached, but the track keeps to its l. bank. Through some lateral glens that open on the rt. hand, glimpses are gained of the *Brandberger Kohn*, and other high mountains forming part of the Reichenspitz group mentioned in the introduction to this section, while on the N. side the summits of the Thorhelm range occasionally come in view. At the hamlet of *Gmünd*, about $2\frac{3}{4}$ hrs. from Zell, the torrent from the *Wimmerthal*, issuing through a rocky cleft on the rt. hand, forms a pretty waterfall. Here the track, which has hitherto lain due E., bends to NE. across a tract of broad Alpine meadow, and crosses the torrent three times, and after various windings, in about $\frac{3}{4}$ hr. more reaches the scattered village of *Gerlos* (3,964'). There are three inns, of which two are kept by Kammerlander. The better of these is the *Alpenrose*, which is tolerably good, but by no means cheap. To SSE., through the *Schönacherthal*, lies the way to the *Reichenspitz* (10,866') and the *Wildgerlosspitz* (10,771'). The former is said to have been reached years ago by Peter Haller, the best guide for this neighbourhood—to be heard of here or at *Gmünd*. About $\frac{1}{2}$ m. beyond Gerlos the *Krummthal* opens to the N., soon turning to WNW., and offers the best way to the summit of the Thorhelm (§ 44, Rte. D).

After passing the opening of the *Krummthal* (also called *Krümml* or

Krimmel, but not to be confounded with the better known valley mentioned below), the track passes through a gorge which soon opens into the *Durlosboden*, as the uppermost end of the Gerlos glen is locally called. There is here a large *Klause*, or woodcutter's dam, near the opening of the *Wildgerlosthal*. Through this the mountaineer may ascend due S. to a little lake (Gerlos See), very finely situated in the midst of a circle of high peaks. The rough cart-track leading to the Pinzgau, keeps a little N. of E., through the Durlosboden to the pass—*Gerlos Sattel* (4,717'), also called Pinzgauer Höhe, about 1½ hr. from Gerlos. This deep depression, lying in the axis of the great line of valley that extends hence to Hiefau on the Enns, divides the Kitzbühel (§ 44) from the Zillerthal Alps. The portion of that long trough forming the upper valley of the Salza, and called *Pinzgau*, plays a part in the orography of this district, similar to that of the Rhone valley in Switzerland, running transversely to the natural flow of the drainage of the main chain, with this additional circumstance, that on the N. side of the Pinzgau the low Thurn Pass (4,371'), and the still deeper opening at Zell am See (2,469'), left free course for the outflow of the drainage in that direction. The way lies nearly due E., and in less than ½ hr. the traveller reaches a rough-looking inn at Ronach (4,346'), and following the course of the infant Salza, that issues from a glen to the N. (§ 44. Rte. D), he reaches in about 2 hrs.' steady walking from the pass, the village of *Wald* (3,044') in Pinzgau. The road becomes practicable for light carriages at Ronach, but no vehicle is to be found there, nor is one always available at Wald. Travelling with ladies, it is prudent to write beforehand to that place or to Krimml.

The great majority of travellers who cross the Gerlos Pass make a slight detour to visit the waterfall of Krimml, perhaps the finest in the Alps. Even without that attraction, the scenery on the way to Krimml (see Rte. E) is much superior to that of the direct road

by Wald, and involves a detour of only 3 or 4 miles.

The high road along the N. side of the Salza runs for many miles nearly level. The most interesting spots on the way are those where the lateral valleys of the High Tauern open into the Pinzgau. Two of the finest of these, bearing down the drainage of the highest peaks of the Gross Venediger group (§ 51, Rte. F), pour their torrents into the Salza nearly at the same point. The opening of both valleys is well seen from a smith's forge, built up against a huge erratic block, called the Teufelstein, little more than a mile below Wald. The legend connecting this block with the ruined castles of Hieburg and Friedburg on the opposite slopes of the valley, may be read in the third vol. of Schaubach. About 2½ m. from Wald is *Neukirchen* (2,987'), with a decent country inn (Bachmaier), and a very ancient castle, still inhabited. The village watchmaker is recommended as a guide. Scarcely 2 m. beyond Neukirchen is the *Weyerhof*, an ancient house standing by a picturesque tower, all that remains of a ruined castle. The house is now converted into a very fair country inn, deserving a visit for the sake of the wood-carving still contained in some rooms. The glass-painted windows have been removed to the museum at Salzburg. The Weyerhof stands a little below the opening of the *Habacherthal*, one of the wildest glens of the Tauern Alps. In the background the Schwarzkopf (10,425') is seen rising above the Habacher-kees, after the two Sulzbacher glaciers, the greatest of those on this side of the range (§ 51, Rte. F).

About 1½ m. from Weyerhof is the neat village of *Bramberg* (2,874') with an old gothic church. After passing Bichl the road crosses a torrent and reaches

Mühlbach (2,714'), about 8½ m. from Wald. The torrent descends from the *Mühlbachthal*, through which a path leads to Kirchberg, near Kitzbühel, over the Stange, a pass lying close under the peak of the Rettenstein. Near Mühlbach on the S. side of the Salza are

furnaces for smelting copper, and vitriol-works. About 1 m. beyond Mühlbach the road descends to the Salza, then crosses to the rt. bank, and in a few minutes more reaches *Hollersbach* (2,783'), at the opening of the *Hollersbacherthal*. The mountaineer may find his way through it to Windisch Matrei over a difficult pass (§ 51, Rte. F). The road now runs nearly straight for nearly 4 m. along the meadows that fill the floor of the valley, and then turns to the l. to enter

Mittersill (2,622' Moll), the principal place in Upper Pinzgau. Grundtner's Gasthaus, in the market-place, is the best inn. The large house kept by the brewer (Rupp) is said to be ill managed. The little town stands on both sides of the Salza, and is united to the adjoining village of Velben by a bridge over the Velber Ache. Owing to the slight fall of the ground throughout the long reach below Mittersill (about 60 ft. in 10 m.), the neighbourhood is very subject to inundations, and the inhabitants are forced to keep boats in readiness in order to cross the flooded meadows that separate the hamlets and farmhouses. Hence Mittersill is locally called the 'Venice of Pinzgau.' Save this serious drawback, the position is very fine. Many of the houses command views up and down the main valley, extending fully 15 m. to the westward, and nearly twice as far in the opposite direction. The view is much finer from the old castle on the slope to the N., about 600 ft. above the town. This has been published in panoramic form by Oberer, in Salzburg. The road to Kitzbühel is described in § 44, Rte. C, and that to Windisch Matrei in § 51, Rte. E.

The road from Mittersill keeps to the N. side of the Salza through a dreary swampy tract. Of late years, a more intelligent system than that of merely damming in the beds of the tributary torrents has prevailed, and the sand and gravel which they bring down has been made to contribute to the solidification of the swamps. The road passes a monument that commemorates, not the

actions, but the good intentions of the Emperor Francis, who passed this way in 1832, and goes through *Stuhlfelden*, whence travellers sometimes ascend the *Mulitz Kogl* (7,333'), commanding a fine view, not quite equal to that from the Geisstein (§ 44, Rte. C). Some way farther, the opening of the Stubachthal is seen to the S., and in the background a part of the fine range that encloses its upper end, culminating in the peak called by Sonklar Schneewinkel (11,580'). A pathway, chiefly supported on pine branches, is carried across the marshes to a wooden bridge over the Salza that leads to the Stubachthal.

The next place on the high road is *Uttendorf* (2,669'). On the opposite bank is Schwarzenbach, where there is a neglected mineral warm spring, said to be similar in its effects to that of Gasstein. About 3 m. beyond Uttendorf is *Lengdorf*. This is a hamlet belonging to the village of *Niedersill*, on the l. bank of the Salza, at the opening of a short glen called *Mühlbachthal*, which must not be confounded with the valley so named on the N. side of the Pinzgau. The seemingly insignificant torrent that issues from this glen accomplished a great amount of destruction on August 5, 1798. A storm on the Tauern range to the S. must have caused some considerable landslip whose materials were hurried down by the swollen torrent. In a few minutes the hamlet of Mühlbach above Niedersill was swept away. The latter village was not exempted. The torrent of mud and stones destroyed many houses and half buried others. The transported materials still surround the church and parsonage to the height of 6 ft., and the present cellar of the inn was formerly the ground-floor *Gaststube*.

Passing *Walchen*, the road reaches *Piesendorf* (2,614'), with a decent inn, beim Salater, about 12 m. from Mittersill. This is a convenient starting-point for the ascent of the *Grosse Arche* (8,041'), recommended by Schaubach for its panoramic view. It does not appear that this is at all equal to that gained

from the Zirmkogel (7,260') on the N. side of the main valley, or from the Schwarzkopf in the Fuschenthal (§ 51, Rte. C). Opposite Fürth, about $1\frac{1}{2}$ m. from Piesendorf, is the opening of the *Kaprunerthal*, containing some of the grandest scenery of the Tauern Alps. Several secondary glaciers and two of the first order enclose the head of the valley, which is relatively short and steep, terminating on one side at the foot of the Wiesbachhorn (11,737'), and on the other at that of the Hohe Riffel (11,063'). See § 51, Rte. D. Rather more than 3 m. beyond Piesendorf the road from Zell am See (§ 45, Rte. B), distant about 2 m., enters the valley from the N. A nearly equal distance from the junction is

Bruck (2,469'), a village with a good inn (bei Mayr) at the opening of the Fuschenthal, one of the chief lateral valleys of the Tauern Alps. It is described in § 51, Rte. C. The bridge over the Salza which gives its name to the village is crossed by the road to Fusch. Travellers having an hour to spare here should visit the neighbouring castle of *Fischhorn*. It is finely situated, and contains in its stained glass windows some curious memorials of the Peasants' War, when this and other ecclesiastical castles were taken and plundered by the peasants, who afterwards paid dearly for their brief successes.

In the village of Hundsdorf, scarcely a mile below Bruck, is an inn kept by Trauner, which is recommended as good country quarters where vehicles may be found at a moderate rate. Though the valley offers nothing remarkable, the scenery is very agreeable between Bruck and

Taxenbach (2,547'). The inn here (beim Taxwirth) is said to be the best in Pinzgau. The village stands at the opening of the Rauriserthal, a still more considerable valley than that of Fusch. The Rauris torrent forms a very remarkable waterfall near its junction with the Salza. The deep cleft into which the torrent springs is penetrated by a path, partly carried along planks and ladders,

and the so-called *Kitzloch* is remarkable not only for the waterfall, but for the singularity of the scene that surrounds it. The spot may be reached, with a guide, in 20 min. from the inn.

Below Taxenbach the valley of the Salza is called Pongau; the character of the scenery changes, and the river, no longer flowing amidst flat meadows, is enclosed between steeper slopes that gradually contract to a defile. The rock is clay slate, which easily disintegrates, and frequent damage has been effected by landslips. Mainly to this circumstance is due the fact that no hamlet, and scarcely a single house, is seen on the way from Taxenbach to

Lend (2,208'), where the frequented road to Gasstein quits the valley of the Salza. It is described in § 52, Rte. A, and the road from Salzburg to Lend in § 45, Rte. E.

Those who feel an interest in local dialects will find specimens of popular songs of the Pinzgau in the second 'Jahrbuch' of the Austrian Alpine Club.

ROUTE B.

ZELL TO STERZING, BY THE PFITSCHER JOCH.

About 18 hrs.' walking, exclusive of halts.

For about 5 m. above Zell, the Zil-lerthal preserves the same character

that marks its lower portion, between Strass and Zell, described in the last Rte. At Mayrhofen its character is completely changed. Three torrents issuing from as many rugged Alpine glens, meet nearly at the same point. The eastern branch, which originates on the SW. side of the highest peaks of the Reichenspitz group, preserves the name Zillertal. The western branch is the Tuxertal, noticed in Rte. C; and the central branch assumes first the name of Zemmtal, and finally, near its head, is called Zamser Grund. This, which divides the two chief ranges of the Zillertal Alps, described in the introduction to this section, is undoubtedly the main branch of the Zillertal, whether we consider its orographic relations, or its superior length, or the fact that its torrent brings down the largest share of the waters of the Ziller. Through this lies the most direct way from Zell to Sterzing. The accommodation at Ginzling is rather rough, and the walk from that place to Sterzing rather long, yet, when better known, it will probably become a frequented resort of tourists, as it is undoubtedly one of the grandest valleys of the Eastern Alps.

The carriage-road extends for a distance of about $4\frac{1}{2}$ m. S. of Zell to

Mayrhofen (about 1,960'), the last village in the lower division of the valley, with two inns (Neuhaus, good; Glasner). Though lying low, it is well situated for many Alpine excursions, and the finest parts of the Zillertal Alps may be visited from hence. The ascent of the *Ahornspitz* (9,731') is especially to be recommended to the traveller who would gain a general view of the higher peaks of this district. The ascent to the peak, which rises due SE. of Mayrhofen, is long—7 hrs. being usually required—but free from difficulty, though rather steep towards the top.

The path from Mayrhofen to the Zemmtal crosses the Ziller (Rte. F), and, following the rt. bank of the Zemmbach, in $\frac{1}{2}$ hr. from the village, traverses the Stillup torrent, issuing from one of the wildest glens of this dis-

trict, commonly called *Stillup Grund*.*

[Two fine peaks of the main range guard the head of that glen—to ESE. the *Hollenzkopf* (10,492'), and the *Löffelspitz* (11,103') to SW. In the ridge connecting them are the much lower summits of the *Kfallenspitz* (9,678'), and *Keilbachspitz* (10,161'), between which is the *Keilbach Joch* (9,311'), a very fine glacier pass leading directly from Mayrhofen to Steinhaus in the Ahrental (Rte. E). Amid grand scenery, and many unknown but noble waterfalls, the path mounts to the Taxa Alp, $4\frac{1}{2}$ hrs. from Mayrhofen. 5 hrs. more suffice to reach the summit, and descend through the Keilbachthal to Steinhaus.]

Leaving on the rt. hand a bridge leading to Finkenberg and the Tuxertal, the track passes opposite the junction of the Tuxerbach, and soon enters one of the wildest and most savage defiles in the Alps. It has been compared to the Via Mala, with which it has but a superficial resemblance, though quite equalling it in grandeur. The *Tristen-spitz*, which divides the Stillup Grund from the Floienthal, rises so steeply above the Zemmbach that no path is carried on that side, and the track crosses to the l. bank by the Hochsteg, a covered bridge thrown over the raging torrent. The path at first mounts to a great height above the bottom of the defile to a sort of shelf of the mountain, locally called *Dornau*, whereon stand several small farmhouses. The scenery changes rapidly as the path, descending a little, plunges into the defile. On the one side is the nearly vertical face of the *Tristen-spitz*; on the other, a steep slope covered with blocks of huge dimensions, fallen from the Grünberg. The path creeps onward under and between the

* The term *Grund*, often employed in the German Alps to designate the uppermost end of a glen without permanent habitations, is in this district often applied to its entire length. Thus the Floienthal is commonly called Floiten Grund, and the upper end of the valley leading to Pütsch, Zamser Grund, while the lower portion between Breitlebner and Dornau is often styled Zemm Grund.

stone masses, while the torrent roars in one continuous cataract. At one point the path is carried along planks sustained on iron stanchions against the vertical rock overhanging the torrent. The defile at length opens a little at the *Karlstieg*, a wooden bridge, over which the traveller returns to the rt. bank. The valley now opens out a little, and admits to view some of the neighbouring peaks, especially the Gross Ingent. The traveller passes several *Asten*, or *Mayens*, where the cattle are kept in early summer before proceeding to the upper pastures; and in 3 hrs. from Mayrhofen reaches

Ginzling (3,260'), the solitary village (or hamlet) of the Zemmthal, standing at the confluence of the *Floienthal*. It has a fair country inn, better than might be expected in so wild a place. This is the best, if not the only available stopping-place for a traveller who would explore the main range of the Zillerthal Alps, and guides for the more difficult expeditions are generally to be found. The two excursions most commonly made are the ascent of the *Tristenspitze*, and that of the loftier *Gross Ingent* (9,562'); the one rises to the l., the other to the rt., of the entrance to the Floienthal. The latter, which is conspicuous in the view from Zell, commands an extensive view, but not equal to that from the Ahornspitze, and the ascent is steeper and more troublesome. A more considerable expedition is the ascent of the *Löffelspitze* (11,108'), here commonly called *Löffler*. The only practicable way is said to be that through the Floienthal. The scenery of that glen is so wild and striking, that those who do not care to go farther are well rewarded for the labour of ascending as far as the foot of the glacier. About halfway in the ascent of the Floienthal is a hut used by chamois-hunters, where a stranger might pass the night, but it would be necessary to carry covering and food. The surrounding rugged heights produce much game, but the bouquetin, which found here its last refuge in the German Alps, has been extirpated within the last 60 years. The

stony path extends as far as the *scannhütte* of the Baumgarteneralp (5,005'), ill deserving its name, as it stands in the midst of a stony waste, surrounded by rugged rocks and glaciers. Cattle find excellent pasture in the crevices between the scattered blocks. The hut is but a short way from the foot of the Floitengrund Glacier, which descends to about 5,080 ft. To ascend the Löffelspitze, it is necessary to cross the lower, gently sloping, part of the glacier; when it becomes more crevassed, it is expedient to bear to the l., and ascend slopes where sheep are pastured in summer. Here there is an outcrop of a band of serpentine, that stretches along the mountains SE. of the Zemmthal at a height of from 6,000 to 7,000 ft. It is accompanied by many rare minerals. On reaching the level of the upper glacier, the traveller bears to the rt., and commences a long and steep ascent, at first over ice, which soon gives place to névé, to attain the crest of the main range between the desired summit and a snowy point (10,661'), projecting between the Löffelspitze and the Schwarzenstein. The ascent to the former peak lies eastward along the sharp *arête*, whose southern face of nearly vertical rock looks to the Ahrental, while the north side is a perilously steep ice-slope. The height of the point where the ridge is struck is 10,359 ft., so that the climb along the ridge would not give much trouble if it were not for the necessity for step-cutting. The summit is a plateau of névé some 12 or 14 ft. square, whence the traveller views a horizon of vast extent. The *Schwarzenstein* (11,046') has been ascended by Dr. Ruthner, but apparently not from the Floienthal side. When mountaineers give more attention to this district, the number of excursions from Ginzling will doubtless be much increased. The tourist, who devotes but a single day from Mayrhofen to visit the valley, may return thither from Ginzling in about 7 hrs., with a guide, by a col or depression on the SE. side of the Tristenspitze, descending to the Stillup Grund. The prospect of effect-

ing a pass to the Ahrental through the Floienthal cannot be considered hopeful, but, till seriously attempted by competent mountaineers, must remain uncertain. Mr. Tuckett has shown the possibility of reaching the Zemmthal from the Ahrental, passing over the summit of the Mösele on the way; but few travellers can expect to rival the performances of that indefatigable mountaineer and his accomplished guides.

The path from Ginzling to the Pfitzschacher Joch crosses to the l. bank of the Zembach, and begins to ascend through a strait in the valley less narrow and wild than that passed lower down, yet offering fine scenery. Among many fine waterfalls the traveller will admire one formed by the torrent from the *Gunklthal*, a short steep glen descending parallel to the Floienthal, from the Gross Ingent. In rather more than 2 hrs. from Ginzling the traveller reaches the *Breitlahner Alp*, a group of huts, most of which are mere storehouses for cheese and butter brought hither from the surrounding alps. Of late years a little Alpine inn has been opened here. The accommodation is very poor, but the people very civil, and the charges moderate. A guide named Josele is usually to be found here. The houses stand close to the junction of two torrents. That issuing from the lateral valley opening to SE. keeps the name Zembach, and the glen is called *Ober-Zemm-Grund*, and also *Schwarzensteiner Grund*. The SW. branch or continuation of the main valley now receives the name *Zamsgründl*, and is called at its upper end *Pfitzschacher Gründl*, because the right of pasturage belongs to the people of the Pfitzschthal.

The Ober-Zemm-Grund deserves the attention of the mountaineer, and especially of the mineralogist, and is now become tolerably accessible, since accommodation of the rougher sort is available at the Breitlahner Alp. An ascent of $\frac{1}{4}$ hr. by the rt. bank of the Zembach leads to an upper nearly level step of the valley, and in another $\frac{1}{2}$ hr. the traveller reaches the Schwemm

Alp, famous for the richness of its milk. To this follows an ascent, longer and much steeper than the first, leading to the Grawand Alp, where the *cembra*, and *Pinus mughus*, begin to supplant the pine. Amid scenery of the highest order the track mounts through a defile to the next alp, called Waxegg. The sennhütte is on the l. bank, at no great distance from the fine *Waxegg Ferner*, which descends from the NE. flank of the Mösele. Towards its head the valley bends to the l., and the path goes a little N. of E. to the *Schwarzensteiner Alp*, on a projecting spur at the base of the Rothenspitz. The traveller who does not attempt any more arduous ascent should go as far as the *Schwärzensee*, a little lake, often frozen over in summer, that lies in a hollow N. of the alp, whence it is reached in $\frac{1}{2}$ hr. It is a favourable point for viewing the grand circle of peaks and glaciers. This includes the *Schwarzenstein* (11,046'), five peaks of the *Hornspitzen*, whose summits range from 10,333 to 10,842 ft., the *Thurnerkamp*, a beautifully sharp pyramid, 11,189 ft., the *Rossruckspitz* (10,881'), and the *Mösele* (11,315'). Three great glaciers descend into the head of the valley—the *Hornkees*, between the Schwarzenstein and Hornspitzen, the *Rossruck Ferner*, between the Thurnerkamp and Rossruckspitz, and the *Waxegg Ferner*, from the flanks of the Mösele. To the above-named summits, all lying in the main range, must be added the *Grosse Mörchner* (10,730') and the *Mörchenschneid* (10,523') in the ridge dividing the Floienthal from the Ober-Zemm-Grund, and the *Schönbichlerhorn* (10,277'), and *Grosse Greiner* (10,524') in the opposite ridge extending NW. from the Mösele. The last-named peak, which overlooks the lower part of the Waxegg Ferner, is famous for the fine specimens of rare minerals that have been collected on its eastern flank, but most of these have been found at various other points in the same range. It appears not impossible to reach the summit of the Mösele (see Rte. G) by the E. slopes of the Schönbichlerhorn

and then by the névé of the Waxegg Ferner. It is said that people from the Ahrental have occasionally effected a pass across the snow-ridge connecting the Schwarzenstein with the Hornspitzen. At the lowest point the height does not, according to Sonklar, exceed 9,435 ft.

The way through the Zamser-Grund, leading from Breitlahner to the Pfitscher Joch, is very little frequented, because the uppermost pastures belong to Pfitsch, and the path is of the roughest. A steep ascent above the l. bank of the Zamserbach, followed by a slight descent, carries the traveller to an upper step in the valley, and he presently enters a desolate-looking tract that extends throughout the whole way to the Pfitscher Joch. The entire surface is covered with fragments of rock of various sizes, that have been loosened from the mountains on either side. After passing a fine waterfall fed by the snows of the Olperer Fuss-stein on the rt., the Zamser Hütten are reached. These stand opposite the opening of the *Schlegeisenthal* (also called *Hörpingerthal*), the last considerable glen that bears down the drainage of the main range to the Ziller. A very large glacier—the *Schlegeisenferner*—closes the head of this savage glen. A pass may be effected that way to the Mühlwälderthal (Rte. G), by the ridge connecting the Mösele with the Ewis—9,808 ft. in height at the lowest point; and Mr. Tuckett descended on this side from the summit of the Mösele. As mentioned in the introduction to the section, the two dominant peaks of the main Zillertal range—the Hochfeiler and Grasespitz—lie in the lateral ridge bounding the Schlegeisenthal on the SW. Neither seems to be accessible from this side, but the first is easily reached by its western slope, as mentioned lower down.

The ascent from the Zamser Hütten is continued over the same sort of broken ground that has already tried the traveller's patience; a goatherd's hut is passed, scarcely distinguishable among

the scattered blocks, and at length he reaches the summit of the

Pfitscher Joch (7,297'). The actual distance from Breitlahner is probably not more than 8 m., but owing to the extreme roughness of the path, from 4 to 5 hrs. should be allowed for that distance. Throughout the way from Mayrhofen the botanist will find most of the species peculiar to the higher region of the crystalline rocks, and a few rarities. Of these the most interesting is that little northern shrub the dwarf birch—*Betula nana*, seldom more than a few inches in height.

The upper part of the Joch is a broad saddle, on which lie three small tarns. Turning round, the traveller looks back over the long reach of stony desolation through which the track has carried him, and to NE., but near at hand, the Zamserbach flows from the *Stampfel Ferner*, which descends from the *Sägewand*, a ridge with two summits—the eastern 10,659, the western 10,870 ft. in height. The plague of loose stones accompanies the wanderer till he reaches the SW. verge of the nearly flat ridge forming the pass. Here his eye is gratified by the sight of green grass, over which he may descend the greater part of the way to Stein, the highest hamlet in the *Pfitscherthal*, reached in 1½ hr. from the summit. On the way he gains views of the Hochfeiler and Grasespitz. From Stein an unfrequented pass leads in about 8 hrs. over a nameless (?) pass, 8,698 ft. high, to Pfunders, and another, still rougher, in the opposite direction, by the Falsertal to Stafflach, on the Brenner road. Little more than ½ hr. suffices to reach

St. Jakob (4,737'), the chief place of the upper valley, which is locally called Inner Pfitsch. The inn is very poor, and it is best to apply to the parish priest, who usually receives travellers. The situation of the village is very fine, and it is a good starting-point for several expeditions. The church having been destroyed by an avalanche in 1835—all but the steeple—has been rebuilt. Johann Grans has a good collection of

rare minerals. The excursion which doubtless will in future attract mountaineers is the ascent of the *Hochfeiler* (11,525'), the highest of the Zillertal Alps. This was first accomplished in 1865 by Herr Grohmann, the indefatigable explorer of the Cadore Alps. The excursion was effected without the slightest serious difficulty from the head of the *Gliedertal*, a short glen that branches eastward from the head of the *Pfitscherthal*, a little above Stein. The summit is not visible from the amphitheatre at the upper end of the *Gliedertal*, but comes into view after mounting the lower slope of the *Hintergras Ferner*. After following for some way the glacier-stream, Herr Grohmann left it for the slopes of a sheep pasture called *Hintern Gras*. From hence the way to the summit is nearly in a straight line, over gently sloping snowfields and easy rocks. The peak is extremely steep on the *Schlegeisen* side, and care must be used in approaching the verge. Herr Grohmann considers that 6 hrs. suffice for the ascent from St. Jakob, and says that few peaks of equal height are so easy of access. A beaten track leads nearly at a level in 1 hr. from St. Jakob to

Kematen (4,792'), the chief place of *Ausser Pfitsch*, as the lower part of the valley is called. The inn is no better than at St. Jakob, and it is better to apply to the priest, whose house promises better quarters. The aspect of the valley confirms the tradition that a lake once extended from *Kematen* to the *Säge* on the way to *Sterzing*. There is an easy way hence to *Pfunders*, by the *Drass Joch* (8,422'), a distance of about 6 hrs. Peter Fuchs, a well-known guide here, has a collection of minerals for sale. An easy level track leads down the valley over the bed of the ancient lake to a place called *Säge*, where there is a wayside inn, and then abruptly commences the descent through a steep and very picturesque defile. Twice the torrent is passed by slender wooden bridges that tremble with the crash of the rushing torrent beneath. In a short distance

the stream falls through a vertical height of more than 1,200 ft. The village of *Afens* to NW., and *Tulfer* on the SE. side of the valley, stand on terraces of the mountain high above the defile. At length the valley opens, the walls of rock recede on either side, and the traveller finds himself in the lower nearly level tract that extends to the opening of the valley opposite *Sterzing*. The only village is *Wiesn* (3,098'), above which stands the old castle of *Moos*, still inhabited. In $\frac{1}{2}$ hr. more, or 4 hrs. easy-walking from St. Jakob, the traveller reaches

Sterzing, described in § 49, Rte. A.

Those who are bound for the N. side of the *Brenner Pass* should not descend to *Sterzing*. There is an easy and agreeable path from *Kematen*, over the *Schlüssel Joch*, leading in 3 hrs. to the *Brenner road*, a little below the summit.

In descending the *Pfitscherthal* from St. Jakob, the traveller may easily pass, unobserved, a little lateral glen, called *Burgumthal*, which opens eastward from the hamlet of *Burgum*, about $1\frac{1}{2}$ hr. below St. Jakob. By that way he may reach a pass on the SW. side of the *Wildkreuzspitz*, and descend thence by *Vals* (Rte. I) to *Mühlbach*, on the main road of the *Pusterthal*, altogether avoiding the *Brenner road*. Through the same glen the summit of the *Wildkreuzspitz* (10,271') may be reached with little difficulty. From the alp at the head of the *Burgumthal*, about $1\frac{1}{2}$ hr. above *Burgum*, the way is by the glacier that descends between this and the western summit of the *Kramerspitz* (9,658'), and then (by a rather circuitous course) along the E. side of the ridge that descends southward from the summit of the *Wildkreuzspitz*. It appears that there is a more direct way by a steep couloir that mounts from the glacier direct to the summit.

ROUTE C.

ZELL TO STAFFLACH, BY THE TUXERTHAL.

7 hrs.' walking to Hinter Tux—6 hrs. thence to Stafflach.

The *Tuxerthal*, commonly, but improperly, written *Duxerthal*, is the only one of the upper branches of the Zillerthal that supports any considerable population. The available pasture is much more extensive than in the savage rocky defiles of the Zemm Grund and Ziller Grund, and there is also a limited quantity of land under crops. The people are distinguished, even among their lively neighbours, for their love of gaiety and jollification, and though their life is hard, they are a strong and comely race. The valley offers some fine scenery, but not equal in grandeur to that of the Zemm Grund, described in the last Rte.

The direct way from Mayrhofen (see last Rte.) is by a track that crosses a bridge over the Ziller, and ascends directly to *Finkenbergr*; but the traveller who cares for grand scenery will make a detour by the *Karlssteg*, and return by an upper track along the W. side of the Zemm Grund. Then crossing the spur of the mountain that divides the Zemm bach from the Tuxerbach, he reaches a slender wooden bridge, called the *Teufelssteg*, 100 ft. above the latter torrent, that carries him to its l. bank. From Finkenbergr, the old path mounts high above the l. bank of the Tuxerbach, which rushes through a deep cleft for a distance of several miles; but the slope being subject in wet weather to landslips, a new track has been made along the rt. bank, which is reached a short

way above Finkenbergr. The views are finer from the old track. A vast mass of sand, clay, and gravel, the accumulation of many landslips, being thoroughly impregnated with water, has formed a sort of mud glacier, which remains fixed in dry weather, but advances after rain or thaw, and is sometimes actually dangerous to traverse. In from $3\frac{1}{2}$ to 4 hrs. from Mayrhofen, the traveller reaches

Lanersbach, the chief of Vorder Tux, as the lower part of the valley is locally called. The village inn is said to afford clean though rough quarters, with a friendly reception. Up to this point the way through the Tuxerthal has lain about due W., along the N. side of the *Grünbergrkor* (9,397'), which forms the NE. extremity of the Tuxer range. Henceforward the Tuxerthal follows its normal direction to SW., parallel to the Zemm Grund and to both the principal ranges of the Zillerthal Alps. The higher peaks are concealed from Lanersbach by a low projecting ridge, but they soon come into view in ascending to the head of the valley. The scenery is throughout interesting, as the snowy peaks are almost constantly in view. The object which will most attract attention throughout the upper part of the valley is the great glacier which bears the appropriate name *Gefronne Wand*. Though surpassed in size by many others in this group, and elsewhere in Tyrol, this glacier is one of the most remarkable for its extreme steepness and the imposing effect of the shattered columns and pinnacles of ice that seem to impend over the head of the valley. The most conspicuous of the higher summits is the northern of the twin peaks that form the E. boundary of the upper plateau of the *Gefronne Wand*—called the *Rippenköpfe*. The northern peak, erroneously named *Olperer* by Souklar, and *Gefronne-Wandspitz* by Dr. Ruthner, surpasses its neighbour by 27 ft., and attains 10,743 ft. In about $1\frac{3}{4}$ hr. from Lanersbach, the traveller reaches

Hinter Tux (4,839'), the highest hamlet of the Tuxerthal. The inn offers poor accommodation, and the land-

lord is not famed for civility or attention. There is here a mineral bath, somewhat frequented by the peasants of the valley. Owing to the formidable steepness of the Gefronne Wand, this is not a favourable starting-point for the ascent of the high peaks on the S. side, but noble views might doubtless be obtained from the mountains on the opposite side of the valley, if the accommodation were such as to tempt travellers to halt here. The path to the Tuxer Joch mounts by the l. bank of the main branch of the torrent which issues from several different points at the base of the Gefronne Wand, and crosses a small tributary torrent that forms a pretty waterfall to the rt. A path mounts that way to the Geier Joch (noticed below), or by a long circuit leads to the Tuxer Joch. If the traveller should have a little time to spare, it is worth while to make a slight detour to the l. to approach the Gefronne Wand, and for that purpose should follow a path leading to the Stock Alp, the highest sennhütte in the valley. It is easy to regain the regular path higher up, and the near view of the glacier well rewards the slight extra exertion. The latter part of the ascent is rather steep and stony, but the track, which is much more frequented than the Pfitscher Joch, is well marked, and a guide is not required by any one used to mountain walking. On reaching a cross at the summit of this ascent, the traveller must be careful not to follow the track that leads at first straight forward, but gradually bears to the rt., and finally returns to Hinter Tux by the waterfall that was seen lower down. The true way lies somewhat to the l., keeping for about $\frac{1}{2}$ m. nearly at a level, till a second cross is reached which marks the pass of the

Tuxer Joch (7,618'), dividing the basin of the Ziller from that of the Sill. The path now descends to a herdsman's hut, lying in a hollow, and after passing it commences a steep and rather long descent into the uppermost branch of the Schmirnthal, locally called *Kasererthal*. This wild glen is closed at its up-

per end by the *Kaserer Ferner*, one of the numerous glaciers that flow from the vast snowfields that surround the Olperer Fuss-stein, the highest peak of the Tuxer range. It is possible to reach the Zamsen Hütten (Rte. B) by way of the Kaserer Ferner, and the upper névé of the Gefronne Wand, descending on the E. side of the Olperer by the Schramma Ferner. This must be a fine glacier pass, and apparently does not present any unusual difficulty. Though it is the longest branch of the Schmirnthal, the Kasererthal is in truth a lateral glen which descends to NW. at rt. angles to the SW. direction of the main valley. This is reached at *Obern* (5,065'), also called *Kasern*, where, along with a few scattered houses, there is a mountain inn, which combines the poorest accommodation with extortionate charges. What may be considered as the main branch of the Upper Schmirnthal mounts steeply to NE. from Kasern, and leads to a pass called *Geier Joch*, by which Hinter Tux is reached by a longer and less interesting route than that of the Tuxer Joch.

Amid very agreeable scenery, the path descends the Schmirnthal by a path above the rt. bank of the torrent, passing opposite to a group of houses at the opening of the *Wildlahnerthal*, through which savage glen there is a good view of the peak of the Olperer Fuss-stein. These houses are sometimes designated as Inner Schmirn, but incorrectly, as that name is locally given to the entire valley above the chief village of

Schmirn (4,542'), which is reached in about $4\frac{1}{2}$ hrs. from Hinter Tux. The inn is uninviting, but mountaineers may safely apply for hospitality to the parish priest, who takes a lively interest in the exploration of the neighbouring Alps.

The *Olperer Fuss-stein* (11,451'), the highest of the Tuxer range, and the second in height of the Zillertaler Alps, rises from the midst of the great snowfields that divide the Schmirnthal and Falsertal from the Zamsen Grund at the head of the main branch of the Zillertal. There is a vague tradition of

an ascent in the last century, but it was effected with ease in 1867, from the head of the Zamser Grund, by M. Grohmann. In the 3rd vol. of the 'Jahrbuch' of the Austrian Alpine Club, Dr. Ruthner (who was accompanied by Felix Hans of Schmirn, recommended as a good guide, and his brother Toni), recounts an unsuccessful attempt to scale it. There has been much confusion as to the proper name of this fine peak. Dr. Ruthner seems to have proved that the highest point ought to be designated Olperer, and that the name Fuss-stein, applied by Sonklar to the latter, belongs more justly to a lower summit SW. of the first, whose height is 11,030' ft. according to Sonklar. The name Olperer having been given by Sonklar to the double summit of the Rippenköpfe, the best way to avoid further confusion is to call the greater mountain Olperer Fuss-stein. The vast snowfields that encompass it send down glacier streams into the surrounding valleys. To the SW. the *Alpeiner Ferner* reaches the head of the Falsenthal; the *Wildlahner Ferner* descends to the Wildlahnerthal; the *Kaserer Ferner* to the Kasererthal, and the Gefrorne Wand, sometimes called Tuxer Eismeer, to the head of the Tuxerthal. This is bounded on the E. by the ridge of the Rippenköpfe, and the glacier on the E. side of that ridge, called *Rippen Ferner*, descends towards the Zamser Grund below the Zamser Hütten. The névé of the Kaserer Ferner and Gefrorne Wand does not reach the actual base of the Olperer, for the ridge forming the snowshed of the Wildlahner Ferner subsides to the E. and SE., and the snowfield that surrounds the peak for nearly half its circuit feeds the *Schramma Ferner*, the greatest of the glaciers that descends to the Zamser Grund. The S. face of the Olperer, seen from the upper end of the Zamser Grund, seems hopelessly inaccessible, and the NW. face, fronting the Wildlahnerthal, presenting excessively steep snow-slopes, broken here and there by rocks, is so forbidding that no attempt has yet been made that way. A sharp arête, descend-

ing first SE. and then ESE. from the summit, and encompassed by the névé of the Schramma Ferner, seems to offer a more hopeful prospect. The slope of the arête is, however, broken by vertical rocks which have formed the turning-point in two attempts at an ascent. Dr. Ruthner's guides led him by a very circuitous course. From the slope on the NE. side of the Wildlahnerthal they ascended diagonally above the Wildlahner Ferner till they reached the ridge that divides this from the snowfield that is the common source of the Kaserer Ferner and the Gefrorne Wand. Thence crossing to the head of the basin drained by the Schramma Ferner they rounded the arête already mentioned, which is accessible only at its SE. end. In returning they took a shorter way, keeping nearer to the peak of the Olperer, and descended, through a very long and steep couloir, a vertical height of more than 1,500 ft. to reach the Wildlahner Ferner. This is easily traversed along the rt. (or NE.) side, the opposite portion being much crevassed. The extreme upper end of the Wildlahnerthal is locally known as Hinter Hölle, and the middle part, below the foot of the glacier, as Vorder Hölle. The couloir, or Klamm, of the Hinter Hölle, is practicable only when the snow is moderately soft, as otherwise it would cost hours of step-cutting. A fine glacier pass may be made from the Wildlahnerthal to the head of the Falsenthal by the Alpeiner Ferner, or, without descending into that valley, the traveller may reach the head of the Zamser Grund near the Pfitscher Joch by traversing the ridge (about 10,000'?) between the Fuss-stein proper (or SW. peak of the Olperer Fuss-stein) and the Alpeiner-Fernerspitz (11,113'). The latter is the Schrammacherspitz of Sonklar.

The stranger visiting Schmirn is strongly advised to mount to the little pilgrimage church 'An der kalten Herberg,' $\frac{1}{2}$ hr. distant from the village, overlooking from the W. side the junction of the Wildlahnerthal with the main valley.

The descent from Schmirn to Staff-

lach, scarcely $1\frac{1}{2}$ hr. distant, is throughout very agreeable. A singular contrast to the wild scenery through which the traveller has passed since leaving Mayrhofen is presented by the railway viaduct that crosses the ravine of the Schmirn torrent just above its junction with that issuing from the Falsenthal at the village of *St. Jodok*. Penetrating the ridge behind that village that divides Schmirn from Fals, the railway traverses the Falserbach by a second viaduct, and returns at a higher level to the valley of the Sill. Less than 1 m. from *St. Jodok* is *Stafflach* (§ 49, Rte. A).

The *Falsenthal*, which joins the Schmirnthal at *St. Jodok*, is a wild Alpine glen, containing no villages. As mentioned above, a fine pass may be effected by the *Alpeiner Ferner*, which closes its upper end, to the *Wildlahnerthal*, and another pass leads by a branch of the valley that opens to SE. below the *Alpeiner Glacier* over the ridge dividing this from *Stein* or *St. Jakob* in the *Pfitscherthal*. There is also a track passing over the ridge to the S., and then westward along the *Vennabach* to the *Brenner*. (See § 49, Rte. A.)

Mr. J. Warner highly recommends a pass connecting the *Falsenthal* with the head of the *Zamser Grund*. Starting from *Stafflach* with a young guide named *Anton Strichner*, he reached 'a very narrow depression S. of the *Fussstein*'—apparently the same pass referred to in the last page. 'The double view of the ranges of the *Stubayer* and *Zillertaler Alps* is most splendid.' The descent towards the *Zamser Grund* is quite obvious.

ROUTE D.

INNSBRUCK TO MAYRHOFEN, BY THE TUXER GEBIRGE.

The mountain district lying NW. of the *Tuxerthal*, and extending thence to the *Inn* and the *Sill*, is sometimes collectively called *Tuxer Gebirge*. It is penetrated by many valleys, some of which run westward towards the *Brenner* road, the others northward towards the *Inn*. Though bordered by two of the most frequented highways in the Alps, these valleys are amongst the most unfrequented in the *Tyrol*. The people of the *Tuxerthal*, indeed, often pass by the *Wattenserthal* or the *Weerthal* to *Schwaz* or *Hall*, but the foot of a stranger rarely treads the green pastures of these upland glens. For the sake of those travellers who love the byways of the Alps, we briefly notice the tracks that may be taken by one who would avoid the ordinary routes.

1. *By the Navisthal*. In ascending from *Innsbruck* to the *Brenner Pass* (§ 49, Rte. A), the opening of the *Navisthal* is seen on the l. hand a little beyond *Matrey*, and the church of *St. Catharine* standing on a projecting rock on the site of an ancient castle attracts for a moment the attention of the traveller. At the hamlet of *Navis*, about $1\frac{1}{2}$ hr. from the opening, the valley divides. Mounting along the eastern branch, there is a track passing by the S. side of the *Kreuzjoch* (9,060'), which either leads to *Kaserer* at the head of the *Schmirnthal*, or, by bearing to the l., will enable the traveller to reach *Hinter Tux* without any considerable descent towards the *Schmirnthal*. For the way thence to *Mayrhofen* see last Rte.

The main branch of the *Navisthal* mounts to NE. and then turns eastward along the N. side of the *Kreuzjoch*, terminating at the foot of the *Geierspitz* (or *Schehruck* of the maps). This is the centre (*Knotenpunkt*) whence diverge several ridges, with as many intermediate valleys. On the W. and NW. side the drainage runs to the *Navisbach*; on the N. and NE. to the *Wattenserthal*; on

the E. to one of the lateral glens of the Tuxerthal; and on the SW. to the head of the Schmirnthal. There is a track by the N. side of the Geierspitz that descends into the head of the Wattenserthal, and thence, crossing a second ridge, attains the glen of the Nasstuxerbach, which joins the Tuxerthal immediately below Lanersbach. The mountaineer may possibly find a more agreeable route by ascending the Geierspitz, and descending thence to a little lake on its E. side, which sends its torrent to join the Tuxerbach, about halfway between Hinter Tux and Lanersbach.

The traveller wishing to reach the Innthal from Navis may choose between two passes. The more direct leads nearly due N. to the head of the Voldererthal; the other, a little longer, is reached by following the main branch of the valley nearly to its head, and then turning northward. The pass leads to the SW. branch of the Wattenserthal, locally called Mölsthal.

2. *By the Mühlthal.* The Mühlthal is a short glen that joins the Sill, near a village of the same name, about 5 m. below Matrey. It offers a very circuitous route for reaching the Tuxerthal from Innsbruck, but may well be taken in the way by a traveller willing to devote two or three days to the exploration of this and the neighbouring valleys.

From the rly. station at *Patsch* the distance to Mühlthal is about $2\frac{1}{2}$ m. Ascending for nearly 2 hrs., the traveller reaches the Vigaralp, where the Mühlthalbach forms a fine waterfall. The head of the glen is a wild hollow, covered with scattered blocks, in the midst of which are five tarns that feed the torrent. The pass of the *Rosen Joch*, on the N. side of the Kreuzjoch (not to be confounded with the summit of the same name and nearly equal height that divides the two branches of the Navisthal), leads to the head of the Voldererthal, and the traveller wishing for good night-quarters will descend through that valley to the Baths of Volders, or to the village on the main road of the Innthal. The alternative is to cross the ridge dividing

the head of the Voldererthal from the Mölsthal, and halt for the night at Walchen. (See below.)

Most travellers, moderately favoured by weather, will prefer to the path through the Mühlthal the ascent of one or other of the summits on the N. side of that glen, and may combine this with the track to Volders. The ridge dividing the Mühlthal from the Inn has three summits. At the W. end nearest to Innsbruck the Patscherkofel, in the middle the Morgenkopf, and at the E. end the Glungetzer. Of these the most frequented is the *Patscherkofel* (7,368'), a green summit, easy of access, conspicuous in the neighbourhood of Innsbruck. The usual course, both for foreign and native visitors, is to start from, and return to that city, the excursion taking about 8 hrs., exclusive of halts. A carriage-road goes as far as *Lans* (Inn: Wilder Mann), a village lying S. of Schloss Amras, at the WNW. foot of the mountain. The shorter and steeper way is by Sistrans; the easier and more frequented path passes by the pilgrimage chapel, 'zum Heiligen Wasser' (3,994'), where there is a fair country inn, for the benefit of those who would reach the summit for sunrise. The summit, reached in little more than 2 hrs. from the inn, is overlooked by many higher peaks to the E. and SE. Yet its position is so favourable that the view is, in some respects, superior to that from the Glungetzer. The eye wanders along the Innthal, from Telfs to Schwaz, with the bold limestone ranges that bound it on the N. side, over the greater part of the Lower Wipptal, through which the locomotive now drags its burden across the central chain of the Alps, and ascending along the Stubaythal rests on the snowy peaks that enclose its upper branches.

An active mountaineer would probably have no difficulty in reaching the peak of the *Glungetzer* (8,781') by passing along the connecting ridge over the summit of the Morgenkopf, but the mountain is usually approached from the Volderer Bad. In addition to the horizon of the Patscherkofel, the view includes a great

part of the Zillertal Alps and part of the High Tauern. On the E. side an easy descent leads to the Schafferhütte, also known as Feld-Alm, above the Voldererthal, whence a good path leads to the Baths mentioned below. A traveller wishing to return to the Brenner road should follow a SE. course in descending the mountain, so as to reach the Voldererthal near its head, and thence, crossing the pass that divides that valley from Navis, he could descend in the afternoon to Matrey.

3. *By the Voldererthal.* The secondary valley which opens to the S. at Volders in the Innthal is referred to in § 43, Rte. B, and repeatedly alluded to in connection with the valleys above described. It does not afford a direct route from Innsbruck to the Tuxerthal, but it is the only one of the valleys of the district here described that offers to the stranger tolerably comfortable quarters. In entering the valley at Volders the traveller passes beneath two ancient castles. The torrent has cut a deep channel, and the path ascends rather steeply above the rt. bank to attain the *Volderer Bad*, a mineral spring, frequented in summer quite as much for the cool and agreeable position as for its curative properties. As already mentioned, the upper end of the valley is connected by passes of no difficulty with the Mühlthal, the Navisthal, and the Mölsthal, or SW. branch of the Wattenserthal. The most direct way to the Tuxerthal and Mayrhofen is by Walchen, at the junction of the two branches of the Wattenserthal.

4. *By the Wattenserthal.* From Wattens, on the S. side of the Inn, near the rly. station of Fritzens, the traveller may enter the Wattenserthal, an upland glen that penetrates deeply into the mass of the Tuxer Gebirge, and offers a more direct way for the pedestrian going from Innsbruck to Lanersbach or Mayrhofen than those above noticed, and is on that account somewhat frequented by the Tuxerthal people. The distance from Wattens to the uppermost end of the valley, where it terminates at the NW. base of the Geierspitz, is counted 6

hrs.' walk. About halfway the main torrent of the valley, which preserves a direction somewhat W. of N., is joined by a tributary from the *Mölsthal*, a lateral glen, connected by passes with Navis and the head of the Voldererthal. At the junction is *Walchen*, where, along with a few *sennhütten*, there is a rough mountain inn for the accommodation of the Tuxerthal passengers. The highest Alp in the main branch of the valley is Lizum. A sinuous path, whose ultimate direction is due W., leads thence to the head of a glen called Nass Tux, whose torrent joins the Tuxerbach, a short way below Lanersbach.

5. *By the Kolsassthal.* The way through the Wattenserthal is more direct for a passenger bound for Lanersbach than that now noticed, but if Mayrhofen be the traveller's destination, he will do better to follow the course of the Inn from Innsbruck to *Weer*. The village inn here is frequented by Zillertal people, and a traveller may here secure a guide on more reasonable terms than they usually exact. *Weer* stands at the opening of the *Kolsassthal*—sometimes called *Weerthal*—whose stream is said to contain gold-dust. For a distance of about 4 hrs.' walk this mounts about due SE.—the *Gilfertsberg* (8,201') rising steeply on the NE. side. At its upper end the valley bends to the rt. towards its head, which lies somewhat W. of S. It is necessary to follow this upper reach of the valley for a short distance before beginning to ascend its eastern slope to the pass leading to Mayrhofen through the *Zidanthal*. The path follows the torrent through the latter glen to its junction with the Ziller, $\frac{1}{2}$ m. below Mayrhofen. If the traveller were to cross the ridge on the E. side of the Kolsassthal too near to the *Gilfertsberg*, he would find himself at the head of the *Finsingthal*, and following its torrent—the *Pankrazenbach*—would be led to Uderns, in the Lower Zillertal, many miles distant from Mayrhofen.

Further information as to the valleys mentioned in this Rte. will be thankfully received.

ROUTE E.

ZELL TO BRUNECK, BY THE KRIMMLER
TAUERN.

	Hrs. walking	Eng. miles
Gerlos	3 $\frac{3}{4}$	10 $\frac{1}{2}$
Krimml	3 $\frac{1}{4}$	9 $\frac{1}{2}$
Kasern	8 $\frac{1}{2}$	17
Steinhaus	3 $\frac{1}{2}$	10
Taufers	3 $\frac{1}{2}$	10
Bruneck	3 $\frac{1}{4}$	10
	<hr/> 25 $\frac{3}{4}$	<hr/> 67

Frequented footpath, rough between Krimml and Kasern; char-road from St. Valentin to Bruneck. The distances are reduced a little below the usual estimate, but, in the writer's opinion, that between Krimml and Kasern is still somewhat too great. The writer has carried his own knapsack from St. Valentin, nearly 1 hr. below Kasern, to Zell in 15 $\frac{1}{2}$ hrs., exclusive of halts, reaching Krimml in 8 $\frac{1}{2}$ hrs.' steady, but not fast, walking, including some delay by the way, and at the top.

The route here described, which lies exactly along the eastern boundary of the district included in this section, is undoubtedly one of the most interesting that can be chosen by a traveller, who shuns glacier expeditions, for crossing the main chain of the Tyrol Alps. Except in very bad weather, the passage of the Krimmler Tauern is quite free from risk and difficulty, and in clear weather it does not even require the assistance of a local guide. There is no rock scenery on the way so impressive as that in the

lower part of the Zemmthal, described in Rte. B, but the scenery is throughout very pleasing, and in some places beautiful; while on the way, without the trouble of a detour, one of the finest, perhaps the finest, waterfall in the Alps offers an additional inducement. The distance can be conveniently accomplished in 2 $\frac{1}{2}$ days, sleeping at Krimml and Steinhaus, but is rather too much for 2 days, even when taken from the S. side. The track over the Krimmler Tauern was at one time used for beasts of burden, and there seems to be no reason why a lady should not ride over it, dismounting in the steeper places, if it were possible to obtain a thoroughly reliable horse or mule; but the writer has little confidence in the fitness of the animals usually to be found in Tyrol for rough, steep, and slippery mountain-paths.

The way from Zell to the Durlosboden is described in Rte. B. Soon after passing a signal that marks the boundary between Tyrol and Salzburg, the traveller ascending from Gerlos sees a finger-post pointing to a track on the rt. hand that leads to Krimml over the *Pinzgauer Platte* (about 5,600'). As the name indicates, this is a flat ridge, with here and there a scattered tree, from whose eastern verge the traveller gains a long vista through the Pinzgau, with several peaks of the Tauern range on the rt., and the Kitzbühel Alps to the l., reminding him of the view of the Rhone valley from the Forclaz above Martigny. The path is good and frequently passed by ladies on horseback. The pedestrian may with advantage make a slight detour to the summit of the *Plattenkogel* (6,659'). This is the green eminence seen on the rt. hand forming the northern end of the ridge dividing the Wilde Gerlos- from the Krimmler-Thal. The way is to turn from the regular track close to a *sennhütte* where passing travellers regale themselves with milk and cream. The mountain is perfectly easy, and in clear weather even a novice will in 1 hr., very easy walking, reach the summit. A wooden monument in somewhat dilapidated condition is designed to com-

memorate the visit of the Archbishop of Salzburg in 1838. In addition to the view of the Pinzgau and Krimmlerthal, he here gains several of the peaks and glaciers of the Reichenspitz group, and the noble pyramidal summit of the Dreiherrnspez shows to great advantage. In descending, the regular track from Gerlos to Krimml may be regained about 2 m. from Krimml, so that the détour need not cost much more than 1 hr. The bridle-track descends the rather steep slope towards Krimml in many windings, through a wood composed of birch and alder, and in little more than 3 hrs. from Gerlos the traveller reaches

Krimml (3,584'), a prettily situated village on the W. slope of the valley, about 200 ft. above the level of the torrent. Kerschdorfer's inn, sometimes overcrowded, supplies very fair accommodation. The charges for guides and horses are high, except that for a guide to the Falls. The best guide for mountain ascents is Josef Höck (there is another inferior Höck), and Matth. Poltiacher second. Krimml is connected with Wald (about 4 m. distant) by a good road, so that travellers bound for the Pinzgau (Rte. B) lose little time by taking this way if a vehicle be forthcoming; but as only two or three are to be had here it is prudent to write or send in advance to secure one. The great object of attraction is the *Waterfall of the Krimmler Ache*. This includes three separate falls, whose collective height is 1,478 ft. In approaching Krimml by the path from Gerlos, they are all seen at the same time, which is not the case from any spot near at hand. The traveller who wishes without loss of time to see all the falls from the most favourable points of view does well to take a guide. If bound for the Krimmler Tauern, he may visit them on the way with little loss of time, but if intending to return to Krimml, he should allow 2½ hrs. for the excursion, supposing him to ascend to the summit of the uppermost fall. The track leading to the Tauern—known as the Tauernweg—enters the pine-forest which clothes the slopes of the valley, and about ¾ m.

from the village crosses to the rt. bank of the Krimmler Ache. The increasing roar of the waters, which is already heard long before reaching Krimml, announces the near approach to the lower fall. A guide-post 'zum Wasserfall' indicates the path which in 3 or 4 minutes leads to it. To see it to perfection it is well to cross a wooden bridge and approach as near to it on the l. bank as the clouds of dense spray will permit. The mass of water, after springing over the upper ledge, strikes a mass of projecting rock, and is shattered into myriads of water-rockets. It is well to carry an umbrella, for partial protection from the spray, and those who fear a chill will not linger long near the fall. Returning to the Tauernweg, which is paved with huge blocks of gneiss, the traveller mounts through the forest, accompanied by the hollow roar of the waters, now rising, now falling, as he approaches or recedes from the raging torrent. To get a favourable view of the second requires a considerable detour, and most persons content themselves with looking down upon it from the Jägersprung. At that spot the Tauernweg approaches the verge of the precipitous rocks above the torrent, and is guarded by rough pine-stems, to prevent cattle from falling over. The name of the spot is derived from the story of a hardly pressed poacher laden with a chamois, who attempted to escape his pursuers by a desperate leap, and was lost in the gulf below. Looking over the verge, the traveller descries little save a whirl of spray and foam driven upward by gusts of cold wind; of the roaring and howling waters scarcely anything is seen. Over the wild scene, when the sun looks down upon it, the rainbow hangs suspended in a nearly complete circle. On reaching a hut that stands on a narrow shelf of level ground, the traveller sees a path to the rt., and again leaves the Tauernweg for a few minutes to visit the uppermost fall, by far the most remarkable, as its absolute height is about 700 ft. Taking into account its considerable volume, which is maintained in summer by the outflow of numerous

glaciers, this is certainly not surpassed by any in Europe. It is advisable to cross to the l. bank by a wooden bridge and clamber over the moss-grown blocks that border the torrent at the foot of the fall.

Returning to the main track, the traveller follows its windings that lead away from the waterfall, and then after about $\frac{3}{4}$ hr. return to the rt. bank just above it. The softened roar of the waters, and the never-ceasing cloud of spray that hangs above the forest, mark its position, and in the background is a pleasing view of Krimml and its little valley, enclosed on the N. side by the range connecting the Thorhelm with the Rettenstein. Passing through a narrow but short defile—a sort of portal to the upper valley—the track enters the upper level of the Krimmlerthal, which offers a singular contrast to the scenery just left behind. For a distance of about 5 m. this upland glen stretches nearly at a level between mountains of gentle nearly uniform slope, while the peaceful torrent meanders through the Alpine meadows. Not much is seen of the higher peaks on either side. The most conspicuous is the *Hüttelthalspitz* (9,704')—corruptly *Hinthalspitz*—one of the highest points in the range dividing Krimml from Sulzbach. The geologist will remark the vast amount of débris excavated by torrents from the crystalline slates that constitute the prevailing rock in this valley. Sonklar has called attention to a steep pile of débris, about 1,000 ft. in height, brought down by a single small torrent from the last-mentioned mountain. It overhangs the E. side of the valley a little way above the highest waterfall. In about $3\frac{1}{2}$ hrs. the traveller ascending from Krimml reaches the *Tauernhaus* (5,235'), standing beside a group of *sennhütten*, a mere hut often filled at night by passing peasants. It is a most undesirable stopping-place for the night, but a pleasant spot for a halt to lunch. From the opposite or western side, the *Rainbach* torrent descends from the *Reichenspitz* (10,866'), and forms a very picturesque waterfall,

reached from hence in rather more than 1 hr. The imaginary *Zillerspitz*, said to be 19 ft. higher than the *Reichenspitz*, and placed S. of the latter at the source of the *Rainbach*, is one of the many blunders of the Austrian Kataster.

For about $\frac{1}{2}$ hr. the *Tauernweg* ascends gently along the rt. bank of the main torrent to the *Unlass Alp* (5,589'), where the *Windbach* from the WSW. joins the *Krimmler Ache*. Here the great peaks that enclose the head of the *Krimmlthal*, which for some time have been coming into view, form a curve, concave to NW., extending E. and NE. from the

Dreiherrnspitz (11,494'), through the *Simonyspitz* (11,180'), to the *Hinter-Maurerkopf* (10,701'), and thence northward to the *Schlieferspitz* (about 10,580'). In the centre the *Krimml Glacier*, also known as *Prettauergletscher*, descends into the head of the valley after receiving several tributary ice-streams. It is extremely steep and much crevassed. The writer is not aware that any serious attempt has been made to reach *Pregratten* in the *Virgenthal* (§ 51, Rte. G.) over the ridge that divides the *Krimml* from the *Maurer-gletscher*. On the N. side flank of the *Dreiherrnspitz* hangs the *Purlox-gletscher*, a rather large glacier of the second order, which does not descend to the level of the valley. West of this is a relatively deep gap in the transverse ridge connecting the *Dreiherrnspitz* with the *Feldspitz* (9,637') in the main range of the *Zillertal Alps*. This gap is called *Birnlücke*. Its height, according to the *Kataster*, is 9,018 ft., but is given as only 8,491 ft. on the far more reliable authority of *Sonklar*, who has fixed on this as the dividing-point between the ranges of the *High Tauern* and *Zillertal Alps*. Considering that it is in some degree an arbitrary matter to fix the precise point in the connecting ridge that shall separate adjoining mountain groups, and the fact that the ridge in question is apparently impassable at the *Birnlücke*, the writer has adhered to the *Krimmler Tauern pass*

as the most eligible boundary. The way to it turns to the rt. from the Unlass Alp, and mounts through the lateral glen of the Windbach, commanding at first very fine views of the above-named peaks and glaciers. Trees gradually disappear, and the slopes are more and more covered with scattered blocks. The stems of the creeping pine (*P. mughus*) writhe over the rocky slope, alternating with the rhododendron, and the last cembra pine-stems are seen beside the highest *sennhütte*. From the upper end of the Windbachthal a steep ascent of 1 hr. leads to the summit of the

Krimmler Tauern (9,071'). In the autumn the snow-slope on the N. side is of slender dimensions, and as it is by no means steep, it opposes no serious difficulty at any time. A few posts help the solitary traveller to find his way when the clouds lie low. The ancient mule-path, which lay farther west, over what is now called the Alte Tauern, was abandoned, owing to the formation of a small glacier on that part of the ridge. The present pass is but a slight depression in the transverse ridge spoken of above, which forms the natural link between the Zillertal and High Tauern Alps. The view towards the S. is extremely interesting. The SW. prolongation of the Tauern range, which on one side bounds the upper Ahrental, is spread out before the traveller, rivalling in height, and in the extent of its glaciers, the opposite range of the Zillertal Alps.

Commencing with the *Dreiherrnspitz*, the chief peaks are the *Rosshuf* (11,483'), *Virgeljoch* (10,814'), *Rödtspitz* (11,459'), or *Weletz*, *Gross Glockhaus* (10,546'), *Affenthalspitz* (10,103'), *Hirbanock* (9,854'), and *Gross Dürreck* (10,325'), terminating in the *Ober Steinerholm* (8,040'), above Luttach. A great part of the Upper Ahrental is also seen from the pass and during the descent. The slope on the S. side is steeper and more continuous than on the Krimml side, but the track is tolerably well marked, and quite free from

difficulty. About 2 hrs. suffice for the descent to *Kasern* (5,181'), the first inhabited place in the *Ahrental*, through which lies the remainder of the way to Bruneck. This is one of the most considerable lateral valleys in Tyrol, being fully 30 m. in length, and containing many populous villages. From its head to Luttach, a distance of 18 m., it descends from ENE. to WSW. parallel to the main range of the Zillertal Alps and the western extremity of the Tauern chain; but below Luttach its torrent flows SSE. through an opening between the latter and the Mühlwalder range to the W. Entering a much wider channel at Taufers, and receiving two considerable affluents, the stream descends nearly due S. to Bruneck. The inconvenient Tyrolese custom of applying different names to different portions of the same valley holds here. The upper portion, as far as the defile above St. Peter, is called *Prettau*, the middle part alone—from St. Peter to Luttach—is locally known as *Ahrental*, and the lower part from Luttach to Brunecken is known as *Tauferenthal*. The name *Ahrental* is here used to designate the entire valley, as being the most widely known, and that adopted in the best maps.

The inn at Kasern was formerly a mere Tauernhaus, and certainly inferior to the humble inn at St. Valentin, but the writer is informed that the former is now to be preferred. Anton Abner, of Kasern, is said to be a competent guide. The traveller who has started in good time from Krimml may well push on to Steinhaus. A little above Kasern is the ancient church of Heiligen Geist, perched upon a rock, to avoid avalanches. To encourage travellers, it is announced that the cemetery here is for the benefit of those who perish in crossing the Tauern. In the adjoining mountain is a mine, producing copper ore of excellent quality. The entrance to the shafts is in the little glen (called Rödthtal) opposite Kasern. In the Rödthtal is a considerable peat-bog, more than 6,000 ft. above the sea,

producing much fuel for the miners. A descent of $\frac{1}{2}$ hr. takes the traveller from Kasern to

St. Valentin (4,581'), the highest village in Prettau, a naturally poor spot, but kept in some relative prosperity by the adjoining mines. Here begins the road, though narrow, tolerably well kept; but the chance of finding a vehicle anywhere above Steinhaus is uncertain. Instead of following the main valley, the traveller may cross the Bretterscharte (§ 51, Rte. M), and so reach Taufers through the Rainthal. There is scarcely a house on the way between St. Valentin and the next village. The road enters a narrow defile forming the lower limit of Prettau, on issuing from which it reaches

St. Peter (3,939'), about 3 m. from St. Valentin. A guide named Anton Rauchenbichler is to be heard of here. The church is conspicuous from a distance, on a lofty rock. Descending gently, for rather more than 3 m., through the open valley, which here shows no striking features, the traveller reaches

St. Jakob (3,929'). The way from this village to Zell over the Hörndl Pass, is noticed in the next Rte. The Hirbanock (9,854'), a summit commanding a very fine panoramic view, and rising SE. of St. Jakob, may probably be reached from this side (see § 51, Rte. M). The still higher peak of the Gross Dürreck (10,325') is also within reach, but no notice of the ascent has reached the writer. Paul Kaiser and Michael Oberhollenzer of St. Jakob are recommended as guides. About 2 m. lower down the Ahrenthal is

Steinhaus (3,454'), with an inn, said to be the best in the valley, which affords a convenient stopping-place on the way from Krimml to Bruneck. It would also serve as a starting-point for exploring expeditions among the high peaks that enclose the valley. A pass—said to be difficult—may be effected from hence to the Stillup Grund (Rte. B), by the Keilbach Gletscher, on the E. side of the *Keilbachspitz* (10,169'). By that way Mayrhofen may be reached in 10 $\frac{1}{2}$

hrs., exclusive of halts. Continuing his journey along the main valley, the traveller, in $\frac{3}{4}$ hr. from Steinhaus, reaches *St. Johann* (3,329'), and about 1 m. farther *St. Martin* (3,263'), the principal church of the upper valley. A little farther, on the opposite, or NE., side of the valley, the smelting-works of Arzbach, where the copper ore from the mines is reduced, are conspicuous. Up to this point the valley has been nearly straight, and for many miles has preserved an uniform gentle slope. The road, which below St. Peter keeps constantly to the rt. bank, has traversed numerous torrents that descend through short steep glens from the main range of the Zillertal Alps. Some of these no doubt lead to practicable passes over that range, that remain to be explored by competent mountaineers. Now the torrent of the valley (*Ahrenbach*), swollen by the contributions of many tributaries, bends rapidly to the l., and soon flows through a defile that leads SSE., at rt. angles to its previous course. Just beyond the turn of the valley, the road, after passing the Weissenbach, reaches

Luttach (3,140'), a prosperous village, with an inn in a large stone house. [The traveller may here diverge from the direct way and make an interesting detour by the glen of the Weissenbach, which descends from the W. into the valley just above the village. It contains the small village of Weissenbach (4,312'), with the very ancient church of St. Jakob, well deserving a visit for its early German architecture, and the remarkable stone carving of the altar. Above the village the glen divides, and both branches doubtless deserve to be explored. The eastern branch originates on the E. side of the Thurnerkamp, while the torrent of the western branch apparently springs from a glacier on the ridge connecting that peak with the Mösele. Instead of returning to Luttach, the traveller may traverse the *Lappacher Joch* (7,763'), between Weissenbach and Lappach, or choose the somewhat easier pass of the *Mühlwalder Joch* (7,707') leading to Mühlwald (Rte. G).]

Below Luttach the valley is narrowed to a defile which separates the upper valley from the lower portion, locally called Taufererthal. The scenery is very picturesque for a distance of about 3 m., when the road, passing under the ancient castle, enters the basin of *Taufers*. This lies in the intersection with the main valley of a transverse that crosses it nearly at rt. angles. To the ENE. is the Rainthal (§ 51, Rte. M), parallel to the upper Ahrenthal, and in the opposite direction the Mühlwalderthal (further noticed in Rte. G). Five villages or hamlets lie near together in this smiling basin: *Sand*, *Taufers* (2,835'), and *Mühlen* on the rt. bank, *Moritzen* and *Kematen* on the l. bank—all but the last belonging to the commune of *Taufers*. There are several inns, the best of which is said to be at Sand. On the S. side of the Rainbach, close to its junction with the Ahrenbach, is *Winkd*, where there is a little-frequented mineral spring with a decent inn. The most striking object at Taufers is the Burg, or ancient castle, built on the steep slope E. of the narrow defile leading to Luttach. Its grey towers and machicolated walls extending for a considerable distance above the base of the hill, and backed by the snowy summits of the Mostnock range, form a striking picture. The lords of this castle, who, by means of a wall and gateway, literally held the keys of the Ahrenthal, were people of note in the 12th and 13th centuries. Since the old line died out the stronghold has passed through many hands. It is still partly habitable. Besides the castle, there are several curious old houses in this part of the Taufererthal which at one time or other have been the seat of noble families. The church of St. Catharine at Mühlen is the most ancient in the Taufererthal. Its organ is in local repute. About 3 m. S. of Mühlen is

Uttenheim, with a picturesque old castle on a rock, less extensive but still more ancient than that of Taufers. It is reached by a very steep path, partly by steps cut in the rock. Nearly 3 m.

farther the road passes opposite to *Gais* (2,732'), a village on the l. bank of the Ahrenbach. Here the geologist will observe one of the most striking examples of the vast extent of the masses of transported matter brought down by the torrents in this district. Gais stands at the junction of the Mühlbach, an unimportant torrent issuing from the Mühlbacherthal which drains a small part of the Alps above Antholz (§ 51, Rte. L). The mass of transported matter brought down into the main valley, and not washed downwards by the Ahrenbach, forms a hill about 600 ft. in height, and covers a space not much less than a square mile. The charming scenery of the Taufererthal has perhaps gained in interest and variety by the insertion of these green promontories that almost bar across the main valley and make it resemble a succession of separate basins. The last place in the valley of any note is *St. Georgen* (2,710'), less than 2 m. from

Bruneck (§ 51, Rte. A).

ROUTE F.

ZELL TO THE AHRENTAL, BY THE ZILLERGRUND, OR SONDERGRUND.

The tracks leading from Zell to the Brenner road through the western branches of the Zillertal have been noticed in Rtes. B and C, and in the last Rte. is described the course ordi-

narily taken by travellers bound for the Ahrenthal. A much more direct way to the upper part of the same valley may be found by crossing one or other of the passes that are connected with the eastern branch of the valley of the Ziller, which for about 10 m. preserves the name Zillerthal. This tract is sometimes called Ziller Grund, but that name properly belongs only to the uppermost eastern branch of the Upper Zillerthal. It is not likely that this course will be generally preferred to the way by Krimml, with its deservedly famous waterfall, but it may sometimes be convenient to a traveller pressed for time, or for one who wishes merely to make an excursion from Zell, going one way and returning the other. If the latter be the object in view, it will be best to go from Zell by Krimml, sleeping on the second night either at St. Peter or Steinhaus. In approaching the passes mentioned below from the N. side, he may sleep at Mayrhofen, but rough quarters for the night may be found at Haisling.

1. *By the Hörndl Pass.* 11 hrs. from Mayrhofen to St. Jakob. As mentioned in Rte. B, the junction of the Ziller with the Zemmbach is but a few minutes' walk from Mayrhofen. The stream of the Ziller is here used to drive a garnet mill—one of the largest of the many in this neighbourhood. Garnets are exceedingly common in the mica schist of both branches of the valley, and the preliminary process of cleansing the stones from their outer crust and roughly rounding them is performed here. They are then sent to Bohemia to be polished and set in ornaments that pass under the name of Vienna jewellery. The lower end of the upper valley into which the traveller now enters is contracted, and the path mounts steeply above the rt. bank of the torrent till it attains the upper level, which stretches upwards with an uniform and moderate slope for several miles. *Brandberg* and *Haisling* (poor inn), the highest villages, are left on the slope of the mountain to the l. hand, and the track follows the stream till, about 3 hrs. from Mayrhofen,

it crosses a wooden bridge at the base of an eastern buttress of the Ahornspitz. Rather more than 1 hr. above the bridge, the traveller, following the track by the l. bank, reaches the junction of the two torrents that form the Ziller. The E. branch flows from the *Ziller Grund*—the S. branch from the *Sonder Grund*. Through the latter lies the way to the *Hörndl Pass* (8,366'). Though steep and rough, the path is pretty well marked, as this pass is that usually taken by the Zillerthal people bound for the Ahrenthal, or Bruneck, and in fine weather a guide may not be absolutely necessary. At the junction of the torrents is a hut, 'In der Au,' originally intended for shelter for chamois-hunters. Thence to the summit, erroneously reported to be covered by a small glacier, is reckoned as a walk of 4 hrs. Though considerably lower than the Krimmler Tauern, this is better situated for a view of the Western Tauern range from the *Dreiherrnspitz* to the *Gross Dürreck*. The steep descent to St. Jakob in Prettau may be easily effected in 3 hrs. The proper charge for a guide between Mayrhofen and St. Jakob is 4 fl., but the Zillerthal guides often ask more. For the road to Bruneck see last Rte.

2. *By the Korscharte.* This pass leads either to St. Peter or St. Valentin, at the upper end of the Ahrenthal. Though scarcely longer than the last, it is said to be a rougher and steeper way, and it will be prudent to allow $\frac{1}{2}$ hr. longer time—11 $\frac{1}{2}$ hrs., exclusive of halts, from Mayrhofen to either of the above-named villages. Being very rarely used, it should not be attempted without a guide.

For rather more than $\frac{1}{2}$ hr. the traveller follows the path that runs eastward from the hut 'In der Au' through the *Ziller Grund*. A narrow stony glen called *Hundskehle* then opens to the rt. hand, and the path, leaving the *Ziller Grund*, mounts due S. It must be noted that the name *Hundskehle* is also given to a high peak rising due N. of the entrance to the glen, and the same name is also, but incorrectly, applied to the

pass. This lies over a depression in the *Korscharte* (8,451' Sonklar) on the W. side of the *Rauchkofel* (10,661'). The way is extremely rough, lying over huge loose masses of stone that cover the slopes at the head of the glen. Further information is much desired.

3. *By the Heiligengeist Jöchl*. 12 hrs. from Mayrhofen to Kasern. The finest scenery of this branch of the Zillertal is found at the upper end of the Ziller Grund, which comes to an end nearly 2 hrs. above the opening of the Hundskohl, in the centre of an amphitheatre of snowy peaks. Though the fact is denied in the new edition of Schaubach, there is an easy pass leading in 6 hrs. from the Küchelmoosalp, at the head of the Ziller Grund, to Kasern. It is called *Heiligengeist Jöchl*, and, being more circuitous than the passes above named, is little used. The summit (8,309' Sonklar) is marked by a cross. Dr. Ruthner gives the height at 9,676 ft.—probably on the unreliable authority of the Kataster.

It will not be forgotten that there is a way from Mayrhofen to St. Jakob, even more direct than that of the Hörndl, by the Keilbach Joch at the head of the Stillup Grund (Rte. B). The objection to that way for a traveller starting from Mayrhofen is the fact that it would be impossible to reach the *névé* before a comparatively late hour.

ROUTE G.

TAUFERS TO GINZLING, BY THE MÜHLWALDERTHAL.

A glacier pass, fit only for practised mountaineers.

The *Mühlwaldertal* enters the basin of Taufers (Rte. E) immediately opposite to the Rainthal, and its lower portion, about 5 m. in length, is evidently the western continuation of the trough marked by the latter valley, running parallel to the main ranges of the neighbouring Alps. It is interesting to the mountaineer, as it originates on the S. side of the highest peaks of the Zillertal Alps, and offers what must be a very fine glacier pass to the Zamser Grund, through the Schlegeisenthal, with the alternative of making the ascent of the Mösele, and descending thence into the same glen. The scenery of the valley is so fine that an excursion to its head will well reward those who do not attempt glacier expeditions. They may return to the Ahrental by Weissenbach (Rte. E), or reach Pfunders (Rte. H) by a pass mentioned below.

At the opening of the valley at Mühlen, the track, passable for country vehicles, mounts rather steeply by the l. bank of the torrent, and then for another hr. along the nearly level trough of the valley to *Mühlwald* (3,731'), a village scattered over the green floor of the valley. The modern church stands on an eminence. Here the valley again narrows and begins to bend gradually to the rt. The path, no longer passable for carts, ascends through the defile, keeping still to the l. bank, and after about 1½ hr., assumes the NNW. direction, which it maintains up to the base of the Mösele. Before long the valley opens a little, and here stands

Lappach (4,534'), the highest village, with an inn and a good guide named Rinspacher. No information has reached the writer respecting the direct route to Ginzling. The pass—called by Sonklar *Ewis Sattel* (9,808')—lies between the W. peak of the Mösele and the E. summit of the Ewis (10,228'). W. of

the latter is the highest summit of the *Ewis* (10,408'). From Lappach Mr. Tuckett ascended the *Mösele* (11,315')—here called *Möselenock*—by one of the two glaciers, called *Mösele Ferner*, at the head of the valley. Two summits are visible from this side, but the eastern peak is the higher by about 200 ft. This was reached from the *sattel* between it and the *Thurnerkamp*. The descent on the opposite side was much more difficult. Keeping at first N., and then NW., Mr. T. and his companions reached in 2 hrs. the *névé* of the *Furtschlägel Glacier*, and in $1\frac{1}{4}$ hr. more quitted this by its rt. bank. Following the torrent from the glacier through a short tributary glen into the *Schlegeisenthal*, they reached *Ginzling* (Rte. B) on the same evening in $15\frac{3}{4}$ hrs., exclusive of halts, from Lappach.

As mentioned in Rte. E, there is an easy way from Lappach to the *Ahrenthal* over the *Lappacher Joch* (7,763'), and along the *Weissenbach* torrent, which joins the *Ahrenbach* just above *Luttach*—reached in 5 hrs. from Lappach. By a slight *détour* the traveller may reach the summit of the *Ringelstein* (8,363'), on the S. side of the pass. It commands a fine view of the *Zillerthal* Alps. In the opposite direction he may reach *Pfunders* (Rte. H) over the *Riegler Joch* (7,987'), also called *Zesen Joch*, in about $4\frac{1}{2}$ hrs. from Lappach. A rather longer way, through finer scenery, is over the *Basner Joch* (8,407'). The track enters the *Mühlwalderthal* about 10 min. below the church at Lappach.

The range enclosing the *Mühlwalderthal* on the W. and S. sides—called by *Sonklar* the *Grubachkamm*—diverges from the main *Zillerthal* range on the S. side of the *Weisszinth* (10,841'). Between its highest northern peak—*Napfspitz* (9,465')—and the *Weisszinth* is a comparatively deep cleft in the ridge known as the *Eisbrucker Sattel* (8,350'), and by that way a pass that promises fine scenery may be made from the head of the *Mühlwalderthal* to that of the *Pfundererthal*.

Further information is desired as to the passes mentioned in this Rte.

ROUTE H.

ST. JAKOB IN PFITSCH TO THE PUSTERTHAL, BY THE PFUNDERERTHAL.

The range of the *Grubachkamm*, mentioned in the last Rte., running parallel to the *Mühlwalderthal*, follows a SSE. direction from the *Napfspitz* to the *Kremspitz* (9,354'), and thence extends nearly due E. to the *Blankenstein* (7,991') above *Uttenheim* in the *Taufere*thal. The lower portion of the range divides the lower *Mühlwalderthal* from the *Pusterthal*, the upper portion separates the upper *Mühlwalderthal* from the parallel valley of *Pfunders* which joins the *Pusterthal* at *Niedervintl* (§ 51, Rte. A). Like the *Mühlwalderthal*, the *Pfundererthal* originates in the main range of the *Zillerthal* Alps. Its torrent springs from the snows of the *Hochsäge* (9,365'), and receives several tributaries that drain the glaciers on the S. side of the range connecting that summit with the *Weisszinth*. A traveller who, after passing the *Pfitscher Joch* (Rte. B) from *Zell*, wishes to take a direct route to the *Pusterthal*, may well select this as the easiest and shortest way. *Pfunders* may also be taken on the way from the *Ahrenthal* by a mountaineer wishing to avoid the lower valleys, who would take *Weissenbach*, *Lappach*, and *Pfunders* on his way to *St. Jakob* in *Pfitsch*.

Starting from *St. Jakob*, the traveller has a choice between two passes; the one rather more direct, but less fre-

quented, steeper and rather higher, lies on the E. side of the Hoch Säge, and is approached by way of Stein. The summit is 8,698 ft. above the sea. On the S. side it is necessary to follow a SW. course until the main torrent at the head of the Pfundererthal is reached. Here this rarely used track joins the more frequented path over the Drass Joch. This is approached from Kematen (Rte. B), 1 hr. below St. Jakob. The path ascends a little S. of E. through the tributary glen called Drassberg, and attains in 3 hrs. the summit of the

Drass Joch (8,422'), known on the S. side as *Pfunderer Joch*. It lies on the N. side of a summit called *Sandjoch* (9,696'), which name is sometimes incorrectly given to the pass.

In descending it is necessary to bear to the l., somewhat N. of E., to follow a torrent that descends towards the Hoch Säge, and then bends abruptly to the rt. and joins several other streams from that mountain to form the main torrent of the Pfundererthal. The valley is somewhat sinuous, but does not widely diverge from the ruling direction towards SSE. The highest hamlet is *Dan* (4,830'), at the junction of the Eisbruckerbach, descending from the Weisszinth, with the main torrent. In $\frac{3}{4}$ hr.'s easy walking from Dan, or $5\frac{1}{2}$ hrs. from Kematen, the traveller reaches

Pfunders (3,791'), the chief place in the valley, a picturesque village, with two very poor inns; that near the church on the rt. bank of the stream seems preferable. The passes leading to the Mühlwaldertal are noticed in the last Rte. There is also a pass on the W. side of the valley, leading from Pfunders to the upper part of the Valsertal (Rte. I). From hence, or Weitenthal, the traveller may ascend the *Eidecksberg* (8,975'), locally called Hegedex. This crowns a projecting ridge that extends to SW. from the Grubachspitz, and is said to command a remarkably fine view.

If bound for the Pusterthal, the traveller will follow the path along the E. side of the valley. Below Pfunders this is contracted to a narrow defile, said

to be dangerous in bad weather, owing to falling blocks. A fine waterfall is passed, and in about 1 m. the valley widens out, and for nearly 1 hr. the path runs straight along the level floor to *Weitenthal*, near the foot of the Eidecksberg. Thence, amid agreeable scenery, the traveller descends to *Niedervindl*, on the main road of the Pusterthal (§ 51 A), and finds good accommodation at the Post.

ROUTE I.

KEMATEN IN PFITSCH TO BRIXEN, BY THE VALSERTHAL.

The way through the Pfundererthal, described in the last Rte., is possibly the shortest way for a pedestrian from the Pfitscherthal to the Pusterthal, but there is another way by which the valley of the Rienz is reached at Mühlbach, a few miles above Brixen, which would be convenient for a traveller going to that town who should wish to avoid the beaten track of the Brenner road. This lies through the *Valsertal*, a glen nearly parallel to Pfunders, and separated from the valley of the Eisack by the *Ritzeilkamm*, a short range which at first extends southward from the Wildkreuzspitz, but turns to SSE. when it approaches the junction of the Eisack with the Rienz. The mountaineer may be more readily tempted to choose this route as he may take on the way the summit of the *Wildkreuzspitz* (10,271'). As mentioned in Rte. B, there is a pass leading from Pfitsch to Vals by the SW. side of that peak, and its summit is accessible by the ridge

THE GROSS GLOCKNER AND ITS VICINITY



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that descends thence towards the pass. The summit may be reached in 4 hrs. from the Burgum Alp, and on returning to a point near the summit of the pass, the traveller may descend to the *Wildsee*, a comparatively large Alpine lake, which is the source of a considerable torrent flowing to the Valsertal. The principal torrent, however, or at least that which flows due S. in the direction of the axis of the valley, rises on the S. side of the Drass Joch (see last Rte.). From the Wildsee the way lies westward for $\frac{3}{4}$ hr. till the stream from the lake joins the main torrent, and the course of the united stream lies thenceforward nearly due S. After passing the Pfanna Alp the path passes through a strait in the valley, and when this opens he finds himself near the first houses of *Vals*. The village is scattered over a space of nearly 3 m., the church being 4,442 ft. above the sea. It is inhabited by a fine vigorous race, who have the name of preserving the simplicity and independence of character once universal in Tyrol, but now becoming rare there as elsewhere. Mounting through the Ritzeithal, a path leads over an easy pass to Mauls on the Eisack (§ 49, Rte. A). In 2 hrs. from Vals, descending during the latter half of the way through a picturesque defile, the traveller reaches Mühlbach, on the high road about 6 m. from Brixen (§ 51, Rte. A). This valley must not be confounded with the Falsertal N. of the Brenner Pass, noticed in Rte. C, nor with the Valsertal in the Grisons (§ 31, Rte. F).

SECTION 51.

GROSSGLOCKNER DISTRICT.

IN the introduction to the last section, the eastern limit of the Zillertal Alps was fixed at the pass of the Krimmler Tauern; and it was remarked that the range extending eastward from that pass for a distance of about 62 miles is the longest continuous range, preserving a nearly straight course, and unbroken by any deep passes, to be found in the Alps. To this range, modern German writers have given the name 'High Tauern Alps,' and the same designation is adopted in the present work, although it has not seemed convenient to include the entire within a single section.

Throughout the preceding portions of this work, the designation 'main range of the Alps' has, in accordance with general usage, been applied to what may more accurately be termed the dividing ridge, separating the waters of the Adriatic from those flowing in other directions—i. e. westward to the Mediterranean, northward to the North Sea, or eastward to the Black Sea through the Danube. At its western extremity, the High Tauern range touches the watershed between the Danube and the Adige; but as we carry the eye eastward from the Dreiherrnspitz, it will be seen that the drainage of the S. side of that range all flows to the Drave. The circumstance that at a point some hundreds of miles eastward of its source, and far beyond the limits of the Alps, the Drave pours its waters into the Danube, forms no solid objection to the conclusions derived from orography and geological structure, which alike point to the ridges dividing the Danube from the Drave, as constituting the main range in this portion of the Alps.

Although a line drawn along the watershed from the Dreiherrnspitz to the Arlscharte diverges but little from a straight line bearing a little S. of E., the reader who has not skipped the brief preliminary observations in the preceding volumes of this work will not ex-

pect to find here a strictly continuous ridge, whose separate portions preserve the same direction as the collective mass. Applying the figurative term commonly used in most European languages, we may say that the Alpine chain is formed of large and massive links, alternating with others much smaller and shorter. To represent the real structure of the Alps, we must imagine the larger links laid on the ground nearly parallel with each other, but in a direction more or less transverse to that of the chain itself, and the smaller links placed so as to unite the larger at the points where these approach most nearly together. The smaller links, elsewhere in this work spoken of as *dislocations* in the main range, almost invariably coincide with the lowest and most practicable passes. Allowing for some local disturbances, we have seen that the dominant direction of the separate masses that collectively make up the Alpine chain varies little from WSW. to ENE. throughout the Western and Central Alps, and the greater part of Tyrol. The same direction is found in the Zillertal Alps, and again in the westernmost of the four groups that constitute the High Tauern range. Whatever may be the causes that have impressed this characteristic over so wide a region, they cease to operate at the Velber Tauern, which divides the western group of the High Tauern from the remaining eastern portion of that range. The three groups lying eastward of that limit exhibit, both in their separate ridges and the corresponding valleys, a manifest tendency towards the direction WNW. to ESE., and the same direction is recognised throughout Carinthia, and in some other adjacent portions of the Eastern Alps. For this reason, the writer would be disposed, in a purely scientific arrangement of the Alpine chain, to consider the Velber Tauern (8,024'), which is the lowest pass over the main range between the Brenner and the Arischarte, as marking one of its most important divisions.

In the present work, practical considerations, depending on the conveni-

ence of travellers, demand the first consideration; and it has appeared best to include in the present section the two dominant groups of Central Tyrol lying on either side of the above-named pass. The western group, whose best known peaks are the Grossvenediger (12,053') and the Dreiherrnspitz (11,494'), forms the watershed between the Danube and the Drave for a distance of about 14 m. between the Velber Tauern and the Dreiherrnspitz; but a prolongation of its main axis, including many lofty summits and numerous small glaciers, extends to WSW. parallel to the Ahrental for not less than 16 m., its last high summit being the Grossmostnock (10,036'), E. of Luttach.

On the E. side of the Velber Tauern extends the mass of lofty peaks distributed among numerous minor ridges, which the writer designates collectively as the Glockner group, because it culminates in the beautiful peak of the Grossglockner (12,455'), the highest summit of the Eastern Alps. This group is divided from the more easterly portions of the Tauern range by the Hochthor (8,551'), north of Heiligenblut, which is taken as the eastern limit of the district described in this section.

On the N. side of the range, extending from the Krimmler Tauern to the Hochthor, comparatively short valleys, divided by secondary ridges of no great dimensions, descend towards the valley of the Salza, described in § 50. The case is different on the southern side. Two nearly isolated high groups rise on the S. side of the main masses already described. To the SW. is the Antholzer group, whose highest peak is the Hochgall (11,284'), and some 24 m. farther E. is the Schober group, so called from its best known summit, the Hochschober (10,628'), though this is surpassed by the Petzeck (10,761'). Somewhat S. of the line, joining the Antholzer with the Schober group, is the longer, but less lofty, range known as the Deferegggen range, whose highest point, the Weisse Spitz, does not surpass 9,706 ft. As the Deferegggen range approaches at its W.

end close to the Antholzer Alps, and at the opposite end near to Hochschober, it will be seen that the three minor groups along with the two loftier masses to the N. form a great basin, wherein originates one of the most important lateral valleys of the Eastern Alps. The waters of its four main branches, being united in the same channel at Peischlach, flow to SE. through an opening between the Hochschober and the Defergegen range.

The district included in this section lies between the valley of the Salza on the N. and the Pusterthal on the S. The western limit is the way from Brunneck to Krimml, described in the last section; and its eastern boundary is the path from Lienz to Heiligenblut, and thence to Bruck, in the Pinzgau, through the Fuschenthal.

The writer, who beyond all others has contributed to a complete and accurate knowledge of this and the district described in the next section, is Colonel v. Sonklar, whose important work, 'Die Gebirgsgruppe der Hohen Tauern,' contains a mass of accurate information, the result of many years' laborious exploration, accompanied by observations which have made the orography of this district more thoroughly known than that of any other equally extensive part of the Alpine chain. Dr. Ruthner, Mr. Keil, and other Austrian mountaineers, have also contributed much to the exploration of the less easily accessible summits and passes.

Although the upper valleys of the Venediger range offer much fine scenery and numerous considerable glaciers, there is no single point in that part of the district at all equal to Heiligenblut, with its one great peak—the Glockner, and one great glacier—the Pasterze. The preference shown by travellers to that spot is partly cause and partly effect of better accommodation than is to be found in most of the other Alpine valleys of this district. In this respect it is perhaps surpassed by Fusch, where very fair quarters are found at the baths of St. Wolfgang, and at the village of

Fusch. Tolerable accommodation is now found at Pregratten, and that place offers the best resting-place for a mountaineer wishing to explore the S. side of the Venediger range.

While conforming to the usage of recent German writers who have used the designation 'Tauern range' as a geographical term, applicable to a certain portion of the central chain, the writer must express his opinion that no evidence has been produced to show that the word 'Tauern' has, or ever had, any wider meaning than that given to it by the invariable usage of the inhabitants of this part of the Alps. By them it is strictly confined to the practicable passes over the central range that connect valleys on the N. side with those on the opposite slope; the solitary exception being in an outlying district on the border of Bavaria, where a mountain (§ 42, Rte. B) bears the name Tauern. The writer has little doubt that the origin of the word is to be sought in the Gothic *daur*, which assumes the forms *tur* and *tuora* in Old High German, *toor* or *tuor* in the dialect of the Sette Comuni, and is scarcely altered in the English *door*. The same root (in Sanskrit *dvâr*, or *dûr*) may be traced throughout the cycle of the Indo-Germanic tongues. If this view be correct, the use of the term in the Eastern Alps is the exact equivalent of *porte*, applied in the Pyrenees to the passes over the main range serving to connect France with Spain.

An excellent map of this district on a large scale is annexed to Sonklar's work already mentioned. Mr. Franz Keil, who unites skill as a cartographer with a minute knowledge of the entire region, has executed, on a still larger scale, a separate map of the neighbourhood of the Grossglockner, extending from the Pinzgau to Kals and Heiligenblut for Dr. Ruthner's interesting volume, 'Aus den Tauern;' and another, including the Grossvenediger group, with portions of the adjoining valleys, which is inserted in the second volume of the 'Jahrbuch of the Austrian Alpine Club.' Another good map of

the Pasterze Glacier and its neighbourhood, by M. Keil, is given in 'Petermann's geographische Mittheilungen for 1860.' Sonklar's map will be the mountaineer's best companion in this district; but the finest districts are included in the map annexed to this volume, and in Keil's map of the Grossvenediger group.

Besides the ancient rough inns found on most of the old-established passes,—known as Tauerhäuser—the mountaineer in this district finds shelter in many interesting but out-of-the-way spots, in huts provided by the liberality of the Austrian Alpine Club or that of private individuals, such as Mr. Stüdl and other lovers of the Alps.

ROUTE A.

BRIXEN TO VILLACH BY THE PUSTER-
THAL.

	Post miles	English miles
Untervintl	2	9½
Bruneck	3	14
Niederdorf	3	14
Sillian	3	14
Mittewald	2	9½
Lienz	2	9½
Oberdrauburg	2½	11¾
Greifenburg	2½	11¾
Sachsenburg	2½	11¾
Spittal	2½	10¾
Paternion	2	9½
Villach	3	14
	29¾	140

Railway open. 2 trains each way daily; one takes 8 hrs., the other 12 hrs.!

The road connecting Brixen with Villach has always been one of the great lines of communication through the Alps, but has acquired additional importance by the completion of the railway between those towns.

Taken together with the line from Bruck to Klagenfurt, by the valley of the Mur, it opens a direct channel for exchanging the mineral treasures of Styria with the silk and corn of Lom-

bardy, shorter by at least 130 miles than the former line by Laybach and Gorizia. Of the road here described, only the portion between Bruneck and Lienz belongs to this district, of which it forms the southern boundary; but it appears more convenient to unite the whole under a single heading.

For fully three-fourths of the distance between Brixen and Villach, the road lies through one of those great longitudinal valleys—running parallel to the direction of the main chain, and to the line of outcrop of the crystalline rocks—which are so characteristic of the Alps as compared with other great mountain districts. If it be allowable to doubt whether such valleys as that of the Rhone and Vorderrhein, in Switzerland, that of the Inn from its source to Kuffstein, or that of the Adda from Bormio to Colico, owe their origin to the same causes that have upraised the great mountain ranges with which they are connected, such a doubt is scarcely possible in regard to the great valley extending from Untervintl to Marburg, in Styria, or, at all events, as to its upper portion, which terminates near Sillian. Although the waters at its western end flow towards the Adige, while eastward from Innichen they go in the opposite direction to the Drave, this is so manifestly a single valley that it has from a remote period been known by the single name—*Pusterthal*—which it still bears.

It is characteristic of the ignorance which until recent times has prevailed respecting the higher region of the Tyrol Alps that geographers should have sought the source of the Eisack, or eastern branch of the Adige, in the comparatively insignificant stream that descends from the long frequented Brenner Pass, instead of preferring the Rienz, whose main source is at the W. base of the Dreiherrnspitz, whence it descends to Bruneck, bearing the name Ahrenbach. Still more perverse was the selection of the petty torrent that springs from the flat between Toblach and Innichen as the source of the Drave, when

it is seen that the Isel, which joins it at Lienz, bears down tenfold the volume of water flowing from at least a hundred glaciers, and drains four considerable Alpine valleys with their numerous lateral branches.

The structure of the valley above Brixen well deserves the attention of the physical geologist. A few miles N. of the town, the Eisack issues from the upper valley, through which it has flowed south-eastward from Sterzing, and in the open space below the Franzensfeste it is separated from the Rienz by a narrow isthmus of low ground where the streams might be expected to unite. The isthmus expands, however, into a comparatively high promontory of crystalline (granite?) rock, round the E. side of which the Rienz descends through a narrow gorge, while the Eisack flows through a more open trough on the opposite side, till the waters are finally united at the S. end of the promontory under the walls of Brixen (§ 49, Rte. A).

The rly. to Villach branches from that over the Brenner Pass at Franzensfeste, the first station beyond Brixen, and only 2 m. distant though considerably higher. Travellers who desire to see the country or to penetrate the lateral valleys will not be anxious to use a conveyance which offers little advantage in the way of saving time, and allows them small opportunity to enjoy the scenery. Light vehicles (einspännige Wagen) are to be had at all post stations, and may usually be hired in the country towns.

Although the road to Bruneck is destined to follow the valley of the Rienz, it keeps to the rt. bank of the Eisack for about 2 m., crossing to the opposite side close to the abbey of *Neustift*. The church is richly decorated in the style of the last century. The library is said to be the richest in Tyrol, and the traveller may see here the tomb of the *Minnesänger*, Oswald v. Wolkenstein.

Still keeping near to the Eisack, and to the W. side of the rocky promontory, the road goes northward to *Schabs*

(2,516'), on the site of the Roman *Sebatum*. The cultivation of the vine ceases, and the last chestnut trees are seen on the low ground between the two streams.

[The geologist, instead of following the road from Brixen to Schabs, will do well to take a way, little longer, though much rougher, which will enable him to study the course of the Rienz. Crossing the Eisack at Brixen, close to its junction with the Rienz, he should ascend to *Elvas*. This stands at the S. end of the promontory, which is so nearly level that it may be described as a plateau. The church commands a fine view. A track leading northward from *Elvas* overlooks the deep cleft through which the Rienz descends from the Pusterthal, and the opening of the *Lüsenthal* (§ 60, Rte. G). Passing some small pools, he will rejoin the road at Schabs. The botanist taking this walk may gather *Sempervivum arenarium*, and other interesting plants.] Close to Schabs a road turns sharply to the W., and leads over the *Ladritscher Brücke* to the Brenner road, which is joined under the walls of the Franzensfeste. By that way travellers coming from Innsbruck and Sterzing enter the Pusterthal without making the circuit by Brixen. The road to Bruneck now approaches the Rienz, and about 2½ m. N. of Schabs crosses the torrent from the *Valsenthal* (§ 50, Rte. I), and enters the village of

Mühlbach (Inn: Sonne, very fair), 2,542 ft. above the sea. On a terrace of the mountain W. of the *Valsenthal*, is *Spings* (3,621'). From this important strategic position, held in 1797 by General Joubert, with a corps of 30,000 men, the Tyrolese peasantry drove the French foe after two days' desperate fighting. At a still higher level, on the opposite side of the *Valsenthal*, is *Meransen* (4,645'), reached by a path so steep as to deserve the local name 'Käthenleiter' (cats' ladder). The slope rising S. of *Mühlbach* from the opposite bank of the Rienz, called *Rodenecker Berg*, covered with cornfields and many

thriving hamlets, is guarded at its S. end by the ancient castle of *Rodeneck*, once one of the strongest in Tyrol, standing on a projecting rock, and reached by a bridge over a deep cleft in the mountain. It was in great part destroyed by fire in the seventeenth century, when precious collections of books, MSS., pictures, and antiquities, were nearly all lost. It still contains some objects of interest, and especially the family papers of the Wolkenstein family. The traveller wishing to visit it should cross the Rienz near Schabs, and follow the road by Vils, afterwards reaching Mühlbach by Korbürg.

Mühlbach is counted as the first village in the Pusterthal, but orographically that great valley terminates a few miles higher up, and the course of the Rienz thence to Brixen lies through a cleft at right angles to the direction of the main valley. The defile was formerly closed by a strong fort—called Mühlbacher Klause—about 1 m. N. of the village, which was blown up by the French. The road still passes through an archway of the ruined fort. On issuing from the defile, the traveller finds himself at the eastern end of the Pusterthal, and may travel hence to Marburg, in Styria, nearly 200 m. as the bird flies, diverging but little from a straight line, and without crossing any transverse ridge. The first village is

Niedervintl (Inn: Post, not so good as it was formerly, and rather dear), standing at the opening of the Pfunderthal (§ 50, Rte. H), 2,502 ft. above the sea, to which follows Obervintl. Numerous castles, for the most part in ruins, are passed. One of the most ancient is the *Sonnenburg* (2,778'), standing on a rock opposite the opening of the Gaderthal (§ 60, Rte. G), which runs deeply into the dolomite region of S. Tyrol, and is also known as Abteithal, from the jurisdiction once held over it by the Abbess of Sonnenburg. Early in the eleventh century, the castle was converted into a Benedictine abbey for noble ladies, and preserved that destina-

tion for nearly 800 years, till suppressed by Joseph II. A short way beyond Sonnenburg, but on the S. side of the Rienz, is *St. Lorenzen* (2,636'), a thriving village, in which the taste for painting and bright colours, characteristic of this part of Tyrol, is conspicuous. It is said to have a good inn, but strangers naturally push on about 2 m. farther to

Bruneck (Inns: Post, excellent and reasonable; Goldener Stern, also good; Sonne), the chief place in the Pusterthal, a thriving little town, 2,686 ft. above the sea. The church having been destroyed by lightning a few years ago, it was replaced by a new building much admired by the Tyrolese. The castle, standing near 200 ft. above the town, commands a good view of the surrounding country. The position is rather remarkable. Due N. extends the wide level trough through which the Ahrenbach flows from Taufers (§ 50, Rte. E) to join the less considerable stream that preserves the name Rienz. Nearly opposite is the equally wide opening of the Gaderthal; while eastward, but at a higher level than these, the Upper Pusterthal mounts gradually to the height of land that separates the basin of the Adige from that of the Drave. Round the point of intersection of these great Alpine highways, the higher mountains recede, so as to leave a wider opening than is commonly found in the interior valleys of the Alps. Though not immediately surrounded by fine scenery, Bruneck is so near to many interesting spots that its excellent inn affords convenient headquarters to the mountaineer.

Near Bruneck, the zone of granite, which has extended eastward along the N. side of the valley of the Rienz, from near its junction with the Eisack, comes to an end, and mica slate becomes the prevalent rock on both sides of the valley. The high-road returns to the rt. bank of the Rienz, and begins a rather longer ascent than any that has been met since leaving Brixen, rising nearly 600 ft. before reaching the first village, named

Percha (3,278'), beyond which the road crosses the Wielenbach, a torrent descending from the *Schwarze Wand* (10,179'), one of the peaks of the Antholzer Alps. From hence the ascent is very gentle, but continuous. To the S. is seen the opening of the Gaiselbergerthal (§ 60, Rte. H), through which the mountaineer may reach a little-known district of the dolomite Alps, lying between the Gaderthal and the Ampezzo Pass. Nearly opposite is the opening of the Antholzerthal (Rte. L), which offers a convenient way for the pedestrian who desires to approach the inner recesses of the High Tauern Alps. Here the main valley is narrowed between the bases of the opposite mountains, and the road ascends rather more steeply, crossing the Rienz, and soon returning to the rt. bank, before reaching the small village of

Welsberg (3,544'), with a good inn (Rose) at the confluence of the Gsiessbach, which here descends through a narrow cleft from the Gsiessthal (Rte. L). Welsberg stands on the site of a little lake which was drained in the fourteenth century by the lord of the adjoining castle, whose name it received. It has two inns (Löwe, clean and good; Rose). At some points on the road from Brixen, glimpses of the fantastic forms of the Dolomite Alps have already been gained; but they come rather more fully into view near Welsberg, and especially about 2 m. beyond the village, where the road passes opposite the opening of the valley of Prags (§ 61, Rte. J), where rough but tolerable accommodation is found at either of the establishments for mineral baths. Here the road follows the l. bank of the Rienz—now reduced to a trifling stream—and before long reaches

Niederndorf (3,784'), a place of some traffic, as it lies near the junction of the Ampezzo road from Belluno with that from Villach. The Post is a tolerably good inn; and the Adler, where the Stellwagen halts, is not a bad one. The Tyrolese peasantry have a wholesome faith in the efficacy of mineral

waters; and there is scarcely one of the lateral valleys of the Pusterthal in which there is not one or more establishments of the kind, usually supplying the roughest accommodation at very low charges. From one of these baths, called *Maistadt*, on the slope of the mountain, about 1½ m. SE. of Niederndorf, there is a fine view of the Defergegen Alps.

About 1½ m. beyond the village, the traveller crosses the Rienz for the last time, near the point where it flows into the Pusterthal from its chief source in the Dürren See, near Höllestein. Two massive outposts of the dolomite mass, standing one on each side of the narrow defile, form a noble portal through which the Ampezzo road runs due S. towards Belluno and Venice (§ 61, Rte. A). At the point where this highway leaves the road to Villach is a large cross, which at the same time marks the summit-level, or height of land, between the Drave and the Adige, where the waters are parted between the Black Sea and the Adriatic. This level tract (3,951 ft. above the sea), called *Toblacher Feld*, from the adjacent village of *Toblach*, slopes very gently, almost imperceptibly, on either side. There is nothing in the landscape to suggest the idea of an Alpine pass. Barley and rye are grown to some height above the valley; and though the winter climate must doubtless be severe, the remains of many castles show that it has not in past times been such as to deter wealthy men from dwelling here. On the downfall of the Roman power, this region fell under the authority of the Bavarian (or rather Boyoar) dukes, who here arrested the western flow of the Slavonic invasion at its natural geographical limit. The name Victoribühel, still given to a slight eminence, records a victory gained over these barbarous tribes in 709.

A streamlet, flowing from the base of the mountain on the rt. of the road, is fixed upon as the source of the *Drave* (Germ. *Drau*, but locally called *Drag*), for no other reason than the fact that it

lies near a frequented highway. It is joined a little farther on by a considerable torrent from the Sextenthal, which, after following the course of that valley towards WNW., turns round towards due E. on entering the main valley at

Innichen (3,701'), a small place, deserving the especial notice of the antiquary, who will find here good quarters (Beim Neuwirth). The Bär (? same house) is also recommended. The Stiftskirche, rebuilt after a fire in 1284, is one of the most interesting of the early Tyrolese churches, having in many particulars preserved the type of the most ancient Christian churches of Northern Italy. It has a vestibule for catechumens, a lower chapel or crypt under the raised choir, and a separate baptistery. An ancient crucifix was saved from the destruction of the earlier church, as also were the bones of St. Candidus—the gift of Pope Adrian I. in 780, preserved in a silver shrine. Two portals of some hard rock, miscalled porphyry, and ancient carving in the walls of the church, also deserve attention. Other less important ancient churches here have partially escaped the ravages of fire and barbarian invasion, that began with the Slavonian hordes in the sixth and seventh centuries, and terminated, we may hope, with the French in 1809.

Through the Sextenthal ran the Roman road to Aquileja, which here joined the great Noric highway through the valley of the Drave, and the still more important line over the Brenner. Favoured by this central position, the Roman station of *Aguntum* rose to much importance. It stood on the slope S. of the present village, and appears to have fallen into decay after the destruction of Aquileja by the Huns. Numerous records of antiquity, and some objects of art, which are seen in the museum at Innsbruck, have been found here, and doubtless many more would reward a systematic exploration of the site.

The Sextenthal (§ 61, Rte. H) offers ready access to some of the finest scenery of the Dolomite Alps, and those who have not time for a longer expedition

may well give a day to an excursion to the upper part of that wild valley. The most prominent of the peaks seen from the main road is the *Dreischusterspitz* (10,368').

The high-road follows the l. bank of the infant Drave to *Vierschach* (3,832'), soon after crosses to rt. bank, but returns to the opposite side before reaching

Sillian (Inns: Post, very fair; Neuwirth), 3,611 ft. above the sea. The scenery of the valley is rather dreary, but a fine view may be gained from the *Helmispitz* (7,975'), a summit, easy of access, rising SW. of the little town. About a mile lower down, the main valley is partially barred across by the masses of débris brought down by the torrent from the Villgrattenthal (Rte. N), through which the mountaineer may reach the Defereggenthal. The swamps produced by this obstacle to the course of the Drave were drained through the interposition of the late Archduke John, with much benefit to the health of the inhabitants. The traveller following the high-road may pass without remark the junction with the Drave of a small stream from the Kartitschthal. The level of that valley being about 800 ft. higher than that of the Pusterthal, the stranger does not suspect that it forms the W. extremity of the great trough of the Gailthal, which is in truth the orographic prolongation of the Pusterthal, while the course of the Drave from hence to Villach, though not without geological significance, does not follow the main line of depression. The direction of the road, and the Drave valley, here changes to somewhat N. of E., and, after passing *Strassen* (3,595'), descends rather steeply to *Abfaltersbach* (3,223'). The character of the scenery gradually changes as the mountains draw nearer together, and the road crosses the Drave, and recrosses to the l. bank, before reaching

Mittewald (2,950'), with a fair country inn at the Post. Through the narrow cleft of the *Burgerthal*, opening N. of the village, the mountaineer may reach Hopfgarten (Rte. K), over the

Bocksteinscharte (7,434'). Nearly 3 m. E. of Mittewald, the valley opens a little at the inn of *Au* (2,856'), at the junction of another short glen, descending from the N., called *Vilfernerthal*. Here the Pusterthal, in its true geographical sense, comes to an end, though the designation is commonly extended to all that part of the Drave valley lying within the bounds of Tyrol. The valley is now contracted to a mere defile, well known in the history of the Tyrolese struggle against the French invasion as the *Lienzer Klause*. At the narrowest point stands the ancient castle of *Burgfried*, which, though partially in ruin, and garrisoned only by peasants, successfully resisted the French in 1809. Later in the same year, another desperate and bloody struggle occurred in this defile. On the S. side is the *Spitzkofel* (8,913'), one of the highest summits of the detached group of dolomitic mountains that divide Lienz from the Gailthal. A glimpse of some of these peaks is gained as the road, near the E. end of the defile, passes the opening of the *Galizenbach* (§ 62, Rte. F). By a rapid transition, the road passes from the midst of stern and rugged scenery to the richly wooded basin wherein the copious stream of the *Isel* descends from its parent glaciers to join the *Drave*. Traversing the village of *Leisach* (2,326'), the road turns NNE., and soon reaches the picturesque little town of

Lienz (Inns: Post, very good; Lamm; Rose; Fischwirth). It occupies a part of the site of the Roman city of *Leontium*, which is said to have extended for a space of 3 m. along the N. side of the valley, and to have been destroyed about the 9th century by a great Bergfall—a judgment, says the chronicler, on the wickedness of its inhabitants. Ancient foundation walls, portions of mosaic pavement, coins, and other remains, found here and there as far eastward as the hamlet of *Dewant*, give some colour to the tradition. For more than two centuries, it was the seat of the powerful Counts of *Görz* (*Gorizia*), who dwelt in the castle of *Bruck* (now a brewery),

overlooking the town on the W. side. The chief part of the town (*Altstadt*) stands on the tongue of land above the junction of the *Drave* with the *Isel*, 2,193 ft. above the sea. The *Rathhaus* (or town-hall), in the main street, with its four massive towers, is a stately building. It contains a portion of a Roman altar, with the figures of *Venus*, *Leda*, and the *Dioscuri*, removed from the castle of *Bruck*. On the l. bank of the *Isel* is the suburb called *Rindermarkt*, and above it, on rising ground, the ancient *Pfarrkirche*, dating, at least in part, from the 12th century. It well deserves a visit, and the traveller should not fail to notice the eastern portal of the churchyard with two marble lions, which are believed to date from the Roman or pre-Roman period. The situation of *Lienz* is charming. The rich valley, crowded with hamlets, half hid amid gardens and orchards, is circled round by steep slopes, forest-clad, or green with Alpine pasture. Above these, on the N. and E. sides, rise rugged ridges of crystalline slate, outliers from the ranges of the High Tauern Alps. But the chief attraction is found in the picturesque forms of the dolomite peaks S. of the town, visible from its streets, but seen to greater advantage from the slopes on the N. side of the valley. *Lienz* is the most convenient starting-point for many of the longer expeditions described in the following Rtes., but is also a centre where many days may be well spent in shorter excursions of especial interest to the geologist and the botanist.

The slopes on the N. side of the town offer the most interesting views, and at the *Heidenhof*, only $\frac{1}{2}$ hr. distant, near the village of *Grafendorf* (2,453'), the traveller finds a frequented restaurant, where he may dine and enjoy the view at the same time. A little higher up is *Thurn* (2,797'), with the ruins of a castle. He who would command a wider view should ascend the S. peak of the *Zetterfeld* (6,939'), or the much higher summit of the *Schleinitz* (9,522'). Though surpassed by some of the higher summits of the *Hochschober* group, of

which it is a southern promontory, this commands a fine panoramic view, including all the higher peaks of the dolomite Alps.

Less laborious than the ascent of the Schleinitz is that of the *Böses Weibele* (8,266'), in the range W. of Lienz, dividing the Isel from the Drave. The view is nearly as extensive, and it is reached in 2 hrs. less time. The excursion to the Kerschbaumer Alm, famous for its rare plants, is described in § 61, along with a notice of the dolomite peaks that divide Lienz from the Gailthal. A short and very interesting excursion is that to Tristach and the Jungbrunn, on the S. side of the Drave. The latter is a mineral spring of local repute, about 3 m. from Lienz. In a recess of the mountains, only $\frac{1}{2}$ m. distant, is the *Tristacher See* (2,686'), lying at the base of the Rauchkofel (6,261'). Fossils of the Kössen formation may be found near the lake, and some of the rare plants of the higher zone of these Alps (such as *Saxifraga Burseriana*) may be found on shaded rocks at a comparatively low level. *Astragalus leontinus* is found near the village of Tristach. Many Alpine species are found in the main valley, such as *Oxytropis pilosa* and *O. uralensis*, *Phaca australis* and *P. alpina*, *Sagina Linnæi*, &c.

An agreeable excursion from Lienz, longer than those above noticed, is that to the head of the *Debantthal*, which descends SE., nearly parallel to the Iselthal, to join the main valley of the Drave at the village of *Debant*, about $\frac{1}{2}$ m. E. of Lienz. It originates in a cirque enclosed on three sides by the high peaks of the Schober group. As the lower part of the valley is not very interesting, it is scarcely worth while to visit it unless the traveller pushes on at least as far as the foot of the glaciers at the head of the valley, fully 5 hrs. from Lienz. It is said that glacial phenomena are here seen on a large scale, and near the junction of the torrent from the Klein-Gössnitz Glacier with the main torrent is an ancient moraine, so considerable that Sonklar has thought it

deserving of insertion in his map. Several fine, but not easy, passes lead to the adjoining valleys. Beginning at the E. side, the more important of these may be thus enumerated:—*Seescharte* (8,452'), leading to the Wangenitzthal; *Hofalmscharte* (9,028'), to the Gössnitzthal; *Glödisscharte* (9,282'), and *Schoberthörl* (9,252'), both leading to Kals through the Lesachthal; and the *Leibnitzscharte* (8,405'), to St. Johann im Wald (Rte. E).

Below Lienz, the Drave, now grown to a river, flows through what is orographically the prolongation of the valley of the Isel, which extends ESE. some way beyond the frontier of Tyrol. Leaving on the l. hand the low pass of the *Iselberg* leading to Heiligenblut, the road keeps to the N. side of the broad valley, below many remains of ancient castles, passes *Nicolsdorf* (2,198'), and reaches *Nörsach*, the last Tyrolese village, about 10 m. from Lienz. There is here a good country inn, whence the traveller may make the ascent of the *Ziethenkopf* (8,138'). This is one of the higher summits of the *Kreuzeck* range, which divides the Möllthal from the Drave, and, being more detached from the higher ranges than the Schleinitz, or the Böses Weibele, offers a panoramic view in many respects more complete. The ascent is easily made in from 4 to 5 hrs.

No change in the aspect of the valley, and no natural landmark, indicate the limit where the traveller quits Tyrol to enter Carinthia. He soon reaches the post-station at

Oberdrauburg (1,992'), a small place, with an indifferent inn, at the Post, overlooked by the ancient castle of Drauburg, now belonging to Prince Porcia. Here the ancient Roman road to Aquileja, still an interesting, though no longer a frequented, way, diverges southward. (See § 62, Rte. E.) The valley of the Drave now bends somewhat to the l., and follows a nearly due E. course for nearly 20 m. Several torrents descend from the N. into the valley through short glens running into the *Kreuzeck*

range. The most considerable is that issuing from the *Drassnitzthal*, which opens at *Dellach*, about 5 m. E. of Oberdrauburg. By that glen the traveller may reach a fine pass between the *Sandfeld* (8,808') and the *Kreuzcek* (8,851'), and descend thence to the Möllthal, through the Wöllthal. Keeping constantly to the l. bank of the Drave, the road reaches the next post-station,

Greifenburg (2,054'), on a little eminence above the river formed by the detritus borne down by the torrent from the *Gnopnitzthal*, a glen that drains the SE. side of the Kreuzcek. On the S. side is the dolomitic peak of the *Reisskofel* (7,749'), said to command a very interesting panoramic view. The pedestrian may take a short cut from Greifenburg to Villach by the Weissensee, rejoining the high-road at Paternion, an excursion of much interest to the geologist (§ 62, Rte. G). Those who prefer to travel in light country carriages may, without lengthening the way, see something of the lower and less interesting part of the Gailthal by following the road to Hermagor by Weissbriach, and thence to Villach by Arnoldstein. The scenery of the main valley is, however, at least equally interesting. The course of the Drave, which from near Innichen to this point has kept close to the line of junction between the secondary rocks and the crystalline slates of the central chain, now quits that boundary, and enters a comparatively narrow cleft in the mica slate ridges which are the eastern prolongation of the Kreuzcek range. Keeping at first its easterly direction by Steinfeld and Lengholz, it then turns nearly due N., and amid very pleasing scenery, and the din of forges that accompany the traveller through Carinthia and Styria, reaches the next post-station at

Sachsenburg (1,843'), on the rt. bank of the Drave, just at the point where it turns eastward to join the Möll. It has been seen that near its source the Drave quitted the direction of the great line of valley, extending from Sillian through the Gailthal, and, after flowing through

a narrow defile, entered the valley of the Isel at Lienz. Exactly in the same way, the river quitted its normal course at Greifenburg, and, after passing through another cleft, enters the Möllthal immediately below Sachsenburg. The course of the river from hence to Villach exactly follows the ESE. direction of the Möll from Fragant to the junction, and is parallel to that of the main ridges and main valleys of this region.

The high-road crosses both rivers immediately above their junction, and for many miles adheres to the l. bank of the united stream, which here runs through a broad, level, and fruitful valley. The exact site of the Roman city of *Teurnia*, or *Tiburnia*, is now lost, but remains of antiquity have been found at many points. Numerous castles crown the heights, of which the most remarkable are the ruins of *Ortenburg*. The Counts of Ortenburg, who flourished here for many centuries, held their domain as an imperial fief independent of the Dukes of Carinthia. When the race at length died out, their privileges, including that of conferring titles of nobility, were held to pass to the owner for the time being of this castle. The latter right survived till 1753, when it was surrendered by Prince Porcia to Maria Theresa. Not far from this the traveller reaches the little town of

Spittal (1,772'), at the junction of the *Lieserbach* with the Drave. Through that valley the highway from Salzburg by the Radstädter Tauern (§ 52, Rte. E) joins our road. There is here a good country inn at the Post, a pretty church, restored of late years, and a stately Schloss belonging to Prince Porcia. Omnibuses ply twice a day to the railway-station at Villach. The pedestrian may, by a slight detour, take the Millstädter See (§ 55, Rte. F) on his way to Villach, or to the next post-station at

Paternion (1,704'), a small village with an indifferent inn, standing on the rt. bank of the Drave. The road crosses the river about 3 m. higher up, and near the bridge the traveller, in

clear weather. gains a fine view up the Möllthal, with some of the peaks of the Hochnarr range in the background. At *Nickelsdorf*, less than a mile below Paternion, the traveller who has taken the way from Greifenburg by the Weissen See rejoins the high-road. (See § 62, Rte. G.) This henceforward keeps to the rt. bank of the river through the green and fruitful valley. The declivity on the rt. conceals from view the higher part of the Dobratsch (7,067'), which forms the last massive link in the chain dividing the Drave from the Gailthal. Not being strictly parallel, these streams converge in an open space, traversed only by low hills, at the NW. corner of which, near the base of the Dobratsch, stands, 1,593 ft. above the sea,

Villach (Inns: Post, Goldenes Lamm), described in § 55, Rte. A.

ROUTE B.

LIENZ TO HEILIGENBLUT—ASCENT OF THE GROSSGLOCKNER.

	Stunden	English miles
Winklern . . .	3	8
Döllach . . .	3	8½
Heiligenblut . . .	2	5
	8	21½

Road passable for light carriages. A pedestrian following the foot-path over the Iselsberg may easily perform the whole distance in 7 hrs.

Heiligenblut is deservedly a favourite resort of tourists in the Eastern Alps;

and whatever rivals may hereafter arise, when the region is more fully known to travellers, this must ever remain one of those choice peculiar spots where the memory stores up images of grandeur and beauty never to be effaced. It cannot, indeed, rival in variety such centres as Zermatt, Chamouni, Lauterbrunnen, and others that occur to every Alpine traveller; the interest is here concentrated on a single peak and a single glacier. The picture is varied only by the changing lights and shadows of morning and evening, clouds or serene sky, sunshine and moonshine; but it is hard to say how it could be imagined more perfect. The exquisitely sharp cone of the Grossglockner, rising in an unbroken slope of 5,000 ft. above the Pasterze Glacier, is not surpassed for grace and elegance by any in the Alps. The ascent, though it cannot be called easy, is, with competent guides, perfectly safe, and can be accomplished with little fatigue, so that it is annually achieved by an increasing number of travellers. The village is now accessible by road from the S. side, and by a moderately easy path from Gastein (described in § 52, Rte. B). Besides these ordinary modes of access, there are several mountain or glacier paths noticed in the following routes. It must be owned that the accommodation falls far short of what is found at equally frequented places in Switzerland; but, except when overfull, the inn is tolerably comfortable.

The pedestrian, starting from Lienz, will save little time by taking a carriage to Heiligenblut; but, of course, the case is altered in descending the valley of the Möll from that place to Winklern. It is, however, a good plan to avail oneself of any passing diligence or Stellwagen for the 3 m. of dusty road between Lienz and *Dölsach* (2,384'), a village on the l. of the high-road to Villach, at the foot of the *Iselsberg*. This is a low isthmus, connecting the range of the Hochschober to NW. with that of the Kreuzeck to E., and thereby

separating the valley of the Möll from that of the Drave. It rises only about 1,500 ft. above the latter, and about 800 ft. above the former, stream. The carriage-road winds up the slope above Dölsach, while the path keeps to the rt., passing near the old castle of Wallenstein. The summit of the low pass is indicated by a cross marking the frontier between Tyrol and Carinthia, near a country inn called Auf der Wacht (3,820'). During the ascent, the traveller will not fail to turn round to enjoy the view over the valley of the Drave, and the fine group of dolomite peaks rising behind it, culminating in the Kreuzkofel (8,979). This is particularly striking when the passage of the ridge is made in the opposite direction. Leaving, on the rt. hand, a mineral spring with baths, the road descends to *Winklern* (3,186'), a village standing on the slope above the S. bank of the Möll, which, after flowing nearly due S. from Döllach, here turns sharply to the E. A post-carriage runs three times a week to Spittal (§ 52, Rte. C). A char hence to Heiligenblut costs 4 fl. The inn, kept by Herr von Aichenegg, a small proprietor of old family, is very good and reasonable. The road to Heiligenblut, rough in places, descends to the level of the Möll, and then crosses to the l. bank, running a little E. of N., as far as *Mörtschach* (3,185'). The valley is enclosed between two high groups of crystalline slate peaks. That on the E. side is a lateral branch of the Hochnarr range, and the much higher mass to the W. is the Schober group, whose highest summits are the Petzeck and Hochschober. Above Mörtschach, the road returns to the rt. bank, and soon reaches the opening of the *Wangenitzthal*, a steep lateral glen, whose torrent flows from a lake (*Wangenitzsee*), at the unusual height of 8,262 ft. There is said to be another smaller lake, or tarn (*Kreuzsee*), a still higher level, close to a pass, called *Seescharte* (8,452'), over the ridge dividing this from the Debanthal. On the N. side of the Wangenitzsee rises a high snowy range,

crowned by the *Petzeck* (10,761'), the summit of which may be reached from the lake. In going from Heiligenblut to Lienz, the active mountaineer may easily take the *Seescharte* on his way, descending to the Drave through the Debanthal (Rte. A). About 3 m. N. of the opening of the Wangenitzthal, the road, after recrossing to the l. bank of the Möll, reaches

Döllach (3,372'), with a very fair country inn—Beim Ortner. The village was once a prosperous place, when the mines in the adjacent Zirknitzthal gave abundant occupation to the natives. Since these have been abandoned, the place has decayed. Several of the best guides in the valley live here, but are oftener to be found at Heiligenblut. The Zirknitzbach, which flows through the village, forms a remarkably fine waterfall in a deep ravine at the lower end of the Zirknitzthal. It is accessible in 10 min., and should not be missed. For a notice of the glacier passes leading to Rauris, see § 52, Rte. B. A remarkably fine view of the entire valley, and the Pasterze Glacier, is gained from the *Stanziwurdi* (8,873'), the summit of which may be reached in 4 hrs. from Döllach. The road now follows the l. bank of the Möll in a NNW. direction. At Putschal, about 2 m. above Döllach, the opening of the *Grattenthal* is seen on the W. side. It is a wild glen, whose head is enclosed by the highest snowy summits of the Petzeck and Schober group. The main valley is now narrowed between the bases of the mountains on either hand, barely leaving space for the Möll, which chafes and rages in its narrow channel, partly blocked up by rocks that have fallen from the adjoining heights. The road crosses and recrosses the stream, and passes opposite a pretty waterfall of the Staubbach family, called Jungfernsprung. The *Brennkogel* (9,894'), the easternmost of the high mountains enclosing the head of the valley, now comes into view, but, though near at hand, no part of the great peak is yet seen. It is only after passing the

hamlet of *Pockhorn* (3,568'), and crossing the *Fleiss* torrent, which descends from the glaciers of the *Hochnarr*, that the valley opens to WNW., and the beautiful peak of the *Glockner* is revealed to view. The exquisite apparition is soon lost again, as a low intervening ridge comes in the way. The road begins to mount rather steeply. A path to the l. leads past a fine fall of the *Möll*, called the *Zlapp*, which can be seen by the pedestrian without any loss of time. From the waterfall, he should follow the path that mounts by the l. bank, and rejoin the road a short way from

Heiligenblut (Inn: *Glocknerhaus*; was burned down in 1864, has been rebuilt and improved in most respects; charges rather high, but accommodation very fair, when the house is not overfull), a small group of houses, with a very picturesque church in old German style, standing 4,264 ft. above the sea, on a terrace about 200 ft. above the l. bank of the *Möll*. As already said, the situation of this place is perfect. The view of the *Glockner* surpasses anything of the same kind to be gained from any inhabited place, not reckoning the mountain inns of Switzerland, and enough is seen of the lower part of the great *Pasterze Glacier* to excite, without fully satisfying, the traveller's curiosity and activity. The British traveller, smitten with the plague of haste, may accomplish in one day the indispensable excursion to the *Pasterze Glacier*, or may even combine it with the walk hence to *Fusch* or to *Kaprun* (Rtes. C and D); but the wiser few will linger many days, and may vary the enjoyment of the grand scenery of the main valley by excursions into the *Gössnitzthal*, and other recesses of the surrounding Alps.

The visitor who can put up with rather rough accommodation, and prefers a quieter spot than the frequented inn, may find fair accommodation, civility, and moderate charges, at a little inn in the hamlet of *Fleiss*, about $\frac{1}{2}$ hr. above *Heiligenblut*. It is kept by *Tribuser*, 'der *Fleissner*,' commands a

remarkably fine view, and is chiefly frequented by German artists.

Heiligenblut is the only place in the Austrian Alps where there is a regularly organised corps of guides with a fixed tariff. The charges are rather high for the country, but cannot be called extravagant, when it is remembered that, at the ordinary exchange, the florin is scarcely worth more than 2 francs, except that 15 lbs. is an unreasonably low allowance for a porter.

The following tariff contains also the charges for horses and chars. Some slight changes may have been recently introduced:—

GUIDES AND PORTERS.

	fl. kr.
To <i>Gössnitz Waterfall</i>	0 20
„ <i>Leiter do.</i>	0 80
„ <i>Wolfganghütte, Brettboden, Franz-Josephs-Hütte, Johannes-Hütte</i>	1 60
„ <i>Johannes-Hütte and back across the Pasterze Glacier</i>	2 0
„ <i>Kaiser Thörl</i>	2 0
„ <i>Kals</i>	3 15
„ <i>Salmshöhe</i>	3 15
„ <i>Döllach</i>	0 70
„ <i>Mörtschach</i>	1 40
„ <i>Winklern</i>	1 75
„ <i>Hochthor</i>	1 5
„ <i>Fuscher Wegscheide</i>	1 30
„ <i>Fuscher Thor</i>	2 0
„ <i>Ferleiten</i>	4 20
„ <i>Fusch</i>	5 80
„ <i>Pasterze Glacier and over Pfandscharte to Ferleiten</i>	5 0
„ <i>Tauernhaus in Rauris</i>	3 0
„ <i>Rauris or Bucheben</i>	5 0
„ <i>Bucheben and over the Stanzer Scharte to Bad Gastein</i>	7 0

A guide or porter is obliged to carry 15 lbs. luggage for the above rates of pay, and for every lb. in excess 2 kr. per lb. per Stunde *distance*. No claim for *Trinkgeld* is allowed.

HORSES (RIDING AND BAGGAGE).

	fl. kr.
To the <i>Leiter Waterfall</i>	1 80
„ <i>Wolfganghütte</i>	2 0
„ <i>Brettboden or Wallnerhütte</i>	3 30
„ <i>Hochthor</i>	2 60
„ <i>Rauris or Bucheben</i>	10 0
„ <i>Fuscher Thor</i>	3 60
„ <i>Ferleiten</i>	10 0
„ <i>Fusch</i>	11 0

A horse cannot, at the same time, serve for riding and baggage, nor is the driver compelled to act as porter.

CHARS (*Einspänner*).

	fl.	kr.
To Döllach	1	80
„ Mürtschach	2	60
„ Winklern	4	0
„ Stall	6	50
„ Obervillach	10	0
„ Lienz	9	0

Speaking generally, the Heiligenblut guides are good mountaineers, but fall far short of the better Swiss and Chamouni men in general intelligence and information. For the ascent of the Glockner, the charge, not included in the tariff, is now 8 fl. 50 kr. per guide, and 13 fl. when taken over the Pfandelscharte to Ferleiten. They do not now insist on the unreasonable rule of requiring two guides for each traveller, but usually insist on three guides for two travellers. The guides most highly recommended for glacier expeditions are Josef Tribusser (the best mountaineer), Anton Granögger (who ranks as chief guide), Anton Wallner, Christ. Pichler, Josef Lackner, Georg Bäuerle, and Johann Fritz.

The neighbourhood of Heiligenblut is, in an especial sense, classic ground to the lover of Flora. For nearly a century Wulfen, Hoppe, Hornschuch, Schultes, and the succeeding generation of Austrian botanists, have made this their favourite resort. Unfortunately, the avidity of collectors has nearly, if not quite, extirpated some of the rarest species, but an ample harvest still remains to be gathered by an active explorer. A list of the more interesting species is given lower down.

Heiligenblut derives its name from a precious relic found on the person of St. Briccius, a pious Dane, who, after serving the Emperor Leo as a valiant general, was lost in a snow-storm on his homeward journey over the Hochthor. The legend, copied from a little work called 'Der Führer in Kärnthen,' is incorrectly given by Messrs. Gilbert and Churchill in their well-known work. The correct version will be found in Sonklar's 'Reiseskizzen aus den Alpen und Karpathen.' The traveller should not fail to visit the church where the

relic is preserved in an elaborate richly carved shrine.

What may be called the *indispensable* excursion from Heiligenblut is that to the *Pasterze Glacier* (locally called *Pasterzenkees*); and, in truth, whatever other expeditions a traveller may make, even though he should ascend the Glockner, or one of the other high summits that look down on the glacier, he will do unwisely if he fail to traverse at least some part of its surface. Though not nearly equal in dimensions to the greatest glaciers of the Swiss and Savoy Alps, this measures about 6 m. from its lower end to the bounding ridge of the Hohe Riffel, which is as great a space as the eye can well take in at the same moment, and the view of the Glockner, as seen from the lower glacier, is not surpassed by any of the same character in the Alps.

The path from Heiligenblut to the glacier descends a little towards the Möll, and crosses to the opposite bank, but in about $\frac{3}{4}$ m., on approaching a point where the torrent from the Gössnitzthal joins the Möll from the SSW., and the Tauernbach from the N., the track to the glacier returns to the l. bank, and then traverses the last-named torrent. At this spot, called

Winkel (4,335'), the last group of houses is left behind. The ascent now becomes steeper, and, though the upper course of the Möll is nearly one continuous cataract, it has cut so deep a cleft in the rocks that it is lost both to the eye and the ear. The Briccius-Kapelle (5,348'), a small oratory, is reached just opposite the spot where the Leiterbach descends, in a very fine waterfall, to the level of the main valley.

From this point, the head of the valley is locally called *Pasterzenthäl*, and the stream issuing from the great glacier *Pasterze*. The path ascends gradually along the steep slope, and, about $\frac{1}{2}$ hr. beyond the chapel, divides. That on the l. hand, which is somewhat shorter, was formerly considered dangerous, and obtained the name *Böse Platte*; but it has been so much improved that ladies

may pass without hesitation. The ascent continues over a rounded eminence called Ochsenbrett, and from the summit the lower portion of the Pasterze Glacier for the first time comes fully into view. Since the visit of the present Emperor and Empress of Austria in 1857, this spot, reckoned 3 hrs. from Heiligenblut (very easy going), is called Elizabethsruhe. However fine the view from hence may be, it gives a very incomplete idea of the extent of the glacier, and the traveller who does not intend to prolong his walk much farther should at least mount to the *Sattel*, an adjoining eminence, whither on that occasion the Emperor was conducted, and which then received the name *Franz-Josephs-Höhe* (8,323'). Those who extend the excursion to the upper end of the main reach of the glacier will be well rewarded.

A brief description of the *Pasterze Glacier* will be here in place. Like all great glaciers, it consists essentially of two portions—an upper basin of névé, where the snow is stored up and gradually converted into ice; and a lower ice-river, whose volume is proportioned to the extent of the reservoir. The basin—locally called *Oberster Pasterzenkees*—is in form a nearly rectangular parallelogram, with sides rather more than 2½ m. in length. Beginning at the SW. corner, the boundary runs nearly due N. from the *Schneewinkel* (11,591'), over the summit of the *Johannisberg* (11,425') to the *Hohe Riffel* (11,003'), dividing the Carinthian Möllthal from the Salzburg valley of Stubach. From the *Hohe Riffel*, the bounding ridge runs eastward to the *Vorder-Bärenkopf* (10,507'), and the *Mittel-Bärenkopf* (10,976'), dividing the Möllthal from the Kapruner Thal. From the *Mittel-Bärenkopf*, the main range between Fusch and the Möll extends to SE.; but the chief basin of the glacier is limited by a ridge, for the most part covered with ice, that extends a little W. of S. to the *Gross-Burgstall*. On the E. side of this latter ridge is a much smaller snow basin, which sends a tributary glacier to join the main stream on the SE. side of the

Gross-Burgstall. On the S. side, the great névé basin is limited by a projecting ridge extending eastward from the *Romariswand* to the *Klein-Burgstall*. The main outlet of this reservoir is through the opening between the *Klein-* and the *Gröss-Burgstall*. These are two high rocky cliffs, covered at the top with névé, but presenting a bold front to the lower glacier. The upper ice-fall terminates between these barriers at a height of about 8,300 ft., and thence the majestic ice-stream flows in a straight course for about 3 m., preserving a gentle slope till it reaches the base of the *Franz-Josephs-Höhe*. From that point, where the height of the glacier above the sea-level is about 7,800 ft., it descends in two very fine ice-falls, of which the lower is visible from *Heiligenblut*, a height of more than 1,500 ft. in a horizontal distance of less than a mile.

We have seen that the upper reservoir of the *Pasterze* is enclosed on three sides by ridges that form part of the main chain dividing Salzburg from Carinthia. The glacier proper, from the two *Burgstalls* to the foot of the lower ice-fall, flows between two parallel ridges, of which the shorter, but by far the most remarkable, is the *Grossglockner* range. This diverges from the main chain at the above-mentioned peak of the *Schneewinkel*, and extends SSE. a distance of rather more than 6 m. The first prominent point is the *Romariswandkopf* (11,632'); to this, after a slight depression, succeeds a singular rocky ridge of excessive steepness, and nearly horizontal at the top, appropriately named *Glocknerwand* (12,182'), and then, after another depression, not seen from the lower part of the glacier, the range rises at once to its culminating point in the NNW. peak of the *Grossglockner* (12,455'), scarcely separated, as seen from below, from the adjoining SSE. peak, some 50 ft. lower. A long slope, at first very steep, then gentle, leads downward to the *Hohenwartschartz* (10,359'), to which succeeds the *Kellerberg* (10,687'), and other summits in gradually descending

order, till the range terminates in the *Vord r-Leiterkopf* (8,180'), which overlooks the junction of the Leiterbach with the Möll. On the opposite side of the glacier, the valley of the Möll is divided from that of Rauris by the range extending from the Mittel-Bärenkopf to the Hochthor (see next Rte.), whose chief summits are the *Breitkopf* (10,320'), *Fuscher Kahrkopf* (10,957'), *Sinewelleck* (10,732'), *Spillmann* (9,960'), and *Brennkogel* (9,895'); but the glacier stream is immediately confined by a steep ridge called the *Freiwand* (9,960'), that diverges from the Fuscher Kahrkopf nearly parallel to the main range, and excludes from view all the other summits named above.

Between the Ochsenbrett and the Franz-Josephs-Höhe the Pfandelbach, descending from the Pfandelscharte (see next Rte.), crosses the path to the glacier. It is traversed by a wooden bridge, beyond which is the Wallnerhütte (6,762'), a rude stone hut. Then commences the moderately steep ascent, leading in 1 hr. to the summit of the Franz-Josephs-Höhe, a point which will remind the traveller in many respects of the Pavillon on the Mont Anvert, near Chamouni. A descent of about 400 ft. leads to the lateral moraine, whence access to the glacier is quite easy. Here the traveller must decide as to his course. The guides usually lead strangers to the *Hoffmannshütte*, formerly called *Johannishütte* (8,026'), a stone hut on the slope of the Freiwand, reached from hence in $\frac{3}{4}$ hr. Above it, towards the peak of the Fuscher Kahrkopf, is a stony slope called *Gamsgrube*, famed as a habitat for many rare plants. The hut, originally built at the cost of the late Archduke John, was rebuilt at the expense of the late Mr. Hoffmann, who fell in the war of 1870. It affords comfortable night-quarters. From hence the summit of the Fuscher Kahrkopf may be attained in less than 3 hrs. Except for the botanist, the best way of employing 3 or 4 hrs. which are devoted to the Pasterze Glacier, is to traverse the centre of the

great ice-stream to the base of the upper ice-fall. With ordinary caution the excursion is free from risk or difficulty. In about 3 hrs. from the time when he first touches the ice, the traveller may reach the base of the upper ice-fall between the Gross- and Klein-Burgstall, visit the base of both, which are found to be more considerable cliffs than they appear at a distance, and return to his starting-point. In warm weather, ice-avalanches constantly fall over the face of the Gross-Burgstall, and care should be taken to avoid their track.

Among the other excursions from Heiligenblut, most of which are noticed in the following Rtes., the *Gössnitzfall* deserves especial mention, not only for the waterfall itself, but for the striking scenery of the savage glen leading to it: 1 hr. suffices for going and returning.

To the mountaineer, the most attractive excursion from Heiligenblut is the ascent of the *Grossglockner*. Like other expeditions of the same kind, this long enjoyed the prestige of difficulty and danger, but of late years it has been often accomplished by travellers who possessed little previous training. There are now four ways for making the ascent, two starting from Kals, and two from Heiligenblut (see Rte. H).

The old course from Heiligenblut lay by the head of the *Leiterthal*, whose torrent joins the Möll opposite the Briccius-Kapelle, mentioned above. The path crosses the torrent from the Gossnitzthal opposite Winkel (see above), and mounts diagonally along the slope on the SW. of the main valley, till, at the Sennhütten of the Trogalp, it enters the Leiterthal at a high level, much above the waterfall that is admired on the way to the Pasterze Glacier. Traversing the torrent about $1\frac{1}{2}$ hr. from Heiligenblut, the path turns about due W. along some steep rocks. This passage is called the *Katzensteig*, and has somehow acquired a reputation for difficulty which can scarcely be detected by anyone accustomed to mountain walk-

ing. About 1 hr. from the bridge over the Leiterbach, the traveller recrosses the torrent to the *Leiterhütte* (6,640'), supplying rough quarters for the night; better, however, than in the Ochsenhütte, another hut rather higher up in the valley. It is advisable to start hence before daylight, as the remainder of the way through the Leiterthal, as far as the foot of the glacier, may be easily accomplished with the aid of a lantern, and better still, in the writer's opinion, without it. The opening seen in the range to the l. is that of the Peischlagthal, through which lies one of the paths to Kals. The ascent becomes rather steeper, but nowhere difficult, and in less than 2 hrs. from the Hütte the traveller reaches the moraine at the foot of the *Leiter Glacier* (locally called *Leiterkees*). Here formerly stood a stone hut, built at the cost of Count Salm, Prince Bishop of Gurk, to whose active personal intervention the first ascents were mainly due. It was destroyed several years ago by the advance of the glacier.

The Leiter Glacier is divided into two branches by a buttress of rock projecting from the steep mass of the *Hohenwartkopf* (10,792'); between this and the equally steep rocks of the *Kellerberg*, a couloir leads from the E. branch of the glacier to the *Hohenwartscharte* (10,359'). This is the lowest point to which the ridge of the Glockner sinks on the ESE. side, and to this the traveller's steps are directed. The glacier is easily traversed, but as it rises towards the couloir it increases in steepness, and finally attains a slope of nearly 40°. If the névé be hard frozen, as usual in the early morning, reasonable care is requisite, as a slip might have awkward consequences. On reaching the summit, the traveller stands on the ridge leading by a continuous ascent to the highest peak. For a considerable distance, the slope is so gentle, and the ridge so broad, that the course is remarkably easy. The *Hohenwartkopf*, which looked so conspicuous from the *Leiterkees*, here shows as a mere snow-hillock,

which the traveller passes on his l. hand. The name was given in compliment to Count Hohenwart, a canon of Klagenfurt, who, in 1799, reached the E. peak of the Glockner for the first time, and three years later also attained the highest summit. The last halt in the ascent is usually made at the *Adlersruhe* (11,339'), a point where some shattered rocks slightly project through the covering of névé, elsewhere continuous along the ridge. Here are seen the roofless walls of a little hut, erected by the earlier explorers. From the *Adlersruhe*, the Glockner peak shows itself in full beauty, as an excessively sharp snow cone, sloping on the S. side at an angle of 60°, while on the other hand the somewhat irregular edge of the arête, in places actually overhanging, is seen against the sky. For some distance, the slope is still moderate, but increases rapidly after crossing the *Bergschlund*. When it reaches 40°, if not sooner, it is expedient to cut steps, taking care not to approach too close to the edge overhanging the *Pasterze Glacier*. The steep part of the arête is about 600 ft. in vertical height, and the maximum inclination observed by the writer 47° (49° according to *Schlagintweit*). The slope on the l. hand, towards the *Ködnitzkees*, in some places attains an angle of 67°, while on the rt. hand it approaches still more nearly to the vertical. The first peak, about 12,400 ft. in height, had always been found a snow-ridge, varying in sharpness and in form with the season; but in 1861 it was for the first time seen bare of snow. The difficulty of the Glockner ascent formerly lay in the passage from the first to the second peak. The arête is excessively narrow, and at the gap between the two peaks there is an awkward drop of from 15 to 20 ft., which lands the traveller on what may be truly described as a knife-edge of hard-frozen snow, that bridges over the chasm. A wire rope fastened to the rock now makes the descent easy and safe. A more direct and, on the whole, a more interesting way to ascend the Glockner is that from the side of the

Pasterze Glacier. The E. face of the highest peak appears, indeed, to be impracticable, but the portion of the ridge below the Adlersruhe is less steep, and a small glacier there falls rapidly towards the Pasterze. Though the lower part of this glacier is steep, and in some seasons a good deal crevassed, it does not oppose a serious obstacle to practised ice-men. The course now preferred by most mountaineers is to sleep at the Hoffmannshütte, and then, crossing the main glacier, ascend to the Adlersruhe, and thence by the course above described to the summit. With the snow in good order active walkers have made the ascent in less than 4 hrs. from the hütte. After crossing the snow bridge, the ascent of the final peak is a mere bit of pleasant rock climbing. Every traveller knows that the view from a peak 12,455 ft. in height, and with no loftier rival within more than 100 m., must be of almost boundless extent, but the view from the Glockner has the further advantage of showing a vast region which is imperfectly known to ordinary travellers. The dolomite Alps, from the Marmolata to the Terglou, are amongst the most interesting objects; westward the eye reaches to the Bernina; northward, over the plain of Bavaria to the neighbourhood of Ratisbon; and to SE. to the mountains on the Bosnian frontier, fully 170 m. distant—the Klek, above Ogulin, S. of Karlstadt, being easily recognised. For such distant views, exceptionally favourable weather is, of course, the first requisite.

The ascent of the Grossglockner is briefly recounted by the late Dr. Brinton, in the 2nd series of 'Peaks, Passes, and Glaciers.' A more detailed narrative will be found in Colonel v. Sonklar's pleasant volume, 'Reiseskizzen aus den Alpen und Karpathen,' and in Dr. Ruthner's work, 'Aus den Tauern.' The reader who desires accurate information as to the topography and hypsometry of this and other portions of the High Tauern range will refer to Sonklar's important work mentioned in the

introduction to this section. In their work, entitled 'Untersuchungen über die physikalische Geographie der Alpen,' the brothers Schlagintweit have given the results of their laborious examination of the Pasterze Glacier and the surrounding ranges; but, unfortunately, that work and the accompanying map contain many errors of nomenclature, and some of their determinations of altitude differ widely from the results subsequently obtained. The height given by them for the Grossglockner, derived from a single barometric observation, is 12,958 ft. That adopted by Sonklar, which is the mean of four closely concordant trigonometric observations, differs by more than 500 ft.

Of other expeditions from Heiligenblut that may be recommended to practised mountaineers, the ascent of the Brennkogel is noticed in Rte. C; and the chief glacier passes are mentioned in that and the following Rtes. For the ascent of the Hochnarr see § 52, Rte. B.

The only excursion of any importance that remains to be noticed is the ascent of the *Johannisberg* (11,425'). This is the snow-clad cone seen in the background from the Franz-Josephs-Höhe, and, from the neighbourhood of Heiligenblut, to the rt. of the Glockner range. The only account of the ascent known to the writer is that given by Dr. Ruthner, save a brief notice in the travellers' book of the hotel at Heiligenblut, of a previous ascent in 1844. The chief interest of the excursion lies in the experience that is gained of glacier scenery and glacier travelling in all its forms, and the view from the summit is remarkable rather for the vast tract of snow and glacier, that is seen on every side, than for the distant panorama. In these respects it appears to the writer that the Mittel-Bärenkopf is at least as well situated, while it is far more conveniently accessible from Fusch than the *Johannisberg* from Heiligenblut. The way to the latter summit is by the steep and crevassed branch of the Pasterze Glacier that lies between the base of the Glocknerwand and the

Klein-Burgstall, and then by the convex snow-covered ridge that descends from the summit towards the Klein-Burgstall. Of course, the usual appliances and precautions for high glacier expeditions should not be neglected. The local guides here are not sufficiently aware of the importance of the rope as a safeguard. The main objection to this expedition rises from the rather tedious return along the great glacier over the same course that had been taken in the ascent. There can be no doubt as to the possibility of effecting a pass from Heiligenblut to the head of the Stubachthal (Rte. H) by the *Oedenwinkelscharte* (10,473'), which is the lowest point in the ridge connecting the Johannisberg with the Schneewinkel, and the ascent of the former peak might well be taken on the way. Dr. Ruthner passed a miserable night at the Wallnerhütte, near the lower end of the Pasterze Glacier. Most travellers will prefer to start from Heiligenblut some 2 or 3 hrs. before daybreak.

To the botanist who may devote a few days to the neighbourhood of Heiligenblut, a notice of the localities for some of the rarer species will be acceptable.

The steep slope on the l. side of the path, just below the lower end of the Pasterze Glacier, is called Die Margaritzen. Here may be found *Juncus castaneus*, *Tofieldia borealis*, *Kobresia caricina*, *Carex bicolor* and *C. ustulata*, *Festuca Scheuchzeri*, &c. The slopes on the NE. side of the Pasterze, and especially the Gamsgrube, produce many of especial interest, e.g. *Ranunculus pyrenaicus*, *Braya alpina*, *Draba Zahlbruckneri*, *D. Johannis*, and *D. Wahlenbergii*, *Dianthus barbatus* and *D. glacialis*, *Phaca australis* and *P. frigida*, *Semprevivum Braunii*, *Cineraria longifolia*, *Saussurea alpina* and *S. discolor*, *Leontodon Taraxaci*, *Soyeria montana*, many forms of *Hieracium*, *Gentiana nana* and *G. prostrata*, *Pedicularis asplenifolia*, *Androsace alpina*, *Primula longiflora*, *Allium victoriale*, *Carex fuliginosa*, *C. Gebhardi*, and *C. claviformis*. On the way towards the Hochthor (Rte. C),

and on the slopes on either hand, are found *Oxytropis triflora*, *Leontodon Taraxaci* and *Lomatogonium carinthiacum*, with other rare species. The last-named plant flowers about the beginning of September, and is scarcely to be detected at other seasons. Towards the head of the Leiterthal may be gathered *Ranunculus rutefolius*, *Viola pinnata*, *Lychnis alpina*, &c. The localities here cited, and the ravine of the Fleiss, also produce many very rare mosses. The Apollo butterfly is common on the way to the Pasterze, and a great variety of alpine coleoptera will reward the research of the entomologist. Here, as elsewhere in the Alps, a varied flora indicates variety in the mineral structure of the surrounding ranges. The Grossglockner and the adjoining ranges are now held by geologists to be composed of metamorphic rocks of palæozoic age, which are distinguished from the crystalline slates and gneiss, that prevail throughout the central range, by the presence of a larger proportion of lime and magnesia. There is a considerable outburst of serpentine on the N. side of Heiligenblut, and it seems to form part of the Glockner range.

ROUTE C.

BRUCK, IN PINZGAU, TO HEILIGENBLUT,
BY THE FUSCHER THAL—ASCENT OF
THE VISCHBACHHORN.

In the last Rte., the most frequented road for travellers who visit Heiligenblut from the S. has been described. Of those who approach that place from the N. side, probably the larger number take the way by Gastein (§ 52, Rte. A), attracted by the European reputation of that fashionable watering-place; but those who travel mainly to enjoy grand natural scenery will doubtless prefer the far more beautiful route through the *Fuscher Thal*, locally called *die Fusch*, which pours a copious torrent into the Salza, at Bruck (§ 50, Rte. A), in the Pinzgau. It has the advantage of offering a variety of passes across the main chain to suit the taste and strength of different classes of travellers.

Leaving the high-road at Bruck, the traveller crosses the bridge over the Salza, and keeps due S. along the rather rough road leading to the chief village of the valley. Some glimpses are gained of the glaciers of the Brennkogel, the summit of which is well seen from Bruck; but there is no object of special interest in the space—about 1 hr. in a char, or 1½ hr. on foot—between that village and

Fusch (2,631'), only 187 ft. above the bridge at Bruck. It has a very fair, though somewhat rustic, inn, but strangers are much better off at the baths. The village stands at the junction of the Hirzbach with the main torrent. That torrent originates in a glacier on the N. declivity of the *Hochtenn* (11,059'), and, after flowing about 3 m. a little E. of N. to the Hirzbachalp (5,633'), turns due E., and descends to Fusch, near which it forms a fine cascade. The *Hirzbachthal* contains much to interest the mineralogist and the botanist, and the scenery at its upper end is very fine.

The road is just passable for light vehicles as far as *Empacher*, about 2 m.

above Fusch, but it is so rough that most travellers prefer to walk. Those bound for the baths should prefer the very agreeable path on the E. side of the valley, partly shaded by fine sycamores. This leads in 1½ hr. to the baths at the hamlet of *St. Wolfgang* (3,750'), which is more generally known as *Fuscher Bad*. *St. Wolfgang* stands at some height above, and nearly a mile E. of the main valley, at the lower end of the lateral glen of the *Weichselbach*. The baths have long been known, and a fine church formerly stood near to them. This, with the ancient bath-house and other buildings, were utterly destroyed by a great avalanche at the beginning of the last century. The present church was then built in a securer spot some way from the older edifice. Three buildings for the reception of guests are near at hand, all belonging to Gr. Mayer, who is an experienced chamois-hunter, and is well acquainted with the neighbouring Alps. When these buildings are full, as sometimes happens in the height of summer, accommodation may be found in another house belonging to J. Holzer, better known as *Fuscher Hans*. He is an excellent guide, and acquainted with the habitats of many rare plants. His daughter also follows the profession of guide.

Besides those who resort to this place for the sake of the baths, usually as a sequel to the regular course of Gastein waters, it is in increasing favour with German tourists, either as head-quarters for Alpine excursions, or for the more tranquil enjoyment of the beautiful scenery of the neighbourhood. The preference shown to it is well deserved; for though no single peak here equals the Glockner, and no glacier approaches in beauty or extent the Pasterze, most mountaineers will prefer this for a prolonged stay. The rock scenery of the upper valley is of the highest order, and the immediate neighbourhood is laid out with some regard to the enjoyment of visitors, while admirable points of view, in which the noble peak of the *Vischbachhorn* is the most prominent

object, are near at hand. The water of the mineral spring is used both for warm baths and internally, and perhaps the beneficial effects experienced in cases of weak digestion and delicate nerves are not diminished by the fact that the mineral ingredients exist only in minute quantities. To the taste the water differs in no respect from that of the purest spring.

M. Mayer, the Badmeister, rents the shooting of the valley, and readily gives his guests permission to follow game, and to shoot at, and even to kill, chamois, if they can.

The best guides here are Anton Hutter, Jakob Erlinger (otherwise Wintinger), and the above-named Fuscher Hans.

Among the many excursions to be made from the baths, it is enough to point out those most likely to interest travellers of various capacities. Those who cannot undertake more than a mere stroll may best ascend the *Kasereck* (5,245'), easily reached in 1½ hr. It lies northward of the baths, and immediately overlooks the main valley of Fusch. A much more extensive panorama is gained from the *Kühkahrkopf* (7,443'), NE. of St. Wolfgang, reached in 3 hrs. by an easy walk over Alpine pastures. This is better suited for ladies than the ascent of the *Schwarzkopf* (9,072'), which rises nearly due S. of the baths, exactly opposite the Vischbachhorn, and is the highest point in the range dividing Fusch from Rauris. There is no difficulty in the ascent, but a snow slope of some extent usually must be crossed, and the way, over shattered rocks, is in places very rough. The panorama is one of the finest to be gained from a summit of such moderate height, and decidedly superior to that from the Gamskahrkogel above Gastein (§ 52, Rte. A). The view from the *Grosskopf* (7,290') is not quite equal to that from the Kühkahrkopf, but it lies convenient for the traveller taking the pass of the Weichselbachwand (§ 52, Rte. B), and can be ascended with very little loss of time. The ascent of the Vischbachhorn, which

is for a practised mountaineer the most attractive object in this valley, is noticed lower down. Those who do not attempt any of the glacier passes described below should on no account fail to go as far as the Trauner Alp, and visit the adjoining glen of the Käferthal.

Whichever route to Heiligenblut the traveller may intend to take, he must follow the main valley for a distance of fully 2 hrs. above St. Wolfgang. If he start from that place, he should take a path along the E. side of the Fuscher Thal, which at first keeps at a great height above the stream. It is narrow, rough in places, with many ups and downs, but very agreeable, at times enjoying the shade of fine old pine trees, at others commanding fine views of the snowy peaks at the head of the valley. It finally approaches the level of the Fuscher Ache, and crosses to the l. bank, where it joins the ordinary track from the village of Fusch, a short way below

Ferleiten (3,772'), a hamlet with a few poor-looking houses. Formerly there was no accommodation for strangers except at the *Tauernhaus*, a sort of chalet inn which is to be found in most of the valleys of this district at the foot of each of the frequented passes leading across the main chain. Of late years, an inn has been opened, which supplies tolerably good quarters. There have been some complaints of excessive charges. The situation is very fine, commanding grand views, and convenient for glacier excursions. The head of the Fuscher Thal is divided from that of the Möll by the portion of the main chain extending from the Mittel-Bärenkopf to the Brennkogel. (See description of the Pasterze Glacier in last Rte.) Though it does not include any first-rate peak—the highest being the Fuscher Kahrkopf (10,957')—this opposes a formidable barrier between the adjoining valleys. It sinks at one point only—the Pfandelscharte—below the level of 9,000 ft., but that depression is guarded by a small glacier, and the only way practicable for beasts of bur-

den is by traversing the ridge on the N. side of the Brennkogel to the head of one of the branches of the adjoining valley of Rauris, and thence reaching Heiligenblut by the Hochthor pass. From the Mittel-Bärenkopf, a very high range extends to NE., which culminates in the Vispachhorn, and divides the upper part of Fusch from Kaprun.

The passes leading from Ferleiten to Heiligenblut are now to be noticed.

1. *By the Fuscher Thörl and Hochthor*, 7 to 8 hrs., exclusive of halts.—The path follows the l. bank for about $\frac{1}{2}$ hr. above Ferleiten; and, on reaching the first group of *hütten*, crosses the main torrent, and commences the ascent to the Fuscher Thörl. It should be remembered that no house of any kind is passed between this point and Heiligenblut, and the prudent traveller will carry some provisions for the journey. The slope is rather steep, but the path makes many windings, and is not easily missed. Half-way in the ascent is the Petersbrunnen (7,014'), an excellent spring. Beyond it, the ascent is more gentle, and in 3 hrs. from the point where he leaves the torrent, the traveller reaches the summit of the *Fuscher Thörl* (7,998'). Throughout the ascent, and at last from the summit, the traveller is often tempted to turn round and enjoy the grand views of the snowy peaks which he leaves behind him, and on this account this pass is taken to much more advantage from the Heiligenblut side. It lies on the N. side of the Brennkogel, and crosses the range that divides Rauris from Fusch. An outline sketch of the view from the summit is given in the 'Jahrbuch of the Austrian Alpine Club for 1867.'

The traveller must beware of descending from the Thörl to SE., along the course of a little stream that flows into the head of the Seidelwinkelthal (§ 52, Rte. B). His true direction lies nearly due S., along the stony slopes E. of the Brennkogel. The path at first descends a little, but remounts nearly to the level of the Fuscher Thörl before

it is joined by the path from Rauris, passing, on the way, a cleft in the rocks called Mitter Thörl. At most seasons of the year, considerable snow slopes lie on the N. side of the Hochthor; but in autumn these nearly disappear. The guides point out a place where a procession of pilgrims, going from Fusch to Heiligenblut on June 28, were surprised by a snow-storm, accompanied by piercing wind, and all but two were frozen to death. Posts are placed at short intervals, to mark the path when it is concealed by snow. About $1\frac{1}{2}$ hr. from the Fuscher Thörl, or $5\frac{1}{2}$ hrs. from Ferleiten, the traveller reaches the

Hochthor (8,551'), the easiest and most frequented pass over this part of the main range. On the S. side, Alpine pastures extend nearly to the summit, and the botanist will find many interesting plants (see last Rte.). The descent is at first gentle, gradually increasing in steepness. The view, which was not extensive as long as the track lay at the head of the Seidelwinkelthal, now opens over a wide range of distant peaks, in which those of the Schober group are the most prominent. About 1 hr. below the summit, the Grossglockner is for the first time uncovered, and no true mountaineer can behold that beautiful peak without longing to attain its summit. Amid very pleasing scenery, the sinuous path descends to *Heiligenblut* (described in the last Rte.).

2. *By the Pfandelscharte*.—Under ordinary circumstances, 7 hrs., exclusive of halts, from Ferleiten, is amply sufficient; but, with fresh and soft snow, another hour should be allowed. The local estimate of 11 hrs. from St. Wolfgang to Heiligenblut is certainly excessive. The pass of the Pfandelscharte and the small glacier leading to it are almost constantly in view as the traveller ascends to the valley above Ferleiten, and, in clear weather, the practised mountaineer has no need of a local guide for this pass. He should take care not to approach too near a spot where masses of ice fall from a higher level on the glacier near the

point where he first enters on it. Crossing the stream of the Füscher Ache by the same bridge that leads to the Füscher Thörl, the broad track, passable for carts that carry cheese down to Bruck, ascends gradually along the E. side of the valley—the views of the grand rock scenery opposite constantly increasing in beauty—till the traveller, in $1\frac{1}{4}$ hr. from Ferleiten, reaches the *Trauner Alp* (4,948'). The *Sennhütte* here, belonging to the innkeeper, Trauner Wirth, in Hundsdorf, near Bruck, is a large establishment, very superior to ordinary châteaux, and would be found a good stopping-place for the night by a traveller intent on a glacier expedition. Immediately W. of the Alp opens the grand rocky glen of the Käferthal, in which Dr. Ruthner counted fourteen waterfalls of the Staubbach family. The range at the head of the Fusch Valley, over which the traveller seeks a passage to Heiligenblut, extends nearly due eastward from the *Füscher Kahrkopf* (10,957') to the *Brennkogel* (9,895'), the chief summits (reckoned from W. to E.) being the *Sinewelleck* (10,733') and *Gamskahrkopf* (9,349'), then the adjoining peaks of the *Spillmann* (9,959') and *Kloben* (10,011'), which are connected by a high snow plateau with the *Brennkogel*. The *Pfandelscharte* lies W. of the latter peaks, dividing them from the *Gamskahrkopf*. The southern and highest summit of this latter mountain is sometimes called *Bärenkopf*; but, as there are already four adjoining peaks bearing that name, it is highly desirable that it should be laid aside. Going at a moderate pace, $1\frac{3}{4}$ hr. (or 3 hrs. from Ferleiten) suffice for the ascent from the Trauner Alp to the point where it is expedient to enter on the glacier, which is called *Schartenkees*. With moderate care, there is neither risk nor difficulty in the passage. To the l., a secondary glacier descends from the flanks of the *Kloben*, and masses of ice from above occasionally fall. The fragments seen on the glacier show the places which ought to be avoided. Towards the summit the ice

gives place to *névé*, which is easily traversed, as crevasses appear to be few and narrow. The slope diminishes in steepness, and the channel of the glacier, which has been confined between a range of rocks belonging to the *Spillmann* on the l., and another from the *Gamskarkopf* on the rt., opens out to the S., as the traveller attains the summit of the *Pfandelscharte*, 8,817 ft. above the sea, in $2\frac{1}{2}$ hrs. from the Trauner Alp. The view from the top of the pass is confined, and it is advisable to descend at least $\frac{1}{2}$ hr., bearing towards the slopes of turf on the rt. of the glacier, in order the better to enjoy the admirable view of the Glockner range and the great Pasterze Glacier, which is nowhere else seen to greater advantage. The active traveller, who has started in time from Ferleiten, or even from St. Wolfgang, may find time to make the slight detour to the *Johannishütte*, but most travellers content themselves with what they see without leaving the direct way. The faintly marked track descends by the rt. bank of the torrent, sometimes called *Pfandelbach*, sometimes *Schartenbach*, passing the *Schaflochhütte*, to the *Wallnerhütte*, where the traveller joins the beaten track leading from the Pasterze Glacier to Heiligenblut. That village is easily reached in $3\frac{1}{4}$ or $3\frac{1}{2}$ hrs. from the summit.

In fine weather, this pass, which is practicable for all persons moderately used to mountain excursions, offers two of the finest views in this region, and deserves to be reckoned among the finest in the Alps.

3. *By the Bockkahrcharte*, 8 hrs. from Ferleiten.—Although it is difficult to overrate the attractions of the *Pfandelscharte* Pass, many mountaineers will prefer a route leading more directly through the heart of the great mass of glacier lying between the Möll, Fusch, and Kaprun valleys. From the Fusch side, this must be approached by either of the considerable glaciers that descend into the *Käferthal*, which has been already mentioned as the highest SW.

branch of the Fuscher Thal, and is often visited by tourists from the baths of St. Wolfgang. To make the description of the route more clear, it is necessary to refer to the great range extending NNE. from the Mittel-Bärenkopf between Fusch and Kaprun, whose peaks exceed in height those of the adjoining portion of the main range. It will be seen by reference to the maps of Keil or Sonklar that this is a chain whose separate links are disposed in a direction transverse to itself, the chief summits being arranged in pairs, connected by four short parallel ridges, running WNW. to ESE. Beginning at the end nearest the main range, we have first the ridge connecting the *Gross-Bärenkopf* (11,470') with the *Hohe Dock* (10,909'); next that joining the *Glockerin* (11,356') with the *Bratschenkopf* (11,126'); followed by the less defined ridge which terminates towards Kaprun in the *Fochezkogel* (10,118'), and towards Fusch in the great peak of the *Vischbachhorn* (11,738'); and finally that connecting the *Klein-Vischbachhorn* (10,790') with the *Sandbodenkogel*. A promontory extending northward from the Klein-Vischbachhorn includes the peaks of the *Hochtenn* (11,059') and the *Brachkopf* (10,649').

As the southernmost of the ridges here mentioned is much higher than the parallel portion of the main range between the Mittel-Bärenkopf and the Breitkopf, it was long believed that the former constituted the NW. limit of the névé-basin of the Pasterze; and on Schlagintweit's and other maps that glacier is made to extend to the foot of the Hohe Dock. Through recent explorations, especially those of Dr. Ruthner and M. F. Keil, a considerable glacier, fully 2 m. in length, lying between the main range and the Hohe Dock ridge, has been made known and mapped. This is the *Bockkahrkees*. Descending to ESE. by the N. side of the *Breitkopf* (10,320')—also called *Bockkahrkopf*—it meets the *Fuscher Kahrkees*, which flows to NNE., by the E. side of the same summit, and the united ice-streams descend into the head of the Käferthal in a fine ice-fall, known as

the *Wasserfall-Gletscher*, where it reaches the level of 6,194 ft. The name is derived from the many waterfalls fed from the upper level of the glacier that fall over the rocks into the Käferthal. It was supposed in Fusch that the *Wasserfall-Gletscher* and both its upper branches were impassable, but Mr. Tuckett, with Christian Almer, in the course of an expedition made in bad weather in 1866, being misled by a local guide in a snow-storm, proved the possibility of traversing both the *Bockkahrkees* and the *Fuscher Kahrkees*. Having ascended by the latter to the *Fuscher Kahrkarte* (9,436'), they passed by the W. side of the *Breitkopf* to the *Bockkahrkarte*, descended the *Bockkahrkees* nearly to the junction of the two glaciers, and, having thus lost 4 hrs., reascended to the *Fuscher Kahrkarte*, and thence descended to *Heiligenblut*. The course described by Dr. Ruthner—the most persevering and successful explorer of this district—under the guidance of Röderer, an excellent local guide, now deceased, is probably a little longer, but appears to the writer to promise more variety and interest.

Keeping constantly to the path along the l. bank of the *Fuscher Ache*, and ascending the slope on the rt. hand as it approaches the opening of the Käferthal, the traveller reaches in 1½ hr. from *Ferleiten* the *Judenalp*, lying just opposite to the *Trauner Alp*, mentioned above on the way to the *Pfandelscharte*. Above the *Judenalp*, the W. declivity of the *Fuscher Thal* rises in very steep slopes, intersected by transverse bands of still steeper rock. To the NW. these slopes lead up to the base of the precipices that must be climbed in the ascent of the *Vischbachhorn*; due W. they lead up to the *Remskopf*, which is connected with the base of the *Hohe Dock* by a ridge called *Remsschartel*. The S. face of the *Hohe Dock* shows towards the glacier a range of formidably high and steep precipices, intersected transversely by a ledge covered with loose debris. Along this a man with sure foot and steady head may pass without difficulty,

but the unpractised traveller might find it dangerous. The length of this ledge, known to the hunters of the valley as the *Hohe Gang*, is counted as $\frac{1}{2}$ hr., or about a mile. At its W. end it gradually approaches the level of the glacier at a point far above the ice-fall. Here, by a short descent over debris, and with some trouble from lateral crevasses, the traveller enters on the glacier, and traverses it in a SW. direction to the depression of the *Bockkahrkarte* (9,994'). A few ft. above the lowest point, and on the l. hand, are some bare rocks at the W. base of the Breitkopf, which afford a pleasant halting-place, whence the traveller may survey the surrounding glaciers. Of distant view, there is little to be seen. He will at once perceive that he has entered on the névé-basin of that eastern branch of the Pasterze Glacier which joins the main stream on the SE. side of the Gross-Burgstall (as described in the last Rte.); while the main névé-basin of the Pasterze is separated by an ice-covered ridge—a mere convexity in the surface of the upper glacier—that extends NNE. from the Hohen Burgstall. At the point where that ridge intersects the main range, NW. of the Bockkahrkarte, this rises into a slightly projecting eminence called the *Eiswandbühl* (10,395'). In the descent from the Scharte, it is best to keep to the l. under the slope of the Breitkopf, and then, leaving on one side the Fuscher Kahrkarte, along the W. base of the Fuscherkahrkopf. There are many concealed crevasses, and the rope should not be cast aside till the glacier is left high above its junction with the main stream. Descending the slopes of the Gamsgrube, the traveller reaches the Johannishütte in about $4\frac{1}{2}$ hrs. from the Judenalp, and thence descends by the ordinary way to Heiligenblut.

Inasmuch as the object of choosing this route is to obtain a thorough acquaintance with the great glacier region of the Bockkahr and upper Pasterze, it appears that this would be more completely attained by crossing the main range near the head of the Bockkahrkees.

It is likely that this may be effected by the SE. side of the Mittel-Bärenkopf; and if time permit the ascent of the latter summit, where the frontier of Carinthia meets the valleys of Fusch and Kaprun, the view cannot fail to offer much interest. The easiest way thence would doubtless be by the N. side of the Hohen Burgstall, crossing the E. branch of the Pasterze to the slopes of the Gamsgrube, but in the early summer experienced ice-men may cut their way down the great upper ice-fall of the Pasterze, between the Klein- and Gross-Burgstall, as did Mr. Tuckett's party in 1865, with F. Devouassoud and Peter Michel as guides.

It will be seen from what is said above that the *Fuscher Kahrkarte* is to be added to the list of passes leading from Fusch to Heiligenblut. When better known, it will probably be found little longer than the Pfandelskarte. In addition to the list of passes properly so called, the mountaineer, in favourable weather, may also include among possible routes that over the summit of the *Brennkogel* (9,895'). Of late years this has become a common excursion; it is no way difficult for anyone moderately used to mountain walking, and is but little longer than the way over the Fuscher Thörl and Hochthor. The shortest way to reach the summit is by the ridge that mounts to it from the Fuscher Thörl, but this involves some stiff scrambling; and the more usual and easier way is by the slopes above the Mitter Thörl, about half-way between the Fuscher Thörl and Hochthor. From the summit, which is formed of shattered rocks, a very fine view is obtained of the peaks enclosing the Pasterze Glacier, and those of the Fuscherkamm, but to SSW. the panorama is interrupted by the somewhat higher summits of the *Racherin* (10,158') and *Kaserockkopf* (9,929'), which form a short ridge (parallel to the Möllthal), that here rises between the head of that valley and the main range. A rather considerable glacier, fed by the snows of the Brennkogel and the adjoining peak of the Kloben, flows northward on the

W. side of the ridge leading to the Fuschler Thörl; and another, less considerable, originates on the S. side of the ridge connecting the Brennkogel with the Spillmann. The latter is drained through the narrow glen of the *Gutthal*, which runs due S. towards the Möll. After joining the Tauernbach, that descends from the Hochthor, this torrent joins the main stream at Winkel, above Heiligenblut, where it is crossed by tourists on the way to the Pasterze Glacier. Through the Gutthal lies the way from the Brennkogel to Heiligenblut. It is better not to descend due S. into the head of the glen, but to bear a little to the l., and pass along the W. side of the *Brettersee*, a tarn whose stream joins that of the Gutthal. Following the l. bank of the torrent, the highest alp in that glen is reached, and then the track to the l. is taken, which crosses the Tauernbach above its junction with the Gutthal. Immediately beyond it is the Marienhilf-Kapelle (5,197'), where the traveller joins the bridle-track from the Hochthor to Heiligenblut.

The mountaineer who does not object to a stiff scramble, and to add fully 1 hr. to his day's walk, may well follow the example of Dr. Ruthner, and take the summit of the Kloben on his way from Ferleiten to the Brennkogel. The way is by the Trauner Alp and the track mounting thence to the Pfandelscharte (see above). Bearing to the l., the traveller enters a ravine, and then ascends a long and steep slope, called the Schwarze Leiter. The crumbling nature of the rock—a calcareous mica-schist—makes this rather difficult, and even dangerous, for unpractised climbers. After gaining the ridge, he follows it eastward to the peak of the *Kloben* (10,011'). Though surrounded on every side by glacier or snow-slopes, the summit is covered with vegetation, which here reaches an unusual height. In 1857, owing to the unusual heat of the season, a ridge of rock lying somewhat S. of E. from the summit was stripped of the snow which had long concealed it, and the process was repeated in 1859.

Here, at 9,580 ft. above the sea, were found the ruins of a miner's hut (*Knappenhaus*), with the opening of two shafts, and a quantity of iron-ore that had been extracted. Among the ruins, Dr. Ruthner found fragments of cloth clothing, and several large bones, but he failed to ascertain whether these were human remains. It is most probable that this was one of the many spots in this part of the Alps where gold has been extracted; but though most of these are well known, no record or local tradition relating to a mine on the Kloben has been discovered. The facts must be reckoned among the numerous evidences of an increasing accumulation of snow in the higher regions of the Alps during the last 300 or 400 years. The mine, as well as the summit of the Kloben, lie on the N. side of the dividing range, which passes from the summit of the Spillmann to that of the Brennkogel.

Before closing the account of the Fuschler Thal, it is necessary to add a short notice of the ascent of the *Vischbachhorn* (11,738')—perhaps more correctly written *Wiesbachhorn*; but we follow the local pronunciation. This is not only the highest peak of the Fusch range, but one of the highest and noblest in the Eastern Alps; the only one which by its extreme steepness and the boldness of its form maintains an imposing appearance as seen from the summit of the Grossglockner. On the Fuschler Thal side, it shows ranges of formidably steep precipices, surrounded by glaciers lying on the upper shelves of the mountain, that are broken at their lower end into threatening crags of flue ice. The ascent may in many respects be compared to that of the Finsteraarhorn, to which mountain it bears much resemblance, save that instead of rising on either side above surrounding glaciers, it plunges its roots into the comparatively deep valleys of Fusch and Kaprun, whence it rises very abruptly through a vertical height of about 7,000 ft. The first ascent was made some fifty years ago by hunters of the valley; the second, in 1841, by Prince Schwarzenberg, Car-

dinal Archbishop of Salzburg. The third, by Dr. Ruthner and Count D. Andrassy, was effected in 1854, and is recounted by the former in his often-quoted work, 'Aus den Tauern.' The place in the Fuscher Thal nearest the base of the mountain is the Vögallalp, about $\frac{1}{2}$ hr. above Ferleiten; but as it is necessary to attack the peak from the S. side, it has been found expedient to pass the night at the Judenalp, some miles farther up, on the N. side of the entrance to the Käferthal. The main peak falls in nearly vertical cliffs towards the valley, and sends out to NE. a rather long ridge, whose SE. face of bare rock appears absolutely inaccessible; while its northern slope sustains a glacier called *Sandbodenkees*, which appears no less hopeless. To the S. of the highest peak is seen the Bratschenkopf (11,126'), which is in fact the ESE. end of a ridge whose WNW. summit is the *Glockerin* (11,356'). The outlet of the great snow-basin between this ridge and the highest part of the mountain is by a glacier called *Teufelsmühlkees*; which, on reaching the verge of the precipices facing the Fuscher Thal, breaks away so as to form a range of high ice cliffs. Although the precipices on the E. side of the Bratschenkopf are very high and extremely steep, they are passable to a mountaineer with a perfectly steady head, accustomed to stiff rock climbing. Having attained a considerable height above the final ice-fall of the *Teufelsmühlkees*, that glacier may be traversed with little difficulty; and by this, and by steep snow-slopes above it, the base of the final arête is reached. This mounts NNE. to the highest peak, and is apparently neither so steep nor so narrow as that of the *Glockner*. The actual summit is an inconveniently narrow ridge of frozen snow. However extensive the view, it is naturally inferior to that from the *Glockner*, but many mountaineers will prefer the ascent of this peak for the sake of the more interesting and varied rock-work. The difficulties of the ascent seem to be confined to that part of the expedition, as

with ordinary precaution the remainder of the way appears to be free from danger or serious obstacles. Dr. Ruthner, to whose work the writer is indebted for all that he knows of the ascent, took $7\frac{1}{2}$ hrs. to reach the summit from the Judenalp. There is a much easier way from the Kaprunerthal. (See next Rte.)

At the E. base of the Vischbachhorn lies a glacier called *Pockenwikes*, which seems to deserve more attention than it has yet received. Although not directly connected with any considerable reservoir of névé, this descends lower than any glacier in the Fuscher Thal, its lowest extremity having been ascertained by Dr. Ruthner to reach 5,099 ft. There can be little doubt that this is a fine instance of a '*glacier remanié*,' fed by avalanches from the main peak, and, very probably, by the ice that falls from the overhanging *Teufelsmühlkees*.

ROUTE D.

KAPRUN TO HEILIGENBLUT, BY THE RIFFELTHOR.

About 13 hrs.' walking, exclusive of halts.

In describing the great Pasterze Glacier (Rte. B), we have had frequent occasion to refer to the valley of Kaprun, which originates in the main range that bounds that glacier to the N., and opens into the Pinzgau, near the village of Kaprun, about 3 m. W. of Bruck. Although it offers the attraction of very grand scenery, this is one of the least known valleys of the High Tauern

range, chiefly because it is one of the few that do not lead to a pass over the main range, available at least for the native hunters and herdsmen. It is further remarkable for the fact that, though not so high as many others, it contains no permanent dwellings, except close to its opening. The herdsmen's huts near its head have supplied poor quarters to the few travellers that have visited the valley, but better accommodation is now available, as a substantial stone hut fitted with a stove, &c., has been erected near the Wasserfallalp at the cost of the Vienna Alpine Club. Of course, visitors must bring their own provisions. From that starting-point, mountaineers may with advantage attempt the ascent of the fine peaks that enclose the valley. On the W. side, between this and Stubach, are the *Grosseiser* (10,361') and *Kitzsteinhorn* (10,482'); to the S. rise the *Hohe Riffel* (11,003'), *Vorder-Bärenkopf* (10,507'), and *Mittel-Bärenkopf* (10,976'); and on the E. side, the great peaks of the *Fuscher Kamm*, of which the *Gross-Bärenkopf* (11,470'), the *Glockerin* (11,356'), and the *Hohe Tenn* (11,059') are the most prominent. Most of these have been climbed by Anton Hetz, the best guide in the valley, who has also ascended the *Vischbachhorn*. (See below.)

Ordinary tourists who avoid difficult expeditions may be content to visit the head of the valley up to the base of the *Karlinger Kees*, while an active walker may combine this with the *Stubachthal*, by crossing the *Kapruner Thörl* (Rte. H), and returning to the *Pinzgau* at *Utten-dorf* (§ 50, Rte. A), in a single long day's walk.

The pass to *Heiligenblut*, here briefly described, is known only by the description of *Dr. Ruthner*, who crossed it in 1855. It seems probable that the difficulties which he encountered may be avoided by future travellers who are more fortunate as to weather, especially if they have with them a man more thoroughly familiar with glacier work than any of the native guides, however efficient these may be in other respects.

Excepting *Anton* and *Peter Hetz*, there are no guides familiar with the head of the valley, unless perchance some herdsmen at the highest *Sennhütten*. *Colonel v. Sonklar* was led into serious difficulties by a man whom he engaged at *Kaprun*, and who proved himself to be an ignorant pretender.

The *Kapruner Thal* offers an excellent example of that plan of structure, so common in the valleys of the crystalline rock masses, in which the floor of the valley descends abruptly by steep steps (*Germ. Thalstufe*), separated by nearly level intervals, some of which at least are the filled-up beds of ancient lakes.

The village of *Kaprun* (2,532'), which stands at the opening of the valley about $\frac{1}{2}$ m. S. of the *Salza*, may be reached from the hamlet of *Fürth*, on the high-road between *Piesendorf* and *Bruck*, or else by a very agreeable foot-path leading in about 1 hr. from the latter village, and running part of the way along the rt. bank of the *Salza*. There are two country inns in the village (*Neumeyer*; *Beim Krauer*), at either of which the traveller should lay in a store of provisions, unless he has taken the precaution of previously doing so at *Bruck*, or *Zell am See*. Besides *A. Hetz*, *Strahhofer* and the brothers *Niederrist* are named as guides, but are probably acquainted only with the track leading to the head of the valley. The village is picturesquely situated, overlooked by an ancient castle, and with the peak of the *Kitzsteinhorn* in the background. This fine mountain is again seen from many points on the way. Behind the village the entrance to the upper valley appears to be barred by a rocky ridge of no great height, at the W. end of which the stream has cut a narrow cleft, while the path mounts the first and lowest step in the ascent of the valley, which is locally called *Würstelau* (about 2,800'). Looking back, a view is gained northward of the *Zeller See*, and the village of *Zell*, which is only 5 m. from *Kaprun*. For more than $\frac{1}{2}$ hr. the track—here practicable for rough carts—mounts very gently, amid scenery of no

great interest, till it reaches the Grossbüchel. This is a sort of promontory of rock projecting from the E. side of the valley, beyond which the path enters a picturesque ravine, where the Kapruner Ache foams amid blocks fallen from the surrounding heights. Following this for nearly $\frac{1}{2}$ hr. the traveller reaches the base of a second steep and high step in the valley, where the torrent falls from its upper level in a series of cascades. The scenery is extremely picturesque, especially at a point where the opening of a short lateral glen, on the l. hand, gives a view of the Fuscher Kamm. The snowy summit at the head of the lateral glen is the *Brachkopf* (10,649'), which crowns a ridge projecting to NW. from the Hochtenn. After the path has by many zigzags attained the summit of the steep ascent, it goes for a short distance nearly at a level to the *Limbergalp* (5,165'). This stands on an alluvial plain, which extends southward more than a mile to the junction with the main stream of the torrent from the *Wielinger Kees*, a large glacier that descends from the NW. flank of the Vischbachhorn. This plain, with the pastures of the surrounding slopes, is collectively known as the *Wasserfallalp*, but strictly speaking includes two *alps*—that of Limberg at its northern end, and the *Fürther Alp* at its southern extremity. Near to the latter stands the hut erected by the Austrian Alpine Club. A third group of *Sennhütten*, called Bauernalp (5,231'), stands a little E. of the main valley, on the N. side of the torrent draining the Wielinger Glacier. At the S. end of the plain a massive rock called the *Höhenburg*, forming a sort of island in the middle of the valley, rises to a height of about 2,000 ft. above it. While the main branch of the torrent descends through a ravine on the W. side of the Höhenburg, between it and the foot of the *Griesskopf* (10,357'), forming the waterfall which gives its name to the plain, another branch flows through a depression on its E. side, and joins the stream that issues from the *Wielinger Glacier*. The

grand, but somewhat stern, view from the lower end of the Wasserfallalp is well represented in the 'Jahrbuch of the Austrian Alpine Club for 1867.' From the Fürther Alp the shorter course is by the path on the W. side of the Höhenburg, but in going from the Bauernalp the eastern path is preferred. Whichever course be taken, the traveller, on reaching the summit of the ascent, finds himself on the margin of a perfectly level plain $1\frac{1}{2}$ m. long and nearly $\frac{1}{2}$ m. in width, closed at its S. end by the *Karlinger Kees*, the most considerable glacier of the valley. This is the *Mooserboden*, obviously the filled-up bed of an ancient lake, a basin seemingly quite enclosed by snowy peaks, into which, besides the great Karlinger Kees, three other glaciers descend from the surrounding heights. Sonklar, whose knowledge of the Austrian Alps is so extensive and minute, considers this one of the grandest and most impressive scenes in the entire range. The only notable depression in the range enclosing the Mooserboden is that of the Kapruner Thörl (8,740'), over which lies the pass to the Stubachthal mentioned in Rte. H. From it descends to NE. the Thörl Glacier, which is so completely covered with debris as not to be easily recognised. The Mooserboden lies in the prolongation of this glacier, while the middle part of the Kapruner Thal descends nearly due N. Hence it happens that the range of high peaks circling round the head of the valley from the Glockerin to the Eiser is not seen until the traveller reaches the lower end of the Mooserboden. This is 6,462 ft. above the sea, and the plain is so nearly horizontal that the lowest point of the glacier at the upper end of the Mooserboden was found by Sonklar to be only 91 ft. higher.

In F. Keil's excellent maps, the Thörl Glacier and another descending from the Eiser are incorrectly represented as joining the Karlinger Kees on the NW. side, while a glacier stream from the Gross-Bärenkopf flows on the opposite, or rt. bank. In point of fact, the three

glaciers in question all pursue an independent course, but do not reach the floor of the main valley.

The lower part of the Karlinger Glacier, for a distance of about 1 m., is gently inclined and easily traversed, but higher up it descends in a great ice-fall. To reach the Riffelthor, Dr. Ruthner found it expedient to quit the ice on the rt. bank, and climb round a buttress of rock projecting from the Gross-Bärenkopf, until he reached a point some way above the ice-fall. Here the main stream of the glacier, which descends from the Hohe Riffel, receives nearly at rt. angles a tributary ice-stream originating in the basin between the Gross- and Mittel-Bärenkopf, and, in consequence, the ice is broken by numerous and wide crevasses. Having for some time followed a general direction nearly due S., which brought him near to a range of rocks below the summit of the Vorder-Bärenkopf, Dr. Ruthner bore to SW., and finally reached the lowest point in the range connecting the latter summit with the Hohe Riffel in 4½ hrs. from the Fürther Alp. It lies about half-way between the above-named peaks, but rather nearer the Hohe Riffel, whence it was appropriately named *Riffelthor*. Its elevation according to Sonklar is 9,958 ft.

Dr. Ruthner was withheld from crossing the great *névé*-basin of the Pasterze in a southerly direction by the crevassed state of the glacier on the E. side of the Johannisberg, and directed his course to the summit of the Gross-Burgstall. Finding it impossible to continue the descent in that direction, he remounted NNE. to some projecting rocks which have been called Hoher Burgstall, and, thence crossing the E. branch of the Pasterze Glacier, reached the slopes of the Gamsgrube. It is true that on June 9, 1865, Mr. Tuckett and his companions descended by the E. side of the Johannisberg, and cut their way down the central ice-fall between the Gross- and Klein-Burgstall, but it is very doubtful whether this feat could be repeated late in the season, and

at that time the best way would be to steer ESE. from the Riffelthor towards the Fuscher Kahrkopf, and, on approaching that peak, to descend the glacier southward until it is practicable to attain the slopes of the Gamsgrube.

It is likely that a fine pass may be effected from the Mooserboden to Ferleiten, by following the E. branch of the Karlinger Kees to the ridge connecting the Mittel- with the Gross-Bärenkopf, descending by the Bockkahrkees and the Hohe Gang. (See last Rte.)

The summit of the *Vischbachhorn* was reached in 1867, by the brothers Hetz of Kaprun, in 6 hrs. from the Wasserfallalp. Save the passage of a not very narrow snow *arête*, this course seems to involve no serious difficulty. The final peak is climbed from the SSW. side, as in the ascent from the Fuscherthal.

ROUTE E.

LIENZ TO MITTERSILL, IN PINZGAU, BY THE ISELTHAL AND VELBER TAUERN.

	Hrs. walking	English miles
St. Johann im Wald	. 3	9
Windisch-Matrey	. 3½	9
Tauernhaus 4	10½
Mittersill 8	17
	18½	45½

Char-road to Windisch-Matrey, whither a small post-carriage plies daily in summer. Bridle-path thence to Mittersill. The distances given above are only approximate. The ordinary estimate is 22 Stunden, but is certainly much exaggerated.

In Rte. A, reference was more than once made to the *Isel*, which joins the Drave at Lienz, and is in truth the principal branch of that stream. In-

cluding two considerable affluents from the W., and one from NNE., it drains an area of about 400 square miles, and bears down the outflow of eighty-three glaciers. The Iselthal must therefore be considered one of the most considerable of the secondary valleys of the Alps, and as its tributary glens are enclosed by ranges that attain a height of from 10,000 to 12,000 ft., there is abundant attraction here for the naturalist and the lover of grand scenery. Nevertheless, the attention of British travellers has been little turned to the recesses of this region of Tyrol. It is not surprising that Heiligenblut and its neighbourhood should have precedence in the estimation of travellers, nor that the fascinations of the dolomite ranges of S. Tyrol and the Carnic range should outweigh the soberer charms of the central range, but those who will devote some time to the lateral valleys of the Iselthal, if not unfortunate as to weather, will not repent of their choice.

The main branch of the *Iselthal* has another claim on the attention of travellers, as it leads to the lowest pass over the central range between the Brenner and the Arlscharte, and offers one of the most direct routes from England, via Munich, to the South-Eastern Alps. We have seen in § 44, Rte. C, that, from the Wörgl station on the rlwy. from Munich to Innsbruck, a carriage-road leads in a few hours to Mittersill, in the Pinzgau. By the Rte. now to be described, the traveller reaches Windisch-Matrey on the next day; and if an active walker, he may, by an early start, reach that place in time to get on to Lienz the same evening in a light country vehicle. Ladies can scarcely be recommended to take this route. It is very doubtful whether saddle-horses used to such excursions are to be found at Windisch-Matrey or Mittersill; the day's journey between those places is a long one; and the accommodation at the Tauernhaus is not tempting. They may, however, go from Lienz to Windisch-Matrey, and thence to Pregratten. (See next Rtes.)

For about $1\frac{1}{2}$ m. from Lienz, the road

keeps the rt. bank of the Isel, and crosses it a little below *Ober-Lienz*, which is passed on the rt. hand on rising ground. In clear weather, the snowy peaks of the Venediger group are seen in the distant background. The pretty hamlet of *Aineth* (2,312'), with a clean little country inn, also standing above the road on the N. slope of the valley, recalls one of the sites where the peasant heroes of Tyrol made a successful stand against the French invasion in 1809, but where the first success was expiated when an overwhelming force afterwards carried fire and sword into the recesses of the Alps. The site of *Aineth* resembles that of many other villages in this district, which stand upon mounds of transported matter washed down from the mountain ranges, forming what are called by geologists cones of dejection. The slope being usually gentle, and the soil finely divided, they are often the most fruitful spots in the valley, especially when they lie on its sunny side.

[*Aineth* is the most convenient starting-point for the ascent of the *Hochschober* (10,628'), the best known, though the second in height, of the lofty group that rises between the Iselthal and the Möllthal. An account of the ascent is given by Mr. F. Keil in the 'Mittheilungen of the Austrian Alpine Club for 1864.' With four companions and two guides, he ascended the N. slope of the valley to Gwabl, and thence followed a path NW. to *Leibnigg* (4,024'). This little village stands on the verge of the slope where the torrent from the upland glen of the *Leibnigger Thal* falls steeply in a continuous cataract to join the Isel near St. Johann im Wald. In 2 hrs. more, they reached the alp at the head of the *Leibnigger Thal*, where they slept. On the following morning, the ascent was accomplished by the S. side of the peak, chiefly over steep slopes of debris and rocks, avoiding the snow-slopes on either hand. Except one rather steep face of rock, they found no difficulty worth notice in the ascent. The position is excellent for a panoramic view.]

From Aineth the road runs along the l. bank of the Isel to *St. Johann im Wald* (2,363'), appropriately so called, as the scattered houses are concealed amidst the surrounding trees. The church and inn are on the rt. bank, near the bridge by which the road crosses the Isel. SW. of the village, the Michelbach forms a fine waterfall, and by that way the traveller may ascend in about $4\frac{1}{2}$ hrs. to the summit of the *Weisse Wand* (7,960'), which overlooks the three valleys that meet at Peischlach and the higher ranges of the surrounding Alps. *Silene Pumilio*, *Allium victorale*, and other rare plants, are found on the mountain.

For some miles above St. Johann, the floor of the Iselthal is a gravelly plain, overgrown with *Hippophæ rhamnoides*. The ruins of Kienburg are seen on a height to the l., and on the opposite side of the valley a very large farmhouse, which, in 1809, was filled with families from the lower valley, who fled before the French invasion. A little farther is

Peischlach (2,479'). A country inn, 'In der Huben,' stands at the junction of the central branch of the valley with the Defereggenthal (Rte. K), while the village and church are on the opposite side of the main valley, where the torrent of the Kalsler Thal (Rte. H) enters it from the NNE. Up to this point, the road ascending the valley has kept a NW. direction, and the slope has been insensible. Here it turns a little to the rt., about NNW., and begins to mount rather more steeply through the much narrower valley, which gradually contracts to a defile, but soon opens again into a comparatively wide basin, backed by the *Krystallkopf* (9,859'), which is the easternmost summit of the Eicham range dividing Virgen from Frosnitz, and the more distant *Wildenkogel* (9,900'), rising N. of the Frosnitzthal. In the midst of this picturesque basin, overlooked by the old castle of Weissenstein, stands

Windisch-Matrej (3,237'), the chief place in the Iselthal, with a good inn

(Rauterer's), which may serve as headquarters for excursions among the neighbouring valleys. As the name expresses, this place was originally founded by a Slavonic (Wendisch) tribe, who were, perhaps, allowed to settle here when the Germanic population, under the Boyoar dukes, successfully resisted the onward tide of Slavonic invasion, through the Drave valley, in the seventh century.

L. Stocker, Joh. Kraissler, and Andrä Eder are recommended as guides for the neighbouring passes.

Due W. of Matrey is the opening of the Virgenthal (Rte. G), which drains the S. side of all the highest peaks of the Venediger group, and is to the mountaineer the most attractive of the tributary valleys of the Iselthal. In the opposite direction mounts the path that leads eastwards from Matrey to Kals, described in Rte. I. Above Matrey, the name Isel is preserved by the torrent that flows from the Virgenthal, and justly so, as it is the most copious branch of the stream; but the writer agrees with Sonklar in regarding as the main branch of the valley that which leads to the Velber Tauern. It is not, perhaps, an unimportant fact that the deepest depression in the range of the High Tauern should correspond with the head of the principal valley on the S. side of that range. The northern branch of the valley, described below, is locally best known by the designation Tauerthal, though the upper end is also called Gschlössthal.

[The antiquary should on no account omit to visit two ancient churches in this neighbourhood. That of St. Nicholas, on the S. side of the Isel, at the opening of the Virgenthal, is easily reached in $\frac{1}{4}$ hr. from Windisch-Matrej. The building suffered from an earthquake in the seventeenth, and from a fire in the eighteenth century. The E. end dates from the first half of the fourteenth century, and was built over a crypt of perhaps still earlier date. In this part of the building, now used as a belfry and considerably lower than the pavement of the

modern church, are the remains of some very curious frescoes in Byzantine style, the greater part of which are apparently still concealed by the whitewash which was laid over them at the time of the rebuilding of the church, and may probably be still removed. Of still greater interest is the church of *Ober-Mauer*, about half-way to Pregratten (Rte. G). This is also very ancient, but repaired or altered at various subsequent periods. Outside, the most remarkable feature is the complete absence of windows on the N. side. This is explained on entering the church by the fact that the entire wall on that side is covered by paintings in fresco, which evidently date from the earliest period of German art. On one of the most ancient, Prof. Fenzl, who has given a notice of these churches in the 'Mittheilungen of the Austrian Alpine Club for 1863,' traced the date 1446, while others may probably belong to the latter part of the fifteenth century. Of greater artistic merit are other frescoes in the same church, especially a votive picture on the S. side near the high altar.]

The char-road ends at Windisch-Matrey, and soon after leaving that place, the *Tauernthal* gradually narrows until, after passing *Proseck* (3,578'), it becomes a mere defile, through which the track keeps to the rt. bank until, after passing opposite a fine waterfall of the *Steinerbach*, it crosses to the opposite side of the *Tauernbach*. The valley opens a little at the junction of the fine lateral glen of *Frosnitz*, noticed in the next Rte.; but the path keeps to the l. bank until about $\frac{1}{2}$ m. beyond the entrance of that glen, when it returns for a short time to the W. side of the torrent, but before long—at the junction of the *Petersbach*—for the last time recrosses that stream. Thenceforth, till it reaches the *Tauernhaus*, it remains on the E. side of the valley. Rather more than $2\frac{1}{2}$ hrs. from Matrey, the traveller reaches the *Landecksäge* (4,219'), where the torrent from the *Landeckthal*, after rushing through a narrow cleft, descends in a waterfall to the level of the main

valley. [Through the *Landeckthal* lies a very unfrequented way to the W. branch of the *Stubachthal* (Rte. H) over the *Oedscharte* (about 8,300'?), on the E. side of the *Landeckkopf* (9,439'). The passage is said to be difficult and dangerous, owing to the crevassed condition of a small glacier that must be traversed.] Here the *Tauernthal*, which had bent aside to the N., resumes its NNW. direction, and the track leads in less than $1\frac{1}{2}$ hr. to the

Matreyer Tauernhaus (4,957'), where refreshments, and, in case of need, rough accommodation for the night may be found. In fine weather, a guide over the *Velber Tauern* is not required by anyone well used to mountain walking, but when clouds lie low, the track may easily be missed. At first the path keeps parallel to the main torrent, crossing the *Meselinbach*—a stream that descends from the NE. close to the *Tauernhaus*—but it soon leaves on the l. hand the cattle-track that goes nearly due W. to the *Gschlössalp* (see next Rte.), and begins to mount diagonally in a NW. direction till it approaches the streamlet that descends from the *Velber Tauern*. Here the course bends round to NE., parallel to that streamlet, and at some height above its l. bank, and finally turns nearly due N. Two huts, intended as refuges for travellers, are passed on the way, at the higher of which ($\frac{1}{4}$ hr. below the summit) a store of firewood is kept to relieve those who attempt the passage in inclement weather. During the ascent, the traveller gains fine views of the great *Schlaten Glacier*, and enjoys a distant prospect both to N. and S. on attaining the summit of the

Velber Tauern (8,024'), in about 3 hrs. from the *Matreyer Tauernhaus*. The scenery of the head of the *Velber Thal*, through which lies the way to *Mittersill*, is impressive from its extreme wildness. Blocks of hornblende slate, intermixed with patches of snow, cover the slopes, and small dark tarns lie in the hollows, while on the W. side the sombre rocks of the *Freiwand*, terminating in the peak

of the *Tauernkogel* (9,790') enhance the stern effect of the whole. A rapid descent leads down to a little level marshy space called—like many similar spots in the Tauern Alps—Nassfeld. Lower down, the track passes at some height above the E. side of the *Hintersee* (4,354'), a comparatively large lake, said to have been caused by a Bergfall at the time of the earthquake of 1495, which was severely felt in this part of the Alpine chain. Numerous torrents, descending the steep walls of the valley in brawling cataracts, converge towards the basin of the lake. Henceforward the track descends gently along the rt. bank of the Velber Bach to the upper Tauernhaus, called Spital. Better accommodation, however, is found at *Schösswend* (3,537'), about 20 min. lower down, on the l. bank of the torrent. This, which is also known as the Vorder-Tauernhaus, offers the best accommodation between Matrey and Mittersill. Half an hour's walk below Schösswend, the torrent joins a rather more considerable stream that issues from the E. branch of the Velber Thal—locally called *Ammersthal*, or more commonly, die Oed. Some way below the junction, the path, which since Schösswend has followed the l. bank, crosses to the opposite side of the valley, and for some miles lies over a nearly level tract, part of which appears to be the bed of an ancient filled-up lake. The path keeps near to the main torrent, which is crossed three times before it finally descends into the valley of the Salza. At its mouth the Velber Thal appears to be barred across by a transverse ridge, partly cut through by the torrent, which at last descends, in a leap of nearly 300 feet, to the level of the Pinzgau. In the angle between the Salza and the Velber Bach stands

Mittersill (§ 50, Rte. A). The way from the Matreyer Tauernhaus to the head of the Velber Thal may be varied by taking the now abandoned track of the Alte Tauern, lying about $\frac{3}{4}$ m. E. of the pass above described. From the Tauernhaus the way mounts NE., by the l. bank of the *Meselinbach*, till it

reaches a tarn called *Grüner See*. Here the course turns to NNW., and, after passing another Alpine lake, ascends over slopes of debris to a little glacier that covers the ridge. The course was formerly marked by poles, but some caution is needed, as there are some concealed crevasses, which led to the abandonment of this route.

A more interesting, but perhaps difficult, pass may probably be effected from the Grüner See to the head of the Ammerthal, or E. branch of the Velber Thal, on either side of the Thörlkopf (9,583'). The scenery of that glen, which may be visited from Mittersill or Schösswend, is said to be very fine, and it offers many attractions to the botanist.

ROUTE F.

WINDISCH-MATREY TO NEUKIRCHEN, OR WALD, IN PINZGAU. ASCENT OF THE GROSSVENEDIGER.

In the last Rte. was described the easiest and most direct way for a traveller wishing to reach the Pinzgau from Lienz, but, if moderately favoured by weather, the lover of fine scenery will scarcely be content to pass near to

a considerable glacier region without gaining a further glimpse of it than he may do in the ascent of the Velber Tauern. For the practised mountaineer, there is a choice among various passes by which the Pinzgau may be reached in two days from Lienz, but as none of these can be described as easy, the ordinary tourist may content himself with a visit to Gschlöss and the Frosnitzthal, and then explore the southern glaciers of the Venediger group from the Virgenthal. A few notes on the topography of the district may be useful, nay, even essential, to those who do not possess one or other of the maps named in the introduction to this section. In regard to the nomenclature of some summits and passes, and slight topographical details, there are differences between F. Keil's more highly finished map, published in the 'Jahrbuch of the Austrian Alpine Club for 1866,' and Sonklar's map on a smaller scale, annexed to his 'Hohe Tauern.' The writer has followed the one or the other according as the author appears to be supported by direct observation on the spot.

It was remarked in the introduction to this section that the western portion of the High Tauern range, which culminates in the Grossenediger, extends about 14 m. ENE. from the Dreiherrnspez to the Velber Tauern, between the basin of the Salza and that of the Isel, and, in the opposite direction, for about 16 m. WSW. from the same peak, dividing the Ahrental from the western affluents of the Isel.

From the neighbourhood of the Dreiherrnspez and the Grossenediger, but especially from the latter, numerous accessory ridges, rivalling in height the peaks of the main range, diverge to NNW. towards the Salza, or in the opposite direction towards the Virgenthal, and hence it happens that the conformation of this group is very favourable to the formation of considerable glaciers, but not so to that of prominent peaks. Although the actual summit of the Grossenediger is a very sharp ridge, the peak is only the highest central summit

out of many surrounding rivals, one or other of which may easily be taken for it when seen from different sides. But on the other hand, few mountains of such moderate height display so ample an ice-mantle. From the peak, and its closely adjoining subordinate summits, no less than nine great glaciers descend into the surrounding valleys. Most of the higher summits of this group appear to be accessible without much difficulty, and the practised mountaineer will find here scope for many new excursions, although M. F. Keil, Prof. Simony, and other Austrian mountaineers have already done much towards its thorough exploration. Under the present heading, the expeditions are briefly noticed that may be made by a mountaineer wishing to cross to the Upper Pinzgau from the Isel-Tauerthal. It will be remarked that no less than four valleys descend from the main range towards the Salza between the Velber Thal and the Krimmler Thal. It is most probable that, when the range is more fully known, each of these will offer at least one practicable pass to the mountaineer, but as these are still imperfectly known, we give precedence to that which is likely to attract the larger number of travellers—the way over the summit of the Grossenediger (12,053').

Though it appears certain that the highest peak was reached at the end of the last century, the mountain was in the neighbouring valleys supposed inaccessible, and its reputation was confirmed by an accident which happened in 1828, when the late Archduke John attempted the ascent, and one of his guides was carried down a steep incline by an avalanche. In 1841, the summit was attained by M.M. Lasser, Ruthner, Gravenegg, and a numerous party from the Pinzgau, who ascended from the Obersulzbachthal. A much shorter and easier way from the S. side has since been frequently followed (see Rte. G), and another equally easy route has more recently been found from the Gschlöss Alp at the head of the Isel-Tauerthal.

The summit is the meeting-point of

three ridges that connect it with as many neighbouring peaks. One of these extends ENE. to the *Kleinvenediger* (11,649'), another SE. to the *Rainerhorn* (11,703'), while the third, after sinking to the *Dorfer Sulzbach-Thörl* (9,438'), rises again to the peak of the *Gross-Geiger* (10,915'). The highest ridge, which is almost precipitous towards the N. and NW., seems to be accessible only by the ENE. or SE. ridges above mentioned. Owing to the sharpness of the highest ridge, the snow accumulates there so as to form an overhanging cornice, which, becoming over-heavy, breaks away at intervals of three or four years. Hence the actual summit is at times positively unsafe, and is never a comfortable resting-place for the traveller who loves to spread his maps, and study at his ease the topography of the surrounding region. In other respects, the mountain is singularly easy of access.

In describing the path over the *Velber Tauern* (see last Rte.), it was mentioned that above the *Tauernhaus* the head of the *Tauernthal* turns westward towards the base of the *Grossvenediger*. Following the upward path along the N. side of the *Tauernbach*, after passing a narrow place in the valley where the ascent is somewhat steeper, the traveller, having surmounted this last *thalstufe*, in about $\frac{3}{4}$ hr. enters the uppermost basin, wherein stand the *Sennhütten* of

Gschlöss, clustered in two groups, of which the farther—called *Inner-Gschlöss*—is 5,423 ft. above the sea. At the *Birnbaumer Hütte*, the traveller finds better accommodation than usual in such places, when it is not already occupied by tourists, or by citizens of *Lienz*, who come in hot weather to enjoy the pure air and grand scenery. This, in truth, is of a high order. The head of the valley is closed by the *Schlaten Glacier*—excepting only the *Pasterze*, the greatest ice-stream of the *Tauern* range—seen from its uppermost head under the summit of the *Grossvenediger* to its base, which reaches a lower level than any in the *Eastern Alps*, being only 117 ft. above

Inner-Gschlöss. To the rt. of the highest peak is seen the *Kleinvenediger*, and to the l. the *Hoher Zaun* (11,439'), or *Krystallkopf* of *Keil's* map.

The glacier is guarded on its l. flank by the conical rocky summit of the *Kesselkopf* (9,448'), and on the N. side of this, not seen from *Gschlöss*, another considerable ice-stream—the *Viltragen Glacier*—reaches the level of the valley. This originates on the NE. side of the *Kleinvenediger*, and is divided from the *Unter-Sulzbach Glacier* by the ridge connecting that peak with the *Hohe Fürleg* (11,114'), and receives tributaries from the ridge eastward of the latter peak that divides the basin of the *Isel* from the *Habachthal*. In his often-cited work, *Sonklar* mentions some curious particulars respecting the structure of this glacier, and states that, at the time of his visit, it had advanced within a few years no less than one-third of a mile, leaving only a short space intervening between its lower end and that of the *Schlaten Glacier*.

Gschlöss being, to the lover of nature, one of the most attractive spots in this district, it may be hoped that a mountain inn may, before long, be opened here, which will, doubtless, become a favourite resort of travellers. The best point of view in the neighbourhood is the *Rothe Sael* (9,728'), an eminence in the range dividing this from the *Hollersbachthal*, easily reached in $3\frac{1}{2}$ hrs. Rather more difficult of access is the *Wildenkogel* (9,901'), rising S. of *Gschlöss*, the highest point in the range dividing it from *Frosnitz*.

[The traveller who may visit *Gschlöss* from *Windisch-Matrey*, without intending to cross the main range, should visit the *Frosnitzthal* either in going or returning. It offers much fine scenery, especially at the upper end, where the *Frosnitz Glacier* descends from a high semicircular basin enclosed by the *Krystallwand* (10,831'), the *Klevertkopf* (11,021'), and the *Hinter-Eichamspitz* (10,836'). The path to it leaves that leading from *Windisch-Matrey* to the *Tauernhaus* (last Rte.) about $1\frac{1}{2}$ hr. above the former place, and crosses

the Tauernbach, to the hamlet of *Gruben*, just above the junction of the Frosnitz torrent. The path ascends westward very gently along the l. bank of the torrent to a considerable group of Sennhütter, standing about $1\frac{1}{4}$ hr. from Gruben. Here the valley turns northward, and a steep ascent leads to the upper basin, where the pastures of the Frosnitz Alp surround the lower extremity of the glacier. Ascending to NNW., the traveller may reach the *Lobben-Thörl* (9,156'), a depression in the ridge connecting the Krystallwand with the Wildenkogel, and descend thence to Gschlöss. The pass is said not to be very easy, and it would be prudent to take a local guide.]

Most of those who have ascended the Grossvenediger from Gschlöss have been accompanied by a guide named Patterer, but more commonly known as Staller Nandl. He is somewhat advanced in years, but appears to be a good mountaineer. He is content with 4 florins as daily pay for glacier expeditions. In fine weather the use of a local guide in the ascent is almost confined to the preliminary portion of the way, which is usually accomplished before daylight. The true course to be taken is sufficiently obvious to any practised mountaineer who views the mountain from the Gschlöss Alp. The Schlaten Glacier descends from the névé region in one continuous ice-fall, about 2,500 ft. in vertical height; but there is no difficulty in ascending along its l. bank, partly by the lateral moraine, and partly by the slopes of the Kesselkopf. As these slopes gradually bend to the rt., and shut out the view of the Gschlöss Alp, it is best to bear nearly due N., and ascend over debris, and finally by a snow-slope, to the ridge connecting the Kesselkopf with the Kleinvenediger, and dividing the névé of the Schlaten from that of the Viltragen Glacier. Being now nearly on a level with the great névé-basin of the former glacier, this is traversed in a WSW. direction, and before long the traveller sees before him the pyramidal summit of the prin-

cipal peak, with the Kleinvenediger on the rt., and the Rainerhorn, or Hennenkopf, to the left. The best course is to aim at a slight depression (about 11,200 ft. in height) in the ridge connecting the latter with the central peak, and, following this, the traveller, in about 5 hrs. from Gschlöss, if the snow be in good condition, may reach the summit of the

Grossvenediger (12,053').—The name is supposed to be derived from a rumour, or fancy, of the countrymen who reached the summit in the last century that Venice had been, or might be, discerned from the summit. This the writer believes to be absolutely impossible, owing to the height of the intervening ranges of the Venetian and S. Tyrol Alps. It is, however, rather remarkable that the peak lies exactly in the meridian of Venice. As already mentioned, the summit is not, in its ordinary state, favourable for a panoramic view, as the topmost ridge is the overhanging crest of a snow-wave, whereon the climber may have the satisfaction of setting his foot, but cannot comfortably repose to survey the view. For the descent towards the Sulzbachthal, local knowledge on the part of the guide is more needed than for the ascent; but the writer does not know that any one of the local guides is well acquainted with both sides of the mountain. The way lies down the ridge that connects the summit with the Kleinvenediger, steeper than that by which the ascent was effected, but nowhere difficult. Having accomplished about two-thirds of the distance, it is possible to quit the ridge (turning sharply to WNW.), and cross the upper névé of the Unter-Sulzbach Glacier towards a mass of rock that projects from the snow, called by the guides Keesschroffen, and incorrectly marked 'Ober-Sulzbach-Thörl' on the map annexed to Sonklar's work.

If it were possible to descend into the Unter-Sulzbachthal by the glacier of the same name, that would be the shortest course for reaching the Pinzgau; but as that glacier may be said to be unexplored, it would be wiser to attempt the

ascent rather than the descent by that route, and it is better to try the comparatively well-known course by the Ober-Sulzbach Glacier. The Kees-schroffen (about 9,750') lies on the slightly projecting ridge which divides the névé of the latter from that of the Unter-Sulzbach Glacier, and from thence the way lies for a considerable distance nearly due W., down slightly inclined snow-slopes, until it approaches the point where the glacier turns northward, and descends into the valley. There is now a choice of two courses to reach the Ober-Sulzbachthal. It is possible to keep to the slopes of the Stierlaner Wand that overlook the rt. bank of the glacier, and so reach the valley without again touching the ice. But the rocks are extremely steep and much broken, and the passage is scarcely practicable without minute local knowledge; and it will be found better to cross the glacier diagonally to the l. bank, and descend partly by the ice, partly by the rocky slopes. On both sides of the glacier, care is needed, owing to the shattered condition of the rocks, which yield to the slightest touch. With some trouble from rough ground, and bridgeless glacier torrents, the traveller may count on reaching the highest Sennhütten of the Ober-Sulzbachthal. Ample time should be allowed for the descent, as the stranger must count on encountering difficulties by the way. The scenery at the head of the Ober-Sulzbachthal is very fine. The conical snow-peak seen at the head of the glacier, commonly pointed out as the Grossvenediger by the people of the valley, is the Grossgeiger (10,915'), lying rather more than 2 m. WSW. of the true summit. The valley is remarkable for the extreme steepness of the ridges that enclose it, but especially that on the W. side, dividing it from Krimml. It consists of two nearly level tracts, separated by a high step, wherein the torrent descends about 1,600 ft. in a distance of $1\frac{1}{2}$ m., forming in one place, near the Weyeralp, a fine waterfall 300 ft. in height. Near the same point, another waterfall is seen

on the W. side of the valley, formed by the Seebach, which descends from a small lake, perched, at a great height, on the ridge dividing this from the Krimmler Thal. The track keeps all the way to the rt. bank of the Sulzbach torrent till it approaches the opening of the valley. It then passes to the opposite bank, and soon after crosses the Salza, and reaches the high-road (§ 50, Rte. A) at Rosenthal, about 20 min. from Wald, or $\frac{1}{2}$ hr. W. of Neukirchen.

As already mentioned, the writer is not aware that any traveller has yet effected the passage of the main range of the Tauern Alps, to the head of the *Unter-Sulzbachthal*, but there is little doubt that such a pass may be effected, and that it would be at once interesting and not very laborious. It may be best undertaken from the N. side, and the following brief notes may be found serviceable. The Unter-Sulzbach joins the Salza at a point less than 1 m. E. of the junction of the Ober-Sulzbach, and SW. of the village of Neukirchen. Close to the opening of the valley, it forms a waterfall, remarkable even in this region for the great volume of water, and the savageness of the surrounding scene. A path and a sort of platform have been constructed to enable visitors to see it to advantage. The fall marks the lowest of the five successive steps, by which the floor of the valley rises to the level of the great glacier that fills its head. This is considered the wildest of the tributary valleys of the Pinzgau, being enclosed on either side by ranges of extraordinary height and steepness. That on the E. side, dividing this from the Habachthal, is locally called Gensengebirge, and derives its name from the abundance of chamois and other game, due to its difficulty of access. It includes several peaks exceeding 10,500 ft. in height, and one pass—the *Kesselscharte* (8,739')—by which chamois hunters reach the Habachthal. Another pass, called *Nahklamm*, leads to the Ober-Sulzbachthal. The lower part of the Unter-Sulzbachthal is traversed by a cart track leading to a copper mine,

but beyond this the traveller finds only a cattle-track, which, after following the l. bank for a short way above the copper mine, returns to the E. side of the valley, and follows it to the highest Sennhütten. Nothing can exceed the wildness of the scenery. Huge blocks of gneiss, fallen from the precipices above, almost bar the way, and the path winds tediously amongst them. The highest chalets are at the *Ober-Aschamalp* (5,371'). From the upper end of the valley, none of the higher snow-peaks are visible, and the greater part of the glacier is concealed by the steep slope of its lower extremity. But very fine views are gained from the slopes that overlook it, and especially from a point called *Langeck* (9,441'), at a considerable height above its rt. bank. This appears to be level with the upper névé-basin, which is described as gently inclined and free from crevasses, but is separated from the middle and steeper part of the ice-stream by a great transverse crevasse or Bergschrund—said to run across its entire breadth. It seems probable that the upper plateau may be attained from the rt. bank of the glacier, but this awaits further exploration. Having gained the upper level of the névé, there would be no difficulty in reaching the *Unter-Sulzbach-Thörl* (9,691'), a depression in the ridge connecting the Kleinvenediger with the *Hohe Fürleg*, and dividing the névé of the Viltragen Glacier from that of the Unter-Sulzbach. It is doubtful whether the easiest way to Gschlöss may be to descend the Viltragen Glacier, which is much less steep and crevassed than the neighbouring Schlatten Glacier, or to cross nearly at a level from the Thörl to the ridge W. of the Kesselkopf, and thence descend by the way above described in the ascent of the Grossvenediger. It is somewhat remarkable that, while the Unter-Sulzbach Glacier has advanced of late years about 330 ft., the Ober-Sulzbach Glacier should have retired nearly an equal distance within the same period.

The next tributary valley of the Salza eastward of the Unter-Sulzbachthal is

the *Habachthal* (a corrupt form of Heubachthal). It is in regard to the range at the head of this valley that the widest differences are found between the maps of Sonklar and Keil, not only as to the nomenclature, but also as to the conformation of the ground; and strange to say, a similar discrepancy is found between the brief descriptive remarks of these writers, both careful and scientific observers. Sonklar describes it as being throughout a narrow cleft, enclosed between rugged walls of rock, through whose sombre and drearily wild scenery the path mounts in a continuous, but not steep, ascent from its junction with the Salza at *Habach* to the glacier that closes its upper end; while Keil finds that it presents a smiling contrast to the savage scenery of the Unter-Sulzbachthal. It is certain that the valley is so narrow, and the walls so steep, that the snow from winter and spring avalanches remains in the valley unmelted till late in the summer, and that rocks often fall from the surrounding heights. Sonklar noticed one enormous block that fell in 1859, near to the Prossing Alp. Emeralds are found at a height of over 8,000 ft. on the lofty and steep Watzfeld range which separates this from the Hollersbachthal.

The *Habach Glacier* is the smallest of those that descend into the valleys radiating from the higher peaks of the Venediger group, but descends to a comparatively low level—6,050 ft. It appears doubtful whether a direct passage between the Habachthal and Gschlöss has yet been accomplished. There is little doubt that native hunters have traversed a pass (9,528 ft. in height) between the *Schwarzkopf* (10,426') and the *Graukogel* (9,946')—which latter appears to be the Kratzenbergkopf of Keil's map. But this pass does not apparently lead across the main chain, but rather to the upper basin of the Hollersbachthal, and to reach Gschlöss, it would be necessary to cross the Plenitz-Scharte mentioned below. In case, however, M. Keil be cor-

rect in thinking that the *Hohe Fürleg* (11,114') may be ascended without much difficulty from the head of the Habachthal, there can be little doubt that the descent on the Gschlöss side may also be effected, although perhaps not without difficulty. In attempting this expedition, it would be advisable to start from the Gschlöss side.

From the preceding pages, the reader will have drawn the conclusion that the three uppermost lateral valleys of the Pinzgau, if accessible from Gschlöss, can be reached only by rather long glacier expeditions, for which the traveller should have the assistance of good guides, and be favoured by weather. There is a fourth valley through which the Pinzgau may be reached from the head of the Isel-Tauernthal, by passes that are much shorter than those hitherto spoken of, though not so easy as to be recommended to inexperienced travellers without good guides. This valley is the *Hollersbachthal*, whose torrent enters the Pinzgau at the village of *Hollersbach*, about $3\frac{1}{2}$ m. W. of Mittersill. A track mounts from that village along the E. bank of the stream, surmounting four successive steps in the floor of the valley, till, at the Ober-Rossgrubalp (5,201'), the valley divides into two branches. The SW. branch, locally called *Rasberg*, leads up to the *Rasbergsee* (6,736'), erroneously called *Weissenegger See* on Keil's map, which receives the drainage of the snow-slopes and small glaciers that surround the head of this glen. The SE. or *Weissenegg* branch of the valley ascends more gently, and is enclosed by ranges that are nearly free from permanent snow.

For the traveller starting from the Tauernhaus, the most direct way to Hollersbach is by the *Weissenegger Scharte* (about 8,800'), also known as *Hollersbacher Tauern*. The ascent is steep, and a small glacier which descends from the pass on the N. side is steep and almost dangerous when the surface is hard frozen, but easily traversed when the sun has softened the upper crust. The descent through the

Weissenegg is easy, and the traveller, on reaching the junction of the torrent with that from the *Rasbergsee*, finds a track leading in $2\frac{1}{2}$ hrs. to Hollersbach. Starting from Gschlöss, a shorter and rather more interesting route is by the *Plenitz-Scharte*. This is a snow (or glacier) pass NW. of the Gschlössalp, whence it is said that there is no difficulty in descending to the *Rasbergsee*. The height of the *Plenitz Scharte* pass has not been ascertained. The measurement given by Sonklar—9,630 ft.—applies to an eminence in the ridge considerably higher than the pass.

Additional information as to the passes here noticed will be thankfully received.

ROUTE G.

WINDISCH-MATREY TO KRIMML BY THE VIRGENTHAL.

In the preceding Rte. the higher peaks and glaciers of the Venediger group were approached from the E. side, starting from the Tauernthal or northern branch of the Isel valley. In the present Rte. the S. side of the same great mass is to be visited through the *Virgenthal*, which is pronounced by competent judges to include scenery even surpassing in grandeur and variety that of the other valleys of this part of the High Tauern range. The

torrent of the Virgenthal retains the name Isel, and is, in truth, the chief branch of that stream, and the valley itself is sometimes called Mittel-Iselthal, sometimes Ober-Iselthal, names here rejected as tending to create confusion. Though still rarely visited by English travellers, this part of the range has been made more accessible, since the inn at Pregratten has been much improved, and good shelter for the night is found at the Johannishütte, near the base of the Isel Glacier.

As mentioned in Rte. E, the *Virgenthal* opens due W. of Windisch-Matrey, and as far as Pregratten it is traversed by a rough road over which it may be possible, though scarcely pleasant, to travel in a light *einspännigen Wagen*. This keeps to the N. slope of the valley, passing opposite the remarkable church of St. Nicholas (see Rte. E). In about 1 hr. the pedestrian reaches *Mitteldorf* (3,924'), and in $\frac{1}{2}$ hr. farther,

Virgen (3,940'), the chief place in the lower division of the valley, with a rather rough but clean country inn (Panzl's). Though the position is not so fine as that of Pregratten, this is a convenient centre for some excursions. The summits of the Virgen range, dividing this valley from Deferegggen, several of which exceed 9,000 ft. in height, must command very fine panoramic views, and in this respect the *Zuinigkopf* (9,078') is probably to be preferred.

[Two passes lead across the same ridge to the Defereggenthal, both commanding very fine views. The nearer of the two, which, in default of a local name, may be called *Steinkas Pass* (about 8,500'), is reached by a path that mounts SW. in about 2 hrs. to the head of a glen called *Steinkasthal*, surrounded by a steep and high amphitheatre of rock; 2 hrs. more are required for the ascent to a point some way E. of the *Steinkaskopf* (9,005'). The descent on the N. side is extremely steep, passing two terraces on the slope of the mountain. $3\frac{1}{2}$ hrs. (or less?) suffice to reach St. Veit (Rte. K), which lies due

S. of the pass. To reach the more easterly and more frequented pass, leading to St. Leonhard, the traveller must follow the lower road to Pregratten nearly as far as Welzelach. W. of that village, the glen of the *Mulitz* sends its torrent to join the Isel. From a cross, which commands a fine view just above the village, the path through the *Mulitz* mounts above the l. bank, and after $1\frac{1}{2}$ m. of nearly constant ascent carries the traveller to a comparatively level reach, where many *Sennhütten* enliven the pastures. Here the path crosses to the rt. bank, and ascends to the head of the glen, which finally bends to the rt., or somewhat N. of W., where broad slopes of debris extend to the flanks of the *Lasörling*. The way to the pass keeps nearly due S., avoiding the last bend of the stream, and mounts over rocky slopes, here and there patched with snow, to the *Mulitz-Thörl* (8,911'), reached in 4 hrs. from Welzelach. The view in both directions is of a high order. On the S. side, the descent is easy, chiefly over Alpine pastures, until the pine forests are reached that clothe the slopes of the Defereggenthal. If bound for St. Leonhard or St. Jakob, the course from the pass lies at first SW., then WSW., until the glen of the *Tegischbach* is reached, which leads southward into the main valley near *St. Leonhard*, rather more than 3 hrs. from the pass. St. Veit is about equally distant, but lies SE. of the *Thörl*.]

In going from Virgen to Pregratten, the traveller has a choice of ways. The road descends towards the Isel, and, after following the l. bank for some distance, crosses to the opposite side before reaching the junction of the *Mulitz* torrent. A short way beyond it, and about 1 hr. from Virgen, it reaches *Welzelach* (3,892'). Here the main valley seems to be closed by the rocks that rise abruptly, and appear to bar further progress. The road enters a narrow gorge, through which the Isel flows southward for more than 1 m., until the valley turns abruptly, and resumes its upward course about due W.

At the hamlet of Bowojach, where the road returns to that bank, it is joined by the horse-track from Virgen, which is both a shorter and more interesting way for the pedestrian. This keeps to the N. side of the valley, rather high above, and distant from the Isel. Passing the village of *Ober-Mauer* (4,305'), whose church is noticed in Rte. E, it winds along the slopes, which command extensive views of the ranges to the S. and W., till it rejoins the road, and then follows the l. bank of the Isel to

Pregratten (4,330'), the chief place in the upper Virgental, about $3\frac{1}{2}$ hrs. from *Windisch-Matrey*. The inn, formerly very poor, is said to be improved. The parish priest formerly gave good accommodation to a few travellers in his house, but it is uncertain whether this is still afforded. The position of *Pregratten* has been compared to that of *Heiligenblut* without much reason. There the stranger's interest is concentrated on a single picture of surpassing grandeur; while here he finds far greater variety, though no single scene monopolises his attention. Travellers who intend making glacier excursions from the *Johannishütte* (mentioned below) must secure the services of one of the *Steiner* family, to whom the custody of that building is confided. Three of that name now exercise the profession of guide, and of these, *Urban* is said to be the best mountaineer. Besides these, *Balthasar Ploner*, and *Kassian* and *Andrä Berger*, are recommended as competent men.

Pregratten stands at the junction with the Isel of the torrent from the *Timmlthal*, a short glen through which it is possible to make the ascent of the *Grossvenediger*, or the *Rainerhorn*. The way leads by the *Wallhorn Alp*, and thence to the head of the glen, whence the upper névé of the *Mullwitz Glacier* is reached by traversing the rather steep ridge of the *Wallhorn-scharte*. This is the most direct, but a somewhat difficult way. As it is necessary either to start from *Pregratten* or to seek wretched night-quarters

at the *Wallhorn Alp*, most travellers will prefer to start from the *Johannishütte* (6,954'). This is a solid stone cottage, giving good shelter for twelve persons, built by the late Archduke John, and lately improved by the Austrian Alpine Club, at the upper end of the *Dorferthal*, also called *Klein-Iselthal*, which joins the main valley at *Islitz* about 1 hr. W. of *Pregratten*. A further walk of 2 hrs. amid fine scenery, enlivened by numerous waterfalls, suffices to reach the *Hütte*. This stands close to the lower end of two glaciers of the first order, both of which give access to the upper snow-fields of the *Venediger* group. That which descends from the N. in the prolongation of the axis of the *Dorferthal* is the *Dorfer Glacier* (*Isel Glacier* of *Sonklar*), which is formed by the union of two great ice-streams. The larger northern branch descends from a névé-basin bounded by the *Grosshapp* (10,832'), the *Gross-Geiger* (10,915'), the ridge extending thence to the *Grossvenediger*, and that connecting the latter with the *Aderspitz* (11,493'). The NE. branch of the *Dorfer Glacier* (*Rainerkees* of *Keil*) is divided from the northern branch by a massive buttress of rock descending southward from the *Aderspitz*, locally called *Keesfleck*. It must be understood that the latter is a generic name given in this district to an island of rock projecting through the surface of the *Kees* or névé. The *Rainerkees* originates between the *Aderspitz* and the *Rainerhorn* (11,703'), and is bounded on the E. side by a ridge—called *Mullwitz Ader*—extending S. from the latter peak through the *Klein-Geiger* (10,507'), and terminating close to the *Johannishütte*. The second great glacier of the valley—the *Mullwitz Glacier*—descends from the E. side of this last-mentioned ridge, and comes to an end ENE. of the *Johannishütte*, at a height of 7,503 ft., while the *Dorfer Glacier* descends more than 600 ft. lower, to 6,886 ft. A series of wet seasons might, however, suffice to unite these glacier streams.

Professor *Simony* has given a good

account of the ascent of the Grossvenediger from this side. Crossing diagonally the main branch of the Dorfer Glacier from the W. to the E. moraine, his party ascended along the ridge, above mentioned, that extends S. from the Aderspitz. The summit of this ridge was reached by a long, but seemingly not difficult, snow-slope (Schneeleitens), and thence they gained the depression in the ridge between the Rainerhorn and the highest peak, which is also aimed at in the ascent from Gschlöss (see last Rte.). In recent ascents, a somewhat easier, but decidedly longer, course has been preferred. The way crosses diagonally the Mullwitz Glacier, from the l. to the rt. bank, and then ascends the steep slopes until the summit of the Klein-Geiger is attained. Thenceforward the course is perfectly easy, but circuitous, passing round the E. and N. sides of the Rainerhorn, and gaining the ridge between this and the Grossvenediger from the N. instead of the S. side.

When, as sometimes happens, the snow of the Venediger overhangs to a perilous extent, the summit of the *Rainerhorn* (11,703') is decidedly a finer point for a panoramic view. The writer has adopted the name given to the summit by Keil and Simony in honour of the Archduke Rainer, a good mountaineer, who has ascended the Venediger and several other peaks of this district, because of the utter uncertainty attached to its other designations. The name, *Hennenkopf*, given on the Kataster map, and on the far weightier authority of Sonklar, has no foundation in local usage. The peak is often called *Kleinvenediger* on the Pregratten side, and in Gschlöss appears to be known as *Hoher Zaun*. Some of the differences between Sonklar's map and that of Keil may be accounted for by the fact that the former traveller encountered bad weather in both his attempts to reach the summit of the Grossvenediger.

The *Grosshapp* (10,832'), rising NW. of the Johannishütte, and reached by a stiff climb of 3 hrs., commands an ex-

cellent view of the chief peaks of the Venediger range.

The traveller wishing to reach Krimml by a glacier route may well choose the *Dorfer-Sulzbacher Thörl* (9,438'), a comparatively low pass over the main range between the Gross-Geiger and Grossvenediger, connecting the névé of the Dorfer with that of the Ober-Sulzbach Glacier. The main branch of the Dorfer Glacier is remarkably free from crevasses, and the summit of the pass is reached with ease in 2½ hrs. from the Hütte. Inasmuch as the real difficulties of this route lie on the Ober-Sulzbach Glacier (see last Rte.), it is, perhaps, wiser to start from that side, with the advantage of a guide possessing minute local knowledge, not owned by most of the Pregratten guides.

Various excursions may be made from Pregratten, on the S. side of the main valley, to points commanding favourable views of the snowy range. The most easily reached is the *Bergerkopf* (8,705'), lying due S. of the village. Sonklar speaks in the highest terms of the view from the *Lasörling* (10,171'), a peak with two summits (of which the southern is lower by 21 ft.) somewhat difficult of access, from its extreme steepness on all sides. With the assistance of Joh. Kratzer, an excellent mountaineer, accidentally met at the Lasnitzen Alp, he ascended from the head of the *Lasnitzenthal*, but descended by a small glacier on the E. side of the highest peak (called *Musspitz* on the Austrian military map) to the head of the *Zopatnitzenthal*. This latter very picturesque glen appears to the writer to offer the best way to the summit—certainly the shortest from Pregratten.

If the traveller should not select that route to Krimml, he should not omit to make an excursion from Pregratten to the *Maurer Glacier*, one of the largest and most remarkable of those in this district. It falls into the head of the *Maurerthal*, a wild lateral glen parallel to the Dorferthal, which joins the main valley about ½ hr. W. of the latter, at a farmhouse called *Ströden* (4,514'). An

ascent of about 600 ft. by the l. bank of the torrent leads to the *Göriach Alp*, where a large group of *Sennhütten* stands in the midst of a comparatively level tract. To this succeeds a much longer ascent of fully 1,000 ft., where the glacier stream falls in a succession of cascades, and the traveller reaches the foot of the glacier at a height of 6,750 ft. Here two great ice-streams meet nearly at rt. angles, but do not, as usually happens in such cases, unite in a single channel. The western branch—*Dellach Glacier* of Sonklar, or *Simony-Kees* of Keil—being the more copious of the two—flows across the valley, and abuts against its eastern slope, carrying its l. moraine across the true Maurer Glacier, which, descending from the N., seems to terminate about the point where it meets the other ice-stream. The *Dellach Glacier* is excessively crevassed, while the Maurer branch proper is easily traversed. Keeping due N., the traveller may reach, at its head, a depression in the main chain, called *Maurer-Sulzbach Thörl* (about 9,540'), which leads to the SW. corner of the névé-basin of the Ober-Sulzbach Glacier. There seems to be no doubt as to the possibility of reaching the névé of the Krimml Glacier by bearing to the l. on the SW. side of the *Hinter-Maurerkopf* (10,701'). This is the Heiligengeist-Keeskogel of Sonklar; but as that name originates in a topographical error on the part of the people of the upper Pinzgau, it seems desirable to abandon it. The possibility of descending into the Krimmler Thal, either by the Krimml Glacier or along its lateral moraine, and thereby effecting a direct pass between Krimml and Pregratten, remains to be decided by future explorers. It may best be attempted by starting from the Tauernhaus on the Krimml side. The traveller who does not intend crossing the main chain by the Maurer-Sulzbach Thörl may best visit the Maurerthal from the Johannishütte, by traversing a fine pass (known to the local guides) near to a point called Thürml. He may on the same day return to Pregratten, or else seek night-quarters at the Böwell

Alp (4,943'), with a view to exploring the uppermost end of the main valley. It is unfortunate for travellers that there is no inn, or even tolerable shelter for the night, in the immediate neighbourhood of the Umbal Glacier. The *Böwell Alp* lies about 1 m. W. of Ströden, near the entrance of the fine defile through which the westernmost branch of the Isel descends from its parent glacier. S. of the alp the Kleinbach, and a few hundred yards farther W., the Grossbach, joins the Isel. Along the latter stream, a track mounts SSW. to the *Troyer Thörl* (8,495'), the easiest and most frequented pass from the upper Virgenthal to Deferegggen. From the summit, the way lies SE., through the Troyerthal, to St. Jakob (Rte. K).

The western extremity of the Virgenthal, above the junction of the Grossbach, is often called Umbalthal, but we follow Keil in reserving that name for the last NW. branch leading up to the Umbal Glacier. The main valley comes to an end about 2 hrs. W. of Ströden, at the base of a group of lofty peaks whose highest summits are the *Rödtspitz* (11,459'), or *Weletzkopf*, *Tabarspitz* (11,154'), and *Kleinglockhaus* (11,238')—the latter being several hundred ft. higher than the *Grossglockhaus*, which stands about 2 m. to NW., overlooking Kasern, in Prettau. The first-named peak, which is accessible without much difficulty, must command a remarkably fine panoramic view. It forms part of the range of the Tauern Alps, extending WSW. of the Dreiherrnspitz, and dividing the head of the Abrenthal from the affluents of the Drave, while the others form part of a lateral ridge projecting southward from the Rödtspitz, and dividing the Virgenthal from the uppermost NW. branch of the Defereggenthal. At the head of the Virgenthal, two short glens unite their torrents to form the main branch of the Isel—from the SW. the *Tabarthal*, from the NNW. the *Umbalthal*. The *Tabarthal* divides into three short branches, through one of which, called *Sulzbach*, the traveller may traverse a

pass called *Sulzbach-Thörl*, said to be fatiguing and rather difficult, and so reach the Jagdhaus Alp at the head of the Deferegenthal. Another branch, turning to SE., leads over the *Kaseckscharte* (erroneously marked as Troyer Thörl on Sonklar's map) to the head of the Troyerthal, and so to St. Jakob. Far more attractive to the mountaineer than the Tabarthal is the *Umbalthal*. A comparatively short ascent leads from the junction of the two glens—6,416 ft. above the sea—to the lower end of the *Umbal Glacier*, one of the greatest in this district, pronounced by Sonklar to be a perfect model glacier, both in respect to the beauty and the regularity of its features. It originates mainly in a great snow-field on the S. side of the *Dreiherrnsplitz* (11,494') and the more eastern summit, which, for want of any local name, has been fitly denominated *Simonysplitz* (11,180'). The ascent of both summits may best be attempted from this side. The former was first reached in Nov. 1866 by B. Ploner of Pregratten, and in 1867 by Dr. Wagl. The name *Dreiherrnsplitz* originated in the middle ages, when this great cornerstone marked the meeting of the territories of the Counts of Tyrol and Goritz with those of the Bishop of Salzburg. It is more remarkable to the geographer, as the peak which sheds its waters towards three of the greatest rivers of the Alps—the Inn, Drave, and Adige.

Traversing diagonally the lower part of the Umbal Glacier, the traveller will find on its rt. or W. bank a faintly marked track. This affords a not very difficult route for the traveller wishing to reach Krimml from Pregratten; but it is a two days' journey, involving the necessity of passing a night at Kasern (§ 50, Rte. E), at the head of the Ahrenthal. There are two practicable passes over the ridge between the *Dreiherrnsplitz* and the *Rödtsplitz*—the *Vorder-Umbal-Thörl* (9,723'), lying to the SW., and the *Hinter-Umbal-Thörl* (9,832'?) to NE. of the *Eierkopf* (10,465'). The former is said to be the easier, and is certainly the shorter way. Both courses

reunite on the W. side of the *Eierkopf*. It is possible to descend directly into the head of the Prettau, above Kasern, by the ravine of the Windbach; but it is said to be a better way to bear to the l., somewhat S. of W., towards a depression in the ridge connecting the *Pferraspitz* (9,664') with the *Rödtsplitz*, and thence descend to Kasern through the glen of the *Rettenbach*.

The mountaineer who loves a high-level glacier route may reach Kasern from the Maurerthal by ascending to the *Recken-Thörl* (9,832'), a snow pass on the N. side of the *Malchamsplitz* (11,023'), which connects the névé of the Dellach Glacier with that of Umbal. There would probably be no difficulty, for experienced ice-men, in traversing the névé of the Umbal Glacier to the Hinter-Umbal-Thörl; but this pass is locally reputed to be not only difficult but dangerous.

It will be seen that the Virgental offers numerous attractions to the enterprising mountaineer, who may devise many other expeditions besides these here indicated.

ROUTE H.

LIENZ TO UTTENDORF, OR BRUCK, IN
PINZGAU, BY THE KALSERTHAL AND
STUBACHTHAL.

	Hrs. walking	English miles
Peischlach	3 $\frac{3}{4}$	11 $\frac{1}{2}$
Kals	2 $\frac{1}{2}$	7
Vellern	9	20
Uttendorf	2	6
	17 $\frac{1}{4}$	44 $\frac{1}{2}$

In the preceding routes, most of the valleys that penetrate deeply into the recesses of the Tauern Alps have been described, and there remain but two considerable valleys, both of which, however, offer to the tourist scenery of a very high order, and to the mountaineer the attraction of several first-rate expeditions. This is especially true since the discovery of a direct route from Kals for the ascent of the Grossglockner.

Of the paths leading across the main range from the Drave to the Salza, adapted to ordinary travellers who do not attempt difficult expeditions, that of the Kaiser Thörl, from Kals to Uttendorf, is, perhaps, the most interesting. The distance is rather less than that from Windisch-Matrey to Mittersill (Rte. E), and the scenery finer.

The way from Lienz to *Peischlach* (2,479'), in the main valley of the Isel, has been described in Rte. E. From that village a track ascends NNE. by the E. side of the narrow cleft through which the *Kalserbach* enters the Iselthal. After mounting rather steeply for $\frac{3}{4}$ hr., a very fine view of the Grossglockner is unexpectedly gained. The peak remains for some time in view, but as the traveller advances, the intermediate ranges gradually come in the way, and finally eclipse it altogether. The valley is not here broken into steps with intervening level spaces, but mounts continuously. About 1 hr. from Peischlach is *Haslach* (3,630'), near to which the traveller passes a fine waterfall. Nearly $\frac{1}{2}$ hr. farther is *Aring*

(4,317'), beyond which the track passes to the l. bank of the *Kalserbach* a little below the junction of the *Lesach*, a copious torrent charged with the drainage of several of the glaciers of the Schober group, which issues from the *Lesachthal*, further noticed in the next Rte. The village of *Lesach* (4,389') stands on the slope above the junction. Thence the way lies for a while through pine forest, till the valley, for the first time, opens out into a comparatively broad basin, where stands

Kals. This, in truth, includes two villages. The larger of these, locally called *Grossdorf* (4,472'), stands on the W. slope of the valley, while *St. Rupert* (4,324') is on the rt. bank, close to the junction of the torrent from the *Ködnitzthal*. Here is the chief church of the valley, and near it an inn. A second inn stands near the bank of the torrent. Both are rather rough country inns, but are improved of late years, and offer tolerable accommodation. The *Kals* people are friendly to strangers, and remarked in Tyrol as exceptionally sober.

Many of the most interesting excursions from *Kals* are mentioned in the next Rte.; but the chief attraction for mountaineers will doubtless be the two routes to the summit of the *Grossglockner*, which have been discovered within the last few years. A glance at the map will show that, while all the glaciers and snow-slopes of the NNE. side of the *Glockner* range lie in the upper basin of the *Möllthal*, those of the opposite or SSW. slope are divided by the ridge that separates that valley from the *Kalsertal*. Four rather considerable glaciers send their drainage to the *Kalserbach*, and one only—the *Leiter Glacier*—is drained towards the *Möll* through the *Leiterthal*. It will be recollected that the way to the *Glockner* from *Heiligenblut*—long supposed to be the only possible course—lies through that glen, and that the base of the highest peak is reached at the *Adlersruhe*, a patch of rocks projecting from the ridge of the mountain

on the ESE. side of the summit. From the Adlersruhe, a secondary ridge runs southward, dividing the valley of Kals from Heiligenblut, and connecting the Glockner group with that of the Hochschober. Between this and the *Vanitscharte*, another shorter and nearly parallel ridge, extending SSW. from the main peak, and called Glocknergrat by the Kals guides, is a *névé*-basin, whence descends the *Ködnitz Glacier*, whose torrent joins the Kalsbach at St. Rupert. Starting from Kals, the ascent is made either by the *Ködnitzkees* or the *Vanitscharte*. There are several excellent mountaineers amongst the Kals guides. Foremost should be reckoned Thomas Groder and Josef Kehrer, who discovered the direct way to the summit of the Glockner. Groder has three brothers, all good guides. Besides these, Josef Schnell, Georg Payer and his two sons, Johann Gräfer, and Peter Hutter, are all well recommended. Their demands are considerably less than those of the Heiligenblut men.

The way is by the *Jörgenhütte* (6,444'), the highest *Sennhütte* in the *Ködnitzthal*. The *Ködnitz Glacier* is much crevassed, but there is little difficulty in reaching the deep slope at its NE. corner, that leads to the Adlersruhe, where the ancient course from Heiligenblut (Rte. B) is joined. The discovery of a much shorter line to the highest peak of the Glockner, by the ridge of the *Vanitscharte*, is due to the Kals guides named above, and to the perseverance of M. Egid Pegger, who ascended three times in 1865. The base of the *scharte* is reached by traversing the W. branch of the *Ködnitz Glacier*, called *Vanitkees*, which is tolerably free from crevasses. Here a hut has been erected, about 9,300 ft. above the sea, at the expense of Herr Stüdl of Prag; and as it affords good shelter for the night, it has made this *rte.* much easier than that from Heiligenblut. Thenceforward the ascent lies, throughout, over rock, in some places very steep, but apparently nowhere dangerous. The scramble must be of the

most interesting description; and the view of the great Pasterze Glacier, suddenly opened to view as the traveller gains the summit, transcendently grand. This description, however, refers to the exceptionally hot summer of 1865. Rocks were then bare which had never been seen bare before, as, for instance, the second peak of the Glockner itself. The Kals guides, determined to secure a preference for the new route, have improved the ascent, and in the steepest places have even attached wire ropes to the rocks.

The way from Kals to the Pinzgau lies over the Kals Tauern, and, though not difficult for a mountaineer, is, in places, intricate, and should not be taken without a guide. The path follows the main valley nearly due N. from the village, through the comparatively level tract which forms the limit of permanent habitations. At the opening of the *Teischnitzthal*, through which flows the torrent from the Teischnitz Glacier that descends to SW. from the peak of the Grossglockner, the traveller should turn round to catch a fine distant view of the peaks of the Hochschober group. Above the junction of this torrent, where stands a group of houses called *Taurer* (4,806'), the main valley appears to be barred by a transverse ridge, through which the Kalsbach has cut a very deep trench. The path ascends the steep slopes above the l. bank, and in about $\frac{1}{2}$ hr. the traveller, having gained the summit, enjoys a view of a picturesque Alpine basin, whereon stand many *Sennhütten*. Above this point the main valley is locally called *Dorferthal*. But it is desirable to abandon that useless designation, liable to be confused with the *Dorferthal*, near Pregratten. The scenery here is extremely fine. To the rt. rises the great range of the Grossglockner, while on the W. side the valley is divided from the Isel-Tauerntal by a high range—the *Kalserkamm* of *Sonklar*—which culminates in the *Rolfner* (10,666'). The writer is not aware that any pass is known across this range to

the Tauernhaus at the S. foot of the Velber Tauern, neither has he seen any notice of the ascent of the last-named summit. He is inclined to select it as likely to command the finest view of the peaks of the High Tauern.

After descending some way across the barrier that divides the upper from the lower valley, the traveller follows the onward track, alternating between masses of dark pine forest and patches of green Alpine pasture. The peaks of the Glockner range naturally attract the larger share of his attention. Several of these come into view at the point where the torrent from the *Frusnitz Glacier*, also called Dorfer Glacier, enters the valley. The whole of this tract is collectively known as Dorferalm, but each separate small group of *Hütten* has a special name. At the highest of these, called *Böheim* (5,731'), about 2½ hrs. from Kals, travellers wishing to cross the pass very early sometimes seek and find shelter for the night. It lies immediately S. of the confluence of the torrent from the *Laperwitz Glacier*—the northernmost considerable glacier on this side of the Glockner range. Above this point, the valley changes its character. The Alpine pastures in some places give place to piles of debris fallen from the surrounding heights. Before long the *Dorfer-See* (6,227') is reached. This is said to originate in a Bergfall from the *Kastenkofel* (10,403'), which overhangs the valley on the E. side. The aspect of the scenery becomes more and more severe as the traveller advances. In front, but a little to the l., is seen the Tauern Glacier, of small dimensions, but remarkable for its pure tints. It lies in a hollow enclosed by the *Rothe Tauernspitz* (10,503'), *Gratenspitze* (10,116'), and *Bärenkopf* (10,093')—the latter not to be confounded with the summits so named at the head of the Pasterze Glacier. After approaching near the base of the glacier, the path turns aside to NE. for the ascent to the

Kaiser Tauern (8,410'), reached in 2½ hrs. from Böheim, or 5 hrs. from

Kals. This is a wild and rather dreary spot, being usually encumbered with much soft snow; but the epithet 'dangerous,' applied to it in the new edition of 'Schaubach,' is as erroneous as several other statements there made respecting the head of the Kalsenthal. In descending to the *Stubachthal* the way lies at first NNE., but before long bears somewhat to the l., or about due N., down a steep rocky declivity, with little or no trace of path. At the base of this descent, the traveller reaches the higher of the two lakes that occupy this branch of the valley. This is the *Weisssee* (7,514') of Keil's and Sonklar's maps, arising from the melting of a rather large glacier of the same name that lies on the E. flank of the *Sonnblick* (9,954'), and reaches to the lake shore. Dr. Ruthner has erroneously called it Grüne See. It may here be observed that minute local knowledge, which is not possessed by all the Kals guides, is much needed in the upper part of the *Stubachthal*. The torrents have cut deep and impassable gorges, and bridges (*Stege*) are often wanting, or consist only of a single dangerously narrow and slippery pine trunk. On one occasion, Col. v. Sonklar, falling into a furious torrent, had a very narrow escape with his life. In descending from the Kaiser Tauern the traveller does not immediately enter the main branch of the *Stubachthal*. This is traversed by the torrent from the *Oedenwinkel Glacier*, a very considerable ice-stream flowing from the NW. extremity of the Glockner range. Half a mile below the glacier, the torrent enters a level plain, called *Tauernmoos* (6,846'), 1¼ m. long, and ½ m. broad, obviously the area of an ancient lake, part of which, not yet filled up, occupies the northern end of the plain. Escaping from this basin, the torrent descends a high and precipitous step in the valley to the lower level of the *Enzinger Boden*. At that point it joins the stream which originates in the *Weisssee*, and drains the W. branch of the valley, locally called *Tauerthal*. The main (*Oedenwinkel*) branch is separated

from the Tauerntal by a low ridge, whose highest point—the *Schafbüchel* (8,017')—lies somewhat S. of the Weisssee. The course formerly followed in descending from the Kalser Tauern was to cross this ridge by a merely trifling ascent on the S. side of the Schafbüchel, and, passing along the W. side of the Tauernmoos, to keep along the heights on the E. side of the main valley to the Wurfalp, whence a beaten track descends to Hopfsbach. This involves crossing the violent torrent below the Tauernmoos by the rough trunk of a single tree, unsafe for many travellers, and most prefer to keep along the Tauerntal, passing on the W. side of a second lake that lies nearly 1 hr. below the Weisssee. As to the name of this lake, there is intolerable confusion. It is the Grüne See of Sonklar's map, Schwarzsee of Keil, and the Weisse See of Dr. Ruthner, while Mr. Tuckett, who passed a night in the neighbouring shepherd's hut, declares that on the spot it is known as the *Blausee* (6,395', Keil), which latter name is here adopted. By a rough but not difficult track, the traveller descends, amid very fine scenery, to the Hopfsbachalp. The traveller who would not lose the far grander scenery of the Oedenwinkel branch of the valley has three courses by which he may avoid the dangerous passage of the torrent. Crossing the ridge E. of the Weisssee, and keeping well to the rt., he may reach the lower end of the Oedenwinkel Glacier, which, like that of Zmutt, is completely covered over with debris. Crossing over to the rt. bank of the glacier, he may descend to the Tauernmoos, and keep along the E. side of the marshy flat, till he hits upon a faintly traced cattle-track, which may be followed about due N. to the Wurfalp. This would involve rough scrambling over pathless ground on both sides of the glacier, and a considerable detour, which may be avoided by a traveller who does not object to wade through the ice-cold torrent below the glacier, where it meanders through the plain of the Tauernmoos. A third course, which is easier than

either of the others, is to return from the Tauernmoos to the Tauerntal by the S. side of the Schafbüchel. Whichever route be taken, the traveller finally reaches the floor of the main valley at the

Hopfsbachalp (4,148'). This is the summer dwelling of one of the large peasant proprietors, who own nearly the entire Stubachthal. The class is characteristic of the Pinzgau, but those of this valley enjoy especial local importance, both for the extent of their possessions and the antiquity of their families. Though not rich, if measured by a money standard, these men enjoy many of the advantages and the local influence elsewhere accorded to wealth. They are known—like the chiefs of Highland clans—by local instead of family names. The owner of this, the highest part of the valley, and another tract near its opening, is known as the Enzinger. Next below him is the Vellerer, and lower still the Widrechtshäuser. Travellers speak highly of the kindness and hospitality shown to them by these peasant lords of the valley. The traveller approaching from the Pinzgau will do well to apply to one or other for local information and for a guide. A rough road, passable for light vehicles, is carried through the valley as far as the Hopfsbachalp, but the traveller coming from Uttendorf will gain little time by taking a vehicle beyond *Vellern* (3,352'), about 1 hr. below the Alp. The hamlet of Vellern, where numerous houses are gathered round that of the proprietor above named, stands a short way below the junction with the main valley of a western tributary glen called *Dorfer-Oed*. This is very rarely visited by a stranger. It originates in a wild hollow, in great part occupied by snow and glacier, enclosed between the *Sonnblick* (9,954'), *Rabenkopf* (10,114'), and the *Landeckkopf* (9,440'). A pass, said to be difficult, leads over the main range between the last-named summits to the *Landeckthal* (Rte. E), which opens into the Isel-Tauerntal nearly 3 hrs. above Windisch-Matrey. If it were mode-

rately easy, it would be a short cut for a traveller bound to that place from the lower Pinzgau.

From Vellern the road descends by a gentle slope through the lower Stubachthal, passes the large farm establishment of the Widrechtshäuser, and lower down the chief house of the Enzinger. Part of the appurtenances of these farms is a still for making the gentian liqueur for which the valley is locally renowned. The road enters the Pinzgau, opposite

Uttendorf (§ 50, Rte. A), which is reached by a bridge over the Salza.

The mountaineer who wishes to enjoy the finest scenery of this district will combine the passage of the Kalser Tauern with a visit to the Kaprunerthal (Rte. D). For this purpose he will avail himself of the fine pass of the Kapruner Thörl. Sleeping at the Böheim hut, at the upper end of the Kalserthal, an active walker may reach Kaprun on the following day. But it would be a better plan to go on the first day from Kals to the Hopfsbachalp by the Blausee, and on the following day remount the E. branch of the Stubachthal by the Wurfalp. Unless he should have secured the services of Gräfer of Kals, who knows the way, he should enquire for Johann Berger, the best guide in the Stubachthal. In the former case he must somehow reach the E. side of the basin of the Tauernmoos from the Kalser Tauern, as above explained; in the other, he will reach the same point by the easier way from the Wurfalp. The *Kapruner Thörl* (8,740') is a depression in the range that divides the upper end of the Kaprunerthal from that of the Stubachthal, about half-way between the *Hohe Riffel* (11,003') and *Grosseiser* (10,361'), and immediately S. of the *Kleineiser* (9,699'). Being a glacier pass, and lying out of the line of ordinary traffic, it is very rarely used. In ascending from the Tauernmoos, it is necessary to cross diagonally the *Riffel Glacier*, originating in a snow-field on the NW. flank of the Hohe Riffel. The last part of the ascent is by a steep

slope of debris. Of two depressions that seem to offer equal facilities for crossing the ridge, that lying to the left is to be preferred. The rt. hand passage, marked by the remains of a wooden cross, though formerly easier, is now abandoned. From the summit the way lies at first ENE. over névé, but gradually bears to the l., and before long reaches the ice-stream which descends north-eastward towards the Mooserboden. This, which is the *Thörlgletscher* of Sonklar, is so completely covered with debris, that from a distance it is not recognised as a glacier. In order to avoid very rough ground, and unbridged glacier streams, it is advisable to leave the Thörlgletscher by the rt. bank, and, crossing diagonally the adjoining much greater ice-stream of the Karlinger Glacier, descend to the Mooserboden by its rt. bank. (See Rte. D.)

From the Hopfsbachalp the traveller may reach the Pinzgau at a point nearly half-way between Uttendorf and Kaprun, by traversing the easy pass of the *Mühlbacher Thörl* (7,707'). This lies at the head of the *Mühlbachthal*, a short glen that opens into the valley of the Salza at Mühlbach, a little below Lengdorf (§ 50, Rte. A). Descending to the *Lakoralp* (6,731'), the traveller finds a cattle-track that leads him in 2 hrs.' rapid descent to Mühlbach.

ROUTE I.

HEILIGENBLUT TO WINDISCH-MATREY.

The mountaineer visiting the range of the High Tauern will naturally endeavour to avoid descending into the comparatively hot, and not very interesting, main valleys of the Pinzgau and Pusterthal, and to keep as near as possible to the peaks of the main range. For this purpose he will necessarily have occasion to pass from Heiligenblut, his head-quarters in the Glockner group, to Windisch-Matrey, which, as has been seen in Rtes. F and G, gives ready access to the innermost recesses of the Venediger range. A good walker, taking the easier of the passes here enumerated, may easily accomplish the distance in a single day. Whichever he may select of the various passes leading to Kals, he must not fail to traverse the short and easy, but very beautiful, pass leading from the latter place to Windisch-Matrey, and should arrange his course so as to be at the summit either early in the morning, or a little before sunset, so as to enjoy to advantage the very remarkable view.

The direct way from Heiligenblut to Kals is through the Leiterthal, which was described in Rte. B, in connection with the ascent of the Grossglockner. On the l. hand, ascending the Leiterthal, a short steep glen ascends at first SSW., then SW., and leads to the *Peischlach-Thörl* (8,062'), on the S. side of the *Kaarberg* (9,058'). A few hundred yards beyond the point where the path diverges into the Peischlachthal, another track diverges from the Leiterthal, and mounts no less steeply to the *Berger Thörl* (7,971', Keil), another pass on the N. side of the same summit. The latter is generally preferred, being rather shorter and easier. The height of 8,714 ft. attributed to this pass is probably one of the numerous blunders of the 'Kataster.' Whichever pass be chosen, it is necessary to descend into the Ködnitzthal, and the paths reunite at the WSW. base of the Kaarberg.

The torrent of the *Ködnitzthal*, after flowing nearly due S. for some miles, turns westward at the junction of the stream from the Peischlach-Thörl. Just below the junction, on the N. side of the valley, is a group of farm buildings called *Grader* (4,802'), whence a beaten path along the rt. bank leads to Kals. From 6 to 7 hrs. are allowed for the walk from Heiligenblut.

The mountaineer, not over-pressed for time, may desire, on his way from Heiligenblut to Kals, to see something of the range of high peaks between those valleys, whose chief summits are the *Petzeck* (10,761'), and *Hochschober* (10,628'). Of the ascent of the former, the writer has no information. The second is most easily reached from Aineth, or St. Johann, in the Iselthal (Rte. E). Although it does not approach the highest summits, the most interesting of the lateral valleys of this group is the *Gössnitzthal*. The very fine waterfall in which its torrent descends to the level of the Möllthal is noticed among the excursions from Heiligenblut. Above the ravine of the waterfall, the path, which keeps to the l. bank, enters on an alluvial plain, $1\frac{1}{2}$ m. long, whereon stands a group of *Hütten*, called 'In der Eben' (5,447'). Another ascent leads to a higher basin at the extreme head of the valley, into which the Gössnitz and Hornkogel Glaciers send their torrents. The only pass said to lead westward from hence to the Kalser Thal is that of the *Krystallscharte* (9,217'), mentioned by Sonklar as connecting this with the Lesachthal, which opens into the Kalser Thal about $\frac{1}{2}$ hr. below Kals. From his map, however, it would appear that the descent on the W. side from that pass must be towards the Ködnitzthal, but doubtless, when this range is better known, a pass to the Lesachthal will be discovered. The writer suggests the ascent of the *Peischlach-Kesselkopf* (10,221') of Keil — Böses Weibele of the 'Kataster' — as likely to command a singularly fine view.

Having reached Kals by one or

other of the passes above named, the course to Windisch-Matrey lies due W., up a short but rather steep lateral glen. A guide is scarcely required, unless it be to find the shortest way through the fields in the valley. Ascending steadily for 2 hrs., the traveller reaches the summit of the *Matreyer Kals*er Thörl (7,277'), which is visible both from Kals and Windisch-Matrey. At this very moderate height, accessible to the most moderate walker, a view of extraordinary beauty and variety is gained. The eye penetrates into the adjoining valleys of Kals and Matrey, along the Virgenthal, and through part of the valley of Ködnitz, and contrasts these with the snowy ranges which form the background on either side. To the W. the chief summits of the Glockner and Schober ranges are all in view, and eastward the more distant range of peaks from the Kleinvenediger to the Lasörling. In the descent it is well to remember that the way lies by the S. side of the *Bretterthal*, through which a torrent descends to Windisch-Matrey that has often carried destruction to the houses and gardens of its inhabitants. The larches here extend to a height little below the summit of the pass, and the way is partly under the shade of forest, with charming views at intervals over the Iselthal, and along the Virgenthal. From 3 to 3½ hrs. are quite sufficient for this pass, but most travellers will be tempted to linger by the way.

The pass, above described, between Matrey and Kals is so interesting that it is well worth while for a traveller going from Lienz to Kals to make the detour that way, which involves but little delay. Taking a light carriage from Lienz to Windisch-Matrey, he will have time not only to make the pass to Kals, but, if needful, to push on to the Jörgenhütte or the Böhnhütte on the same day.

ROUTE K.

LIENZ TO ST. VALENTIN, BY THE DEFEREGGENTHAL.

	Hrs. walking	English miles
In der Huben . . .	3¼	11½
Hopfgarten . . .	1	3
St. Jakob . . .	4¾	12
Jagdhausalp . . .	4½	10
St. Valentin . . .	4	8
	18	44½

Carriage-road to In der Huben; horse-track to the Jagdhausalp; on foot thence to St. Valentin.

In the preceding Rtes. all the principal valleys of this district have been described, with the sole exception of the *Defereggenthal*, often written *Tefereckenthal*. This lies parallel to the Pusterthal, and to the general direction of the High Tauern range, and about half-way between them. The direction of the upper end of the valley is indeed towards SE., or transverse to that of the Antholzer and Ahrenthal ranges, between which it originates, but from the Patscher Brücke to its junction with the Isel—a distance of nearly 20 m.—the course of the torrent is due E. On the one side, the valley is divided from the Virgenthal by the range noticed in Rte. G, which culminates in the Lasörling, and on the other, the somewhat lower, but not insignificant, range called by Sonklar *Defereggenkamm* separates it from the Pusterthal. The latter is much less steeply inclined on either

side than most of the ranges of this district. The main valleys on either side are 12 or 13 m. apart, and comparatively long lateral glens penetrate deeply into the mass, which does not usually surpass 9,000 ft. in height. The Rte. here described may be convenient for a pedestrian going from Lienz to the head of the Ahrenthal, but if unwilling to achieve a glacier pass, he should prefer the easier and less fatiguing way from St. Jakob to the Ahrenthal by the Klamml Joch and Bretterscharte (Rte. M), while the mountaineer bound for the same place will undoubtedly prefer the route through the Virgental, which offers scenery of a higher order. The Defereggental will probably be oftener used by travellers starting from Bruneck, who, traversing one or other of the passes mentioned in the following Rtes., may reach Kals and Heiligenblut by an easy, agreeable, and direct way, avoiding the high-road through the Pusterthal.

The torrent of the Defereggental—called Schwarzbach—descends through a narrow cleft to join the Isel immediately above the good inn at In der Huben, close to Peischlach (Rte. E); and there is a path on either side leading to *Hopfgarten* (3,611'), the most considerable village in the valley. Like the rest of the people of this valley, the inhabitants follow the trade of hawking carpets and rugs throughout Germany, where they pass as natives of the Pusterthal. Above the village, the path enters a gorge, but the valley soon widens, and the scenery, without rising to grandeur, is varied and agreeable. As usual in the transverse valleys of the Alps, the villages for the most part stand on the northern slope, and the opposite side presents alternations of rock, pine forest, and rough pasture. The path is in most places near to the stream, and about half-way between *Hopfgarten*, it passes below

St. Veit (4,883'), a village seen from afar, as it is nearly 800 ft. above the level of the valley. Thence ascends the path to the Steinkas Pass, noticed in

Rte. G. Following the valley path, the traveller passes the hamlet of *Gört-schach* (4,156'), and about 2 m. farther crosses to the rt. bank, and keeps along the stream as far as *St. Leonhard* (4,553'), the only village on the S. side of the valley. Several tributary glens enter the main valley near here. On the N. side, the Tegischbach descends through a narrow glen, up which lies the way to the Mulitz-Thörl (Rte. G). A little farther W. is the opening of the Troyer Thal, by which the head of the Virgental is reached, either by the Grossbach or the Kaseckscharte (see Rte. G). On the S. side opens the *Lag-nitzenthal*, descending from the highest part of the Defereggental range, where four summits near together exceed 9,500 ft. in height. The track descends slightly from *St. Leonhard* to the Schwarzbach, crosses to the l. bank, and goes along level ground to the opening of the Troyer Thal, just beyond which is the highest village in the valley—

St. Jakob (4,470'). There are tolerable country inns here and in the other villages of the valley. The best is apparently that nearest the church (Basler's?), but there have been complaints of extortion. Either here or at *Erlsbach* is the best stopping-place on the way to *St. Valentin* or to *Bruneck*. For about 1½ hr. above *St. Jakob*, the main valley preserves its original direction, and the path ascends westward towards the peaks of the Antholzer Alps, which appear to bar further progress. Soon after passing *Erlsbach* (5,128')—a small hamlet with a very clean inn—this divides. Along the lesser torrent of the *Stallerbach*, that descends from the SW., mounts a path to *Antholz* (Rte. L); while the main stream flows from the NW., and the path for some time follows its l. bank. It crosses to the rt. bank, however, at the opening of a short and steep lateral glen called *Patschthal*, but presently recrosses the torrent by the *Patscher Brücke* (5,384'). Henceforward, the way lies through a green highland valley, in which large

herds of horned cattle are pastured in summer. Excepting occasional clumps of *Pinus cembra*, timber is scarce, and the numerous *Sennhütten* are built of flags of gneiss, piled up in such a way that, except for the smoke, they are scarcely recognisable. The people of this valley, except in the chief villages, speak a dialect unintelligible even to Austrians, and are shy of strangers. The milk-maids are said often to retreat into the *Hütten*, and bar the doors so as to disappoint the traveller, who merely seeks a draught of milk. At the Oberhausalp, the path returns to the rt. bank, which it follows for a long distance. Fully 2 hrs. above the Patscher Brücke, the valley again divides. The branch of the stream which retains the name Schwarzbach descends due S. from a glacier between the Rödtspitz and the Grossglockhaus, while the *Affenbach* flows ESE., from the uppermost head of the valley, which forms the western extremity of the basin of the Drave. A short distance above the junction of these torrents, a rough path, still keeping to the rt. bank, leads to the

Jagdhausalp (6,602'), a summer village of *Sennhütten*, with a little chapel. In ascending the valley, this is reckoned 5 hrs. from St. Jakob. The direct way to the head of the Ahrenthal lies along the Affenbach. It ascends at first NW., and, having approached close to the low pass that leads to the Rainthal (Rte. M), bears at first N., and finally NNE., in the final ascent to the *Merbjöchl* (9,280'), about 2½ hrs. above the alp. The pass, which commands a very fine view of the Zillerthal Alps, has been described as the '*Ochsenleute-Tauern*,' a name apparently borrowed from the much lower pass of Ochsenlenk, or Bretterscharte, leading from the head of the Rainthal to the Ahrenthal, for which see Rte. M. There is a small, but rather steep, glacier on the N. side of the Merbjöchl, for which crampons, or the use of the ice-axe, are generally required. From the foot of the glacier, a rapid but not difficult descent leads

to *St. Valentin* (§ 50, Rte. E). There is another pass from the Jagdhausalp to the head of the Ahrenthal, said to be higher and more difficult than the Merbjöchl, but likely to be very interesting to the mountaineer. This, which is approached by following the glen of the Schwarzbach, is called *Löffeljoch*; it lies about half-way between the *Rödtspitz* (11,459') and *Grossglockhaus* (10,546'), and must apparently command fine near views of the adjoining peaks, as well as the remarkable range of the Zillerthal Alps to the N. and W. The descent to Kasern follows the glen of the Rödtenbach, and joins the path by which the descent from the Umbal-Thörl (Rte. G) is usually effected.

ROUTE L.

BRUNECK TO HOPFGARTEN.

In describing the road from Bruneck to Lienz (Rte. A), we noticed two lateral valleys, whose torrents join the Rienz some way E. of the former town, each of which offers a convenient route for a traveller going thence to Windisch-Matrey, Kals, or Heiligenblut. The more interesting is that first described.

1. *By the Antholzer Thal*.—About 9 m. by road to the baths of Antholz; 10½ hrs.' walking thence to Hopfgarten.

The traveller will do well to engage a light vehicle from Bruneck, as far as the baths. About 5 m. from the town, he leaves the high-road of the Pusterthal, and turns NNE. into the open valley of Antholz, which, for several miles, is comparatively broad, and ascends with a very gentle slope. After passing the villages of *Nieder-Rasen* (3,409') and *Ober-Rasen* (3,565'), with several old castles in more or less ruinous condition, the *Baths of Antholz*, about 4 m. from the entrance of the valley, are reached. The mineral spring is locally known as *Salomonsbrunnen*, and is somewhat frequented in summer. The establishment supplies humble accommodation, and the arrangement of the baths argues a condition of primitive innocence or ignorance. The position is very picturesque. To the N. and NNE. the fine range of the *Antholzer Alps*, here commonly known by the collective name *Riesenferner*, is seen to great advantage. This is a remarkable detached range of lofty peaks, parallel in its general direction to the Zillertal, and the western portion of the Tauern Alps, from which latter it is separated by the Rainthal, described in the next Rte. The highest summits are the *Hochgall* (11,284'), also known as *Rieser*, and *Wildgall* (10,785'), both rising above the upper end of the Antholzer Thal, and the *Schneebig Nock* (11,068'), which crowns a promontory extending towards the Rainthal. There are two villages higher up in the valley, each of which is sometimes called Antholz. The first, about 1 m. above the baths, is locally known as *Niederthal* (3,728'), or *Walburg*; and the second, nearly 1 hr.'s walk farther, is the principal place in the valley—called *Mitterthal* (4,075'), or *Gassen*—with a tolerable country inn (Brugger's). This is the best starting-point for several Alpine excursions, amongst which the ascent of the Hochgall, not yet effected, will attract mountaineers. Two fine glacier passes lead to the Rainthal (Rte. M). That of the *Antholzer Scharte* (9,281') leads to the head of the Bacherthal, one of the two

uppermost branches of the Rainthal; while the *Gänsebühl-Joch* (9,407') is a more direct way to Taufers, as it leads through the Gelital to the lower part of the same valley. Another way to Taufers keeps on the S. side of the higher summits of the Antholzer range, but is fatiguing, as it involves the passage of three ridges, and the descent into two intermediate glens. The pass from Mitterthal to Gsiess over the Ochsenfelder Alps is likely to give a fine view of the Antholzer range.

Above Mitterthal, the valley bends to ENE., parallel to the main range of the Zillertal Alps, and to the intermediate ridges and valleys. The track, passable for country carts, mounts, chiefly by the l. bank of the torrent, through the rather broad valley into which great masses of detritus have been carried down by torrents from the surrounding heights. In about 1¼ hr. from the village, the traveller reaches the *Antholzer See* (5,305'), one of the most beautiful Alpine lakes in Tyrol, about two-thirds of a mile in length, and half that width, seemingly owing its origin to two great mounts of detritus that have descended from opposite sides of the valley. Pine forest and rock enclose the lake, and from above these, the snowy peaks of the Hochgall and its attendant summits are reflected in the waters. The track passes along the S. and E. shore, and then, crossing the torrent, ascends, in another hour, to the summit of the *Staller Sattel* (6,738'), the low pass that marks the division between the Defereggen and Antholzer Alps. A few minutes' descent on the ENE. side leads to the *Staller See* (6,600'), a mere tarn at the head of a short pastoral glen, called *Stalleralp*, which joins the main branch of the Deferegenthal about 1½ hr. above St. Jakob, for which see last Rte.

2. *By the Gsiessthal and Gsies Joch.* About 10 m. by road; 12 hrs.' walking thence to Hopfgarten. The traveller, following the high-road of the Pusterthal, who, at Welsberg (Rte. A), crosses

an unimportant torrent that issues from a narrow cleft in the side of the valley, would not suppose that it drains a considerable valley at least 15 m. in length, and containing numerous villages. The barrier at the mouth of the valley is formed by a ridge of metamorphic slate running E. and W., which has impressed that direction on the lower part of the valley. The shortest way for a traveller coming from Bruneck is to leave the high-road about a mile before reaching Welsberg, and ascend gently to *Taisten* (3,991'), a village on the N. side of the gorge; but the more frequented track, passable for country carts, ascends from Welsberg by the S. side of the old castle, and only crosses to the N. side of the *Pudnigbach* (as the main torrent is called) about $1\frac{1}{4}$ hr. from that village. It is soon joined by the path from Taisten, and in $1\frac{3}{4}$ hr. from Welsberg, the traveller reaches

Ausser-Pichl (4,104'), the chief village of the lower valley, often called Gsiess; but that name is also given to St. Martin. M. Huter, the priest of this village, is an excellent botanist. A path leads hence over the *Speikriedl* to Niederthal, in the valley of Antholz. Above Pichl, the Gsiesstal turns to NE., with a gradual ascent; and, in about $1\frac{1}{2}$ hr. more,

St. Martin (about 4,500') is reached. This remote village is remembered as the birthplace of the Capuchin Haspinger, whose fiery spirit so often led the Tyrolese to victory against the French and Bavarian invader in 1809. There is an inn; but few travellers will break the journey to St. Jakob. Here the valley is somewhat contracted; but it opens again, and forms a green basin round St. Magdalena (4,664'), about $\frac{3}{4}$ hr. above St. Martin. A path runs from this, the highest village in the valley, to Kalchstein, in Villgratten (Rte. N). The head of the Gsiesstal now lies nearly due N., and the ascent is continuous, but not steep, to the summit of the

Gsiesser Joch (7,353'), the deepest depression in the Deferegggen range.

It lies between the *Pfannhorn* (9,242')—also called *Kaschkogel*—and the *Plankfeld* (8,651'). The descent to St. Jakob (about $7\frac{1}{2}$ hrs.' steady walking from Welsberg), follows the *Lapcsthal*, a short sinuous glen, whose torrent flows at first N., and then westward, to join the Defereggenthal at Lapp—less than $\frac{1}{2}$ hr. above St. Jakob.

ROUTE M.

TAUFERS TO ST. JAKOB IN DEFEREGGEN, BY THE RAINTHAL.

About $10\frac{1}{2}$ hrs.' steady walking, exclusive of halts.

In the last Rte. two paths leading from Bruneck to St. Jakob, the highest village in Deferegggen, have been described, and in the preceding route is a notice of the glacier passes connecting the head of that valley with that of the Ahrenthal. There remains a very agreeable and interesting way, passable on horseback, intermediate between those already described, which leads from Taufers, in the lower Ahrenthal, to the head of the Defereggenthal, through the *Rainthal*. This lateral valley, dividing the Antholzer range from the western extremity of the Tauern chain, opens into the beautiful basin of Taufers at Winkel (§ 50, Rte. E), in a narrow cleft that leaves space only for the *Rainbach* torrent. To reach the path, which follows the heights above the N.

side of this cleft, the traveller crosses the main valley to *Moritzen* (2,841'), and immediately commences to ascend by a rather steep horse-track, which commands fine views of the rich valley that stretches hence to Bruneck, and the more Alpine scenery of the Mühlwalder Thal (§ 50, Rte. G). After a hot climb up the sunny slopes, the traveller willingly follows the path to the l. bank of the Rainbach, along which he ascends for fully 3 m., amid the frequent shade of pine trees, and near the brawling torrent, but without any distant view. Another pleasant change occurs when the path returns to the rt. bank, at a point near a saw-mill, where the torrent springs over a ledge in a waterfall. Here the first view of the glaciers of the Antholzer Alps is gained on the SSE. side, through the opening of the *Geltthal*, and the traveller sees before him to ENE. the picturesque Alpine basin of *St. Wolfgang* (5,238'), evidently the filled-up bed of an ancient lake. It is a dead level space, marshy in places, enclosed on every side by high peaks. The village, which is sometimes called Rain, stands about $\frac{3}{4}$ hr. from the bridge mentioned above, or 3 hrs. from Taufers, and immediately below the meeting of the two Alpine glens, whose torrents form the Rainbach. Of these, the most attractive to the mountaineer is the *Bacherthal*, which originates at the base of the glaciers of the Hochgall and the adjoining peaks, and through which lies a pass, said to be difficult, to Mitterthal, in Antholz. The NE. branch of the valley, called *Knuttenthal*, leads to Deferegggen.

St. Wolfgang offers many attractions to the lover of nature. The scenery is of a high order, and many interesting excursions afford scope for the activity of the mountaineer. The inn is very poor, and travellers are received at the priest's house, or Vidum, close to the church. Johann Bacher, the teacher of the village school, and Georg Weiss are recommended as guides. Sonklar recommends the ascent of the *Stuttennock* (8,991'), for the sake of the pano-

ramic view, which includes all the higher peaks of the neighbouring Alps. The most remarkable of these, and the most attractive to the mountaineer, is the *Schneeige Nock* (11,068'), or *Ruthnerhorn* of Sonklar. This bold obelisk of rock crowns a short promontory that extends NNW. from the main ridge of the Antholzer Alps, between the head of the Geltthal and that of the Bacherthal. It was climbed for the first time in 1866, by the Archduke Rainer, with Count Wurmbrand and the two guides above named. They reached the steep ridge from the Bacherthal side, and thence, with little further difficulty, attained the summit.

The way from *St. Wolfgang* to Deferegggen lies through the Knuttenthal. The scattered houses that make up the village extend some way into that glen, and also into the Bacherthal, with the difference that the latter is level for some distance, while the floor of the Knuttenthal ascends rapidly. The scenery is not interesting, as the slopes are bare, and no remarkable objects are in view. In about $1\frac{1}{4}$ hr. the huts of the Knuttentalp, at the head of the glen, are reached. A beaten track mounts nearly due E. from the alp by gentle slopes to the *Klamml Joch* (7,606'), one of the easiest passes in Tyrol. The crags of the *Graunock* (10,118'), rising S. of the pass, above a little tarn called Klammlsee, are striking objects. From the oratory that marks the summit of the ridge, above $2\frac{1}{2}$ hrs. from *St. Wolfgang*, several of the high peaks that enclose the head of the Defereggenthal are well seen. A very short descent leads to the Affenbach, and following that torrent, the traveller in $\frac{3}{4}$ hr. from the pass reaches the Jadhghausalp, rather less than $2\frac{1}{2}$ hrs.' steady walking from Erlsbach (see Rte. K).

A comparatively easy pass—though rougher and steeper than the Klamml—leads northward from the Knuttentalp over the *Bretterscharte* (8,242')—also known as *Ochsenlenk*—and descends into the upper Ahrental, about $\frac{1}{4}$ hr. above *St. Peter* (§ 50, Rte. E). By this

way a traveller may reach St. Valentin, or Kasern, in a moderate day's walk from St. Wolfgang, or a long day from St. Jakob, in Deferegggen, as the latter involves the passage of the Klamml as well as the Bretterscharte.

Among the excursions from St. Wolfgang, not above specified, is the ascent of the *Hirbanock* (9,854'), rising nearly due N. of the village. It is higher and more difficult than the Stuttenock, and scarcely so well situated, except for the view of the Zillertal Alps; but, if the descent on the NW. is not too troublesome, this would afford a very interesting way from St. Wolfgang to Steinhaus, in the Ahrental.

ROUTE N.

SILLIAN TO HOPFGARTEN, BY THE VILLGRATTENTHAL.

The traveller who enters the Pusterthal from the Gailthal, or the Ampezzo road, somewhere not far from Sillian, and whose aim is to reach Heiligenblut or Windisch-Matrey, may be glad to find a direct way by which to avoid the detour through the main valley of the Drave, or that by Antholz or Gsiess. The Villgrattenthal, which opens into the Pusterthal about 1 m. E. of Sillian, and soon divides into two branches of about equal length, offers a convenient

way for this purpose, as through its E. branch Hopfgarten is reached in 8½ hrs. By following the path through the W. branch leading to St. Jakob, in Deferegggen, it is equally easy to reach the head of the Ahrental, or Pregratten, in the Virgenthal.

Like many other valleys of this district, the *Villgrattenthal*, at its lower extremity, shows a narrow cleft merely giving space for the torrent, and the track (practicable for country carriages?) mounts by Heimfels, above the l. bank, and then ascends very gently to *Ausser-Villgratten* (4,205'), little more than 1 hr. from the opening of the valley, or 1½ hr. from Sillian. This village is often called Brucken, and thence the lower part of the valley Brucker Thal. There is a poor but tolerable inn, and travellers may also seek accommodation from the priest. The village stands at the junction of the two upper branches of the valley, of which the NE. branch, or *Winkelthal*, is the way to Hopfgarten. For about 2 hrs. the path ascends through this narrow glen—where many saw-mills are cutting into planks the timber that once clothed the slopes—and then begins to mount in a NE. direction to the *Villgratner Joch* (about 8,300'), by which Hopfgarten is reached in about 7 hrs. from Ausser-Villgratten. With a good local guide, it is likely that Hopfgarten may be avoided, and a more direct course taken to reach the inn, 'In der Huben,' at the junction of Deferegggen with the Iselthal. By following the Winkelthal for nearly 2 hrs. farther than the point where it is left to reach Hopfgarten, the traveller may reach the *Weiberwand* (8,458'), a pass lying at the extreme northern end of the valley, and leading to St. Veit (Rte. K). The chief torrent of the Winkelthal does not originate in the Deferegggen range, but flows eastward from the short but lofty range which extends thence southward, between the two branches of the Villgrattenthal, culminating in the *Hochgrabe* (9,673'). At the base of the Weiberwand, the torrent turns southward, and finally flows SW.

to meet the other principal torrent of the valley at Ausser-Villgratten. The western branch, which for some distance preserves the name Villgrattenthal, is more thickly inhabited than the Winkelthal. For about 6 m. the track ascends gently to WNW., passing *Inner-Villgratten* (4,506'), to *Senfte* (4,704'). Just below this latter hamlet, a lateral glen opens to the W., wherein stands the remote village of *Kalchstein* (5,370'). Easy passes lead thence to Toblach over the *Kühbacher Thörl*, and to St. Martin, in Gsiess. Above Senfte, the Villgrattenthal ascends for nearly 4 m. somewhat W. of due N., and comes to an end at a point where two torrents unite. The lesser of these flows eastward from the range dividing this valley from Gsiess; while the more important stream descends westward, through an upland glen called Arnthal, from the same range whence, on the opposite side, rises the main torrent of the Winkelthal. From the point where the Arnthal turns abruptly southward, two tracks cross the ridge that forms the northern boundary of the valley. That lying farther W. leads to St. Jakob, the other to St. Leonhard. Both are said to be rough and fatiguing passes.

Following the *Arnthal* to its head, the traveller may cross the range dividing this from the head of the Winkelthal—called Ober-Arnthaler Lenke—and so descend to Ausser-Villgratten; thus making the tour of both branches of the valley in one hard day's walk from the latter village.

SECTION 52.

GASTEIN DISTRICT.

IN the preceding sections, the main chain of the Eastern Alps, which we have designated the Central Tyrol Alps, have been described, with the exception of the eastern extremity of the chain, which happens to lie beyond the political boundary of Tyrol, and to be divided between the ancient territories of Salzburg and Carinthia. It was observed in the introduction to this chapter that the eastern limit of the central chain should, on orographic grounds, be fixed at the Arlscharte, where originate the two ranges that enclose the valley of the Mur. For the purposes of this work, it is more convenient to extend the boundary of the district now described a few miles eastward, to the far better known pass of the Radstädter Tauern; while its western limit, as fixed in the last section, is the track from Lienz to Bruck, in the Pinzgau, over the Hochthor Pass, which divides the great group of peaks surrounding the Pasterze Glacier from the summits rising farther east. These are distributed in two ridges running from WNW. to ESE. The westernmost, dividing the Möllthal from the upper valleys of Rauris and Gastein, culminates in the Hochnarr (10,692'), and includes five or six other summits that slightly exceed 10,000 ft. in height.

The eastern range, connected with the former by a transverse ridge of moderate height, has one peak—Hochalpenspitz—that exceeds 11,000 ft., and four or five surpassing 10,000 ft. Still farther east, and separated from the Hochalpenspitz range by the Arlscharte, is the much smaller group culminating in the Hafnereck (10,044'), which sheds its drainage eastward to the Mur, northward to the Salza through the Grossarl Ache, and southward to the Drave through the Malta. This group is remarkable as being the eastern limit at which considerable glaciers are found in the central chain, and as the origin of the double range enclosing the valley of the Mur.

It will be seen that, at its eastern end, the High Tauern range attains an altitude much inferior to that of the portions hitherto described, and, though not deficient in fine scenery, the district now to be noticed certainly does not rival, in this respect, the choicer spots pointed out in the four preceding sections, unless the head of the Maltathal, with which the writer is not personally acquainted, should form an exception. For this reason, it is expedient to take this district at the beginning rather than the end of a tour in the Tauern Alps. While the remaining valleys are almost unknown to strangers, that of Gastein has, through various causes, acquired European celebrity. It, therefore, naturally gives its name to the entire district; the more especially as it affords very good headquarters for the traveller, whose aim is to enjoy fine natural scenery, as well as for the invalid and the politician.

The eastern and western boundaries of the district comprised in this section have been already mentioned. To the N. it is limited by the line of valley traversed by the road from Bruck, in the Pinzgau, to Radstadt on the Enns; and to the S. it is equally well defined by the valley of the Drave between Lienz and Spittal.

The reported suspension or abandonment of the mines of Rauris may be inconvenient to mountaineers, who may fail to find expected food and shelter.

ROUTE A.

SALZBURG TO BAD GASTEIN. EXCURSIONS FROM GASTEIN.

	Austrian miles	English miles
Lend	10½	49½
Hof Gastein	3	14
Bad Gastein	1½	7
	<hr/> 15	<hr/> 70½

Post-road. The distances charged between Lend and Bad Gastein are somewhat exaggerated.

The baths of Gastein have enjoyed a high reputation for their healing virtues during the last three centuries, and the valley has been famous for its gold mines from the remotest period; but of late years the celebrity of the place has been much increased by the accident that it has been resorted to by sovereigns and ministers of state. The telegraphic wire that penetrates this remote Alpine valley, instead of discharging its customary office of ordering rooms or horses for invalids, has been engaged in carrying messages on which depended the peace of the civilised world. It is easy of access for travellers approaching from the N. side of the Alps, and the diligence from Salzburg, which plies daily in summer, brings the tourist to this convenient starting-place for a tour in the Eastern Alps on the third day from London.

The road from Salzburg to Lend is described in § 45, Rte. E. At the latter village, the road turns aside from the Salza to enter the *Gasteinerthal*, one of that long series of nearly parallel valleys through which the drainage of the High Tauern Alps is borne northward into the great transverse valley of the Salza. As happens in many other valleys of this region, this is not locally known by any single designation, but the name 'Die Gastein' is given to its lower portion, containing the greater part of the population, and has been appended to the designation of its three chief villages.

The real distance from Lend to the baths is not more than 18 m. = 6 hrs.' walk, ascending the valley, or 3½ hrs. in

a carriage. The charge for vehicles with two horses is 8 florins. A small carriage that carries the letters takes one or two passengers, but no luggage beyond a knapsack. The narrow defile through which the Gasteiner Ache descends to the level of the Salza is called the *Klamm*. Those who would approach near the series of fine cascades formed by the torrent may follow a very rough path; while the road winds up the steep rocky side on the l. side of the gorge. The present road, made in 1832, is quite safe in summer, but exposed to avalanches in winter and spring. Though the ascent is not great, the scenery is unexpectedly grand, and the traveller will be glad to mount it on foot. Before issuing from the defile, the road passes to the rt. bank by a bridge (2,473')—265 ft. above the post-house at Lend—leading to the ruined castle of *Klammstein*, which once completely commanded the entrance to the valley. A short additional ascent of about 150 ft. carries the road to the level of the lower valley. Through green fields, along the rt. bank of the now tranquil stream, the road goes nearly at a level to

Dorf Gastein (2,649'), a scattered village, with a tolerable country inn, whence a path runs eastward over the mountain in 3 hrs. to Grossarl (Rte. F). Here the road makes a slight circuit, and the pedestrian finds a short cut over the meadows. The general direction hitherto followed has been about SSE.; henceforward, as far as the baths, it is nearly due S., bending somewhat to the W. as far as

Hof Gastein (2,846'), the chief village in the valley, whose records go back to a period of remote antiquity. The earliest church was built in the ninth century on the site of a still more ancient chapel. It has several inns (Moser's, good; Blaue Traube; Schwarzer Adler; and others). Since the waters from the famous mineral spring have been led here in wooden pipes, still retaining a temperature of 93° Fahr., many invalids prefer this place, either for economy, or because of the greater certainty of finding accom-

modation. The position is, however, much less favourable for mountain excursions, excepting only the ascent of the Gamskahrkogel, which is rather nearer this village than the baths. The chief existing evidence of the wealth once derived from the neighbouring mines is found in the stately monuments preserved in the church and adjoining cemetery. Moser's Hotel, whose architecture recalls that of Venice, once the home of the Strasser family, adjoins the new baths. An outburst of serpentine through the surrounding mica schist is, as usual, associated with the appearance of many rare minerals. It is on reaching Hof Gastein that the traveller, for the first time, gains a view of the high peaks at the head of the Gasteinerthal, among which the Ankogl, crowning the high range that divides the main branches of the valley, is the main object of attraction. The old road to the baths—rather shorter for the pedestrian—kept to the rt. bank of the torrent, but the modern road crosses to the opposite side a short way above Hof Gastein, near the point where the path to Rauris mounts westward through the short glen of the Angerthal (Rte. B). After passing the so-called Englische Kaffeehaus, much resorted to by visitors, the road soon reaches

Bad Gastein—often called Wildbad Gastein. The position of this place is very singular, just at a high step in the valley, where the torrent descends about 600 ft. in two waterfalls connected by rapids. Between the waterfalls is a narrow shelf whereon stand most of the houses and baths, while the remainder are scattered over the slopes on either side of the valley. Save a house built by the late Archduke John, and a few others of less note, all the buildings here are either hotels or lodging-houses for the accommodation of visitors. Of the former, the first in rank is Straubinger's, with table d'hôte, reading-room, and various modern comforts, rather dear for Germany. The landlord is the present representative of a family which has here exercised the same profession

since 1602. To him also belongs the Schweizerhaus, prettily situated, but some way from the baths. Tolerably good accommodation is also found at Gruber's inn, the Hirsch, Grabenwirth, and Mitterwirth, not to name others of lower rank. Many visitors prefer to engage lodgings, and take their meals at Straubinger's or some other hotel. The handsomest rooms, for which the charges are rather high, are in the Badeschloss, built by an Archbishop of Salzburg; they are let only when not required for royal or imperial visitors. The lodging-houses called Bellevue and Solitude are recommended. As there is not accommodation here for more than about 500 visitors at a time, every room is often occupied during the season; and families intending a visit should not fail to write beforehand to the Bade-Director, to secure necessary rooms. In the hotels the baths are made of wood, and altogether rather rough; in the Badeschloss are a few baths lined with porcelain tiles, but these are often secured beforehand, and are not always accessible. As a general rule, all charges here are regulated by tariff, and visitors can suit themselves as to their expenses.

The mineral springs, seven in number, all issue in the immediate neighbourhood, one of them in the midst of the cascade. They seem to have identical properties, and are remarkable for their high temperature—116° to 120° Fahr. Chemical analysis fails to account for the energetic action of these tasteless waters, which contain ordinary earthy salts in quantity little greater than in most spring water. It is, however, worthy of note that the water is found to possess unusually high conductivity for electricity. The usual course of cure recommended to patients includes twenty-one baths, and they are sometimes advised to conclude by a short course of the waters at St. Wolfgang, in the neighbouring valley of Fusch (§ 51, Rte. C). The climate of Gastein, especially in July, is often wet and rather cold; and visitors are not seldom reduced to take exercise in a long gallery covered

with glass—called the Wandelbahn—which is a conspicuous but not picturesque object from a distance, as it is carried along the verge of the rocks immediately above the great waterfall of the Gasteiner Ache. The latter is the ruling genius of the place. The ceaseless clouds of spray bedim the windows of the Wandelbahn, and of many of the houses; and the hollow roar of the waters is found by some to be soothing, while it irritates the nerves of more delicate persons who are lodged in the adjoining houses.

The church of St. Nicholas, dating from the fourteenth century, and the adjoining cemetery, are interesting to the antiquary. Numerous paths enable visitors to visit with ease the more attractive spots in the immediate neighbourhood, but not without a little climbing up or down hill. Above the baths, the cascade and rapids of the Ache have excavated a deep and impassable cleft in the slate rocks, above which a picturesque bridge—the *Schreckbrücke* (3,524')—is thrown over the torrent. Having gained this elevation, the visitor may, without further labour, wander along the nearly level reach of the upper valley that extends some way beyond the village of Böckstein (see below). Another favourite stroll is to descend to the opening of the Köttschachthal, and follow the path up that glen. The junction of the Köttschachbach is about $\frac{3}{4}$ m. below the baths, and 2,870 ft. above the sea, but a path winds along the slopes, so that to enter the glen, it is not necessary to descend so low. The bridge above the great waterfall, near to Straubinger's hotel, is 3,152 ft. above the sea.

A glance at the map shows that the upper valley of Gastein runs transverse to the general direction of the main ridges of the adjoining Alps. It comes to an end in the Nassfeld, at the base of the *Scharreck* (10,277'), and receives from the ESE. three tributaries from as many parallel glens. The highest of these—the Weissenbachthal—approaches the Malnitzer Tauern (Rte. C);

the next is the Anlaufthal (mentioned in the same Rte.); and the lowest the Köttschachthal, which joins the main valley below the baths, and is further noticed in Rte. G.

The charges for guides at Gastein are quite unreasonable, and there is a heavy extra demand for carrying baggage. Johann Freyberger is recommended as intelligent, and a good walker. For the Ankogl, and other high summits towards the head of the valley, the best man is probably the Schmied (Komeck?) at Böckstein, but he is now advanced in years.

Of the easier excursions from Gastein, by far the most interesting is that to the Nassfeld, for which see Rte. C.

The favourite mountain excursion from Bad Gastein is the ascent of the *Gamskahrkogel* (7,917'), a summit rising nearly due E. of Hof Gastein. A bridle-path leads from that place to the summit, and many persons therefore descend thither, and engage horses—charged at the unreasonable rate of 8 fl. per horse, and 2 fl. for the guide. A much more direct way from Bad Gastein is found by crossing the lower part of the Köttschachthal, and following a nearly direct course to the summit, for the most part up steep grassy slopes. A person used to mountain walking does not require a guide. With favourable weather, the panoramic view is extensive and interesting, but, in the writer's opinion, it has been somewhat overpraised by German writers. Rather more laborious, and in many respects more interesting, is the ascent of the *Radhausberg* (often written Rathhausberg). This is a considerable mountain mass that rises S. of Böckstein, between the above-mentioned glens of Anlauf and Weissenbach. The NW. summit, conspicuous from Gastein, measures 8,218 ft. but the highest, SE., summit, locally called Kreuzkofel, attains 8,804 ft. The mountain has been famous for its mineral wealth from the most remote antiquity; the fame of its golden produce having led the Romans to drive out the Noric tribes, who had already

established themselves in this remote corner of the Alps. The highest shaft—long since abandoned—is 8,170' ft. above the sea. The mineralogist may here find many rare minerals and ores of lead and copper, associated with silver, antimony, and arsenic, with occasional particles of gold. The gneiss of which the mountain is chiefly formed varies much in structure, and often assumes a porphyritic character. Crystals of beryl have been found in the quartz veins of the Kreuzkofel. The botanist may gather *Silene pumilio*, *Linnæa borealis*, *Primula longiflora*, and other rare plants. The most direct way is to ascend from Böckstein, by a well-traced path that begins to mount a short way above the bridge.

As the working of the mines is said to be suspended for the present (1869), travellers may no longer be able to return in a miner's car on a very steep slide, which shot down a slope of about 2,300 feet vertical height in a few minutes. Although the shaft, called Christoph-Stollen, which once produced gold and silver to the annual value of 80,000 ducats, has been long unworked, it may be easily traversed with a miner for guide. Entering at the N. end, the traveller comes out at a point $1\frac{1}{4}$ m. distant, and 7,205 ft. above the sea, just below the topmost ridge of the mountain. From the summit of the Kreuzkofel, which in fine weather commands a very fine view of the neighbouring snowy peaks, the traveller may descend eastward through the Hiekahr to the Anlaufthal, or WSW. through the Weissenbachthal to the Nassfeld (Rte. C). The miners show a house on the mountain—called Christophen-Berghaus—built more than 300 years, which has survived the annual fall of at least one avalanche every spring, while all the other buildings have been repeatedly destroyed.

The mountaineer who may make a halt at Gastein will be tempted to undertake the ascent of the *Ankogel* (10,674'). This fine peak sends nearly all its drainage to the Drave through

the Maltathal, or through the Seethal, which is one of the tributaries of the Möllthal, but its N.E. slope rises above the head of the Anlaufthal; and from the Radeckalp (5,657'), at the head of that glen, the ascent may be effected. It is an expedition for practised mountaineers, involving (it is said) some stiff glacier work; and the final climb is along a very narrow arête of treacherously loose rocks. The view is not equal to that from the Hochnarr. For a notice of the ascent from Malnitz, see Rte. C.

ROUTE B.

LEND TO HEILIGENBLUT BY RAURIS, OR HOF GASTEIN.

The valley of Rauris, lying between those of Fusch and Gastein, offers the most direct route for a traveller approaching Heiligenblut from Salzburg; but it is little frequented. The superior attractions of the scenery of the Fuscher Thal, and the great resort of strangers to Bad Gastein, leave few to follow the intermediate route. This is, however, by no means uninteresting; and it enables the traveller to reach Heiligenblut on the second day from Salzburg, sleeping at Rauris. The mountaineer, travelling in the opposite direction, who may take the summit of the Hochnarr on his way from Heiligenblut, can descend to the Salza either by way of Rauris or of Gastein.

1. *By Rauris and the Hochthor.* Carriage-road to Rauris—about 11 m. Bridle-track thence to Heiligenblut—about 10 hrs. The high-road of the Pinzgau (§ 50, Rte. A) is followed for about 5 m. from Lend to Taxenbach. From that place to Rauris a little time is saved by taking a carriage. The traveller, on entering the valley of Rauris, should on no account omit to visit the *Waterfall of the Kitzloch*, remarkable not only for the volume of water of the Rauriser Ache, which here springs from the level of its own valley to that of the Salza, but especially for the imposing effect of the dark and savage cleft, in which visitors are enabled to approach the waterfall by steps and wooden planks attached to the rocky walls. After this slight detour, the traveller follows the road above the rt. bank of the torrent, leaving to the rt. the village of *Embach* (3,325'), which commands a noble view along the Pinzgau, and northward to the crags of the Uebergossene Alp, rising behind the Dienten mountains. The pedestrian coming from Lend may take this village on his way to Rauris, by a slight short cut; but he thus loses the remarkable waterfall. On reaching the level of the valley of Rauris, the fine snowy peaks at the head of the valley come into view. They are here indiscriminately known as the Hohe Goldberg. The very small but ancient market-town of *Rauris* (3,141') is said to have a good inn (Beim Bräuer). The landlord possesses three fine dishes of Urbino majolica ware, one of which bears the date 1542. Two paths lead from hence E. and SE. to the valley of Gastein. About 1 hr. above Rauris, the main valley, which mounts due S. to the mines at the foot of the Goldberg Glacier, is joined by a considerable lateral glen from the SW. The way to Heiligenblut is through this, which is known as the *Seidelwinkelthal*. Leaving the nearly level cart-road on the rt. bank of the main torrent, the traveller crosses to the opposite bank some way below the junction, in order to reach

the hamlet of *Wörth* (3,197'), at the opening of the *Seidelwinkelthal*. This is a narrow glen not offering any very remarkable object, yet the scenery is pleasing, and the frequent shade of pine trees makes the walk the more agreeable. Nearly 3 hrs. of steady walking from *Wörth* are required to reach the

Tauernhaus (5,049'), locally called *Taurach*. This is a humble Alpine hostelry of the same kind as those mentioned in the last section. It is one of the best of its class, offering tolerable refreshment, and endurable, though far from comfortable night-quarters. The forest which clothes the lower part of the glen comes to an end a short way above the *Tauernhaus*; but for some way the ascent is still gentle, keeping a SW. direction till, on rounding a corner, the path begins to mount towards S., winding up a rather steep stony slope. The solitary traveller must take care not to choose a path to the l., which leads to the *Fuscher Thörl*, and to keep a general direction but little W. of S. till he reaches the last slopes that lead to the *Hochthor*. That pass, as well as the path from *Fusch* over the *Fuscher Thörl*, is described in § 51, Rte. C. From 5½ to 6 hrs. suffice to reach *Heiligenblut* from the *Tauernhaus*. The traveller wishing to vary the ordinary way from the *Tauernhaus* to *Heiligenblut* may cross the *Weissenbachscharte* (8,651'), a pass lying about 1½ m. E. of the *Hochthor*, and involving about an hour's walk more than the usual route. The descent lies through a wild glen called *Grosse Fleiss*, which joins the *Kleine Fleiss* (mentioned below) about 1 hr. from *Heiligenblut*.

2. *By Hof Gastein and the Hochthor*. Carriage-road to *Hof Gastein*—14 m. Bridle-track thence to *Heiligenblut*—about 15½ hrs. The only frequented path between the valleys of *Gastein* and *Rauris* is that mentioned in Rte. A, which mounts to SW. through the *Angerthal*. This is a short open glen that joins the main valley of *Gastein*, near the hamlet of *Aigen*, between *Hof*

and *Bad Gastein*. Those who start from the latter place need not descend to *Aigen*; but they must allow half an hour more time than from *Hof*. A broad track, practicable for light vehicles, mounts through the lower part of the *Angerthal*. The glen originates at the N. base of the *Bockhardtsscharte*, but the way to the *Rauriser Thal* lies through a western tributary that joins the main branch of the glen rather more than 1 hr. above *Aigen*. Keeping to the track along the N. slope, usually at some distance from the stream, the traveller gradually attains a considerable height, without thereby obtaining a wide view, until, on attaining the summit of the pass—*Auf der Stanz* (6,920')—a grand scene is suddenly opened before him. The peaks at the head of the *Rauriser Thal*, and the range dividing the latter from *Fusch*, are reduced to comparative insignificance by the nobler summits of the *Glockner* and the *Wiesbachhorn* that tower above the nearer mountains. The botanist will do wisely to allow abundant time for this walk, as he will find many rarities. In ascending from *Gastein*, *Willemetia apargioides* is abundant in marshy Alpine meadows; on the opposite side, near the top, *Lomatogonium carinthiacum* is found on the dry grassy slopes. Fully 4 hrs. must be allowed to reach the summit from *Hof Gastein*, and less than half that time is needed for the rapid descent to *Buchebeben* (3,641'). This ranks as a village—the highest in *Rauris*—because it possesses, along with half a dozen houses, a church and an inn. The latter has undergone several vicissitudes, but the latest accounts that have reached the writer are favourable. The stranger seeking information as to the neighbouring mountains will find a friendly reception from the parish priest. An easy walk of ¾ hr. down the main valley, keeping always to the l. bank, leads from *Buchebeben* to *Wörth*, at the opening of the *Seidelwinkelthal*, where the traveller joins the regular track from *Rauris* to *Heiligenblut*, already noticed.

[The traveller wishing to reach *St.*

Wolfgang, in Fusch (§ 51, Rte. C) from Rauris or Gastein may take a rather steep, but very agreeable, path that mounts on the rt. hand from the Seidelwinkelthal to the pass of the *Weichselbachwand* (7,258') (also locally called *Schütterriedl*?). The summit, commanding a noble view of the Wiesbachhorn, is reached in 3 hrs. from Wörth, and 1½ hr. suffices for the descent to St. Wolfgang.]

Those who may not be inclined to undertake the laborious and somewhat difficult passes next described will do well to make an excursion from Bucheben to the mines at the head of the Rauriser Thal. The scenery is fine, and will well reward the slight excursion; but it is a still better plan to take the mines on the way from Bad Gastein to Bucheben (see below). In descending from *Auf der Stanz* to Bucheben, it is not easy to lose the way, but those who travel in the opposite direction should take a local guide, as there are many cattle-tracks in various directions.

3. *By the mines of Rauris, and the Goldzech-Tauern.* Road or bridle-path to the Neubau—9½ hrs. Glacier-pass thence to Heiligenblut—7 hrs. This is undoubtedly the most interesting route for a mountaineer going from Rauris to Heiligenblut, especially in clear weather, when the ascent of the Hochnarr may be combined with the expedition, and involves only about 1 hr.'s addition to the day's walk. It is, however, far more easily accomplished by starting at an early hour from Heiligenblut, where Pius Granögger and other guides are acquainted with the way. On the Rauris side, the only guide who is recommended is the Hutmann Stöckl at Kolm-Saigurn. The writer has been informed that the so-called gold mines at the head of the Rauriser Thal have been recently (1869) closed, and it is unsafe to count on the rough accommodation formerly found at Kolm-Saigurn. The pass is sometimes difficult, owing to the crevassed state of the glacier, and at times there is some risk from falling rocks. The mines are, or were, if not the

highest worked in Europe, certainly those carried on in the face of the greatest difficulties. One of the ancient shafts is now covered over by a glacier, and even the path leading to the works, which appears so easy in summer, is in winter much exposed to avalanches.

The portion of the High Tauern range that forms the boundary between Salzburg and Carinthia at the head of the valleys of Rauris and Gastein, and may be called from its highest summit the Hochnarr range, preserves that general direction from WNW. to ESE. which is characteristic of the region E. of the Velber Tauern. For a distance of about 11 m. from the Weissenbachscharte to the *Goiselspitz* (9,739'), it forms the dividing ridge between the Salza and the Möll. From the last-named summit, a much lower transverse ridge connects this with the parallel range of the Ankogl and Hochalpenspitz, but the axis of the Hochnarr range extends 6 m. farther to ESE., terminating in the Lonzaberg (7,088') over Ober-Vellach (Rte. C). The *Hochnarr* (10,692') considerably overtops all the other summits of this range; the other most conspicuous points are the *Goldbergspitz* (10,065') and the *Scharreck* (10,277').

A short way above Bucheben, the cart-track from Rauris passes to the rt. bank of the Ache. The way along the main branch of the valley—locally known as *Hüttwinkelthal*—is rendered the more interesting as the peaks and glaciers at its head are almost constantly in sight. At the *Zottbrücke* (about 4,200'), near the junction of the Krummelbach, which issues from a narrow cleft on the W. side of the valley, the track returns to the l. bank, and soon after ascends a projecting eminence, that commands a fine view in both directions along the valley. Here begins the region of Alpine pastures, with which, in unusual combination, are seen various buildings connected with the mines. The *Bodenhaus*, where refreshments are found, served as a shelter in bad weather for the miners travelling to or fro. Amid

very fine scenery the traveller continues to ascend to

Kolm-Saigurn (5,378'), the head-quarters of the miners, where the gold-bearing ore is crushed, and the precious metal extracted by amalgamation. The chief *Hutmann*, or foreman, keeps a sort of rude hostelry, where refreshments, and, in case of need, rough night-quarters, are found. Fine specimens of rare minerals are often to be obtained here.

The most direct way from *Kolm-Saigurn* to the *Hochnarr* is by the *Lange Gasse* and the *Keestrachter*, but recently travellers have usually passed by the *Neubau* (7,115'), a building intended mainly to afford a shelter for the porters who carry down the freshly extracted ore. Although a little circuitous, this course probably saves time, as there is a beaten track as far as the *Neubau*. The highest shaft now worked is about $\frac{1}{2}$ hr. higher up. On a rock rising but little above the level of the surrounding glacier, just 7,700 ft. above the sea, stands the miner's house (*Knappenhaus*), 'Am Boden.' Here, under physical conditions of extreme difficulty, the miners labour throughout the year. Those who see these regions during the short summer season have no adequate idea of what the life here must be during the remainder of the year. According to *M. Reissacher*, the director of the mines in this district, the diminished density of the air is the chief cause of the injurious effects of the labour on the health. It is necessary to allow the men weekly periods of absence to descend into the valley. He has found it impossible to keep dogs or cats alive for more than a few weeks. There may, however, be local causes at work in addition to that which he regards as alone important.

[From the house 'Am Boden,' an active mountaineer may in 3 hrs. reach the summit of the *Scharreck* (10,277'), which is easy of access from this side, and commands a very fine view.]

Of the glaciers that are drained into the head of the *Rauriser Thal*, by far the most considerable is the *Goldberg-Gletscher*, which is fed by the snows lying

within a great semicircle extending from the *Herzog Ernst* (9,695') on the E. to the *Hinter-Sonnblick* (9,591'). The way to *Heiligenblut* lies westward across this glacier, and along moraine, till the much crevassed *Hochnarr Glacier* is reached. The lower part of this, which bears the singular name *Pilatus-See*, is crossed, and thenceforward the course is chiefly over névé, passing under the N. side of a steep ridge of crumbling rock, whence loose blocks are not seldom detached. It would appear (?) that this part of the route may be avoided by a traveller aiming directly at the pass to *Heiligenblut*, which lies S. of the peak of the *Hochnarr*. This, however, commands so fine a view, and is so easy of access, that no mountaineer can willingly leave it on one hand. The pass of the *Goldzech-Tauern* does not seem to have been accurately measured, but must be at least 9,500 ft. in height. It immediately overlooks the head of the wild glen of the *Kleine Fleiss*, whose torrent, after uniting with that of the *Grosse Fleiss*, joins the *Möll* at *Pockhorn*, below *Heiligenblut*. Both these glens were formerly the scene of mining activity, but most of the shafts, which extended as high as 9,400 ft., are now covered by glacier. The descent is over glacier to a small lake called *Zirmer See*, which lies in the midst of scenery of the wildest character. This is apparently the same as the *Goldzech-See* of *Sonklar*, 8,602 ft. above the sea-level. Following the remains of an ancient horse-track, the traveller descends to *St. Anton*, a hamlet just below the junction of the *Grosse Fleiss*, and in another $\frac{1}{2}$ hr. reaches *Heiligenblut*.

There is another glacier pass, sometimes followed by native chamois hunters, which leads from *Rauris* through the *Krummelthal* (mentioned above), and over the *Weissenbacher Kees* to the head of the *Grosse Fleiss*. This is probably quite as laborious a route as that by the *Goldzech-Tauern*, and apparently much less interesting.

4. By *Bad Gastein*, *Neubau*, and the *Goldzech-Tauern*. By road to *Bad Ga-*

stein, 21 m.; thence to Heiligenblut, on foot, $11\frac{1}{2}$ hrs., exclusive of halts. By the course here indicated, an active mountaineer may accomplish the distance between Bad Gastein and Heiligenblut in one rather long day's walk; but, in the absence of any guide at Gastein well acquainted with the route, it is scarcely practicable except from the Heiligenblut side. The writer was favoured with a note by the late Dr. Brinton, who made the excursion in 1861 with Herr v. Mojsisovics. Having ascended through the Kleine Fleiss, they gained the summit of the Hochnarr, and descended thence to the Neubau by the course already described. From the Neubau a track, called Verwaltersteig, often used by the miners in summer, leads to the *Riffelscharte* (8,103'), a slight depression in the range, which diverges northward from the Herzog Ernst between the valleys of Gastein and Rauris. This way should not be taken late in the autumn, nor at any season after much fresh snow, as it is much exposed to avalanches, and numerous accidents from that cause are recorded. The descent on the E. side is through the short glen of the *Sieglitzthal*, wherein are seen several ruined buildings, connected with now abandoned mining works. On reaching the Moserhütte, at the N. end of the Nassfeld, the traveller joins the beaten track leading from the Mallnitzer Tauern to Bad Gastein (see Rte. C). The following times were noted by Messrs. Brinton and Mojsisovics, both fast walkers: Heiligenblut to the summit of the Hochnarr, 5 hrs.; descent thence to the Neubau, 3 hrs.; ascent to the Riffelscharte, $\frac{3}{4}$ hr.; descent to the Moserhütte, nearly 1 hr.; thence to Bad Gastein, $1\frac{1}{2}$ hr.

Travellers who do not undertake difficult excursions may very well make the circuit from Bad Gastein to Bucheben by the route here described—reaching the Neubau by the Sieglitzthal, and descending thence to Bucheben. This is in fine weather quite free from difficulty, but involves a rather long day's walk. A rather shorter course is to

mount from the Ober-Bockhardt See (Rte. C), to the pass of the *Ober-Bockhardtscharte* (7,445'), which, as well as the Riffelscharte, commands a very fine view. Thence a path leads down to Kolm-Saigurn.

ROUTE C.

BAD GASTEIN TO SPITTAL, ON THE DRAVE, BY MALLNITZ.

The valley of Gastein is connected with that of the Möll, in Carinthia, by the most frequented pass over the main range between the Brenner and the Radstädter Tauern. Though higher by 14 ft. (?) than the Velber Tauern (§ 51, Rte. E), it is much easier of access, and in summer is traversed daily by beasts of burden. This important pass is most generally known by the name Mallnitzer Tauern, which it bears on the Carinthian side, but at Gastein it is better known as the Nassfelder Tauern. Two other passes, rather shorter in distance, but much more laborious, connect the baths of Gastein with Mallnitz. These, though noticed below, are little used, but apparently deserve more attention than they have hitherto obtained from travellers.

1. *By the Mallnitzer Tauern.* $7\frac{1}{2}$ hrs. on foot, or $8\frac{1}{2}$ hrs. on horseback, to Mallnitz; about 26 m. thence to Spittal. Although the easiest pass over the High

Tauern Alps, this is not a light undertaking for ladies. Those who prefer that course may engage horses (at 10 fl. each) for the whole distance from Bad Gastein to Ober-Vellach—reckoned 10 hrs.; but as the descent on the S. side is very steep, those who can walk a few miles do better to take the horses only to the summit of the pass (5 fl. each), and descend on foot. From Mallnitz there is a road to Ober-Vellach, and a vehicle of some sort is usually to be had; but the way is so rough that those who can do so may better walk, the distance being about 6 m. It is possible to go in a char from Bad Gastein to Bockstein (about $\frac{3}{4}$ hr.), and to engage the horses required from the landlord of the inn at that place.

A singular contrast is presented to the visitor at Bad Gastein, where he lives between the roar of the great waterfall below the baths and the angry whirl of the foaming cataracts above, when, after a short ascent, he passes the Schreckbrücke (Rte. A), and a few steps farther gains the level of the upper valley, which stretches peacefully to the S., with a range of partially snow-clad summits, stern rather than grand in aspect, rising in the background. Here, about $\frac{3}{4}$ hr. from the baths, is the mining village of

Bockstein (3,607'), with a tolerably comfortable inn, which some mountaineers find preferable to the crowded hotels of Bad Gastein. Here the ore from the Radhausberg (Rte. A) is crushed and washed, and the gold extracted. Leaving to the l. the opening of the *Anlaufthal*, noticed below, the way lies SW. through the valley, now contracted by a buttress projecting from the Radhausberg. Keeping to the rt. bank of the torrent, the path ascends gradually through a long and narrow defile, and unexpectedly leads to the very fine waterfall called *Kesselfall*. This is, however, only the first of a series that enliven the scenery of this part of the valley. A path made by the late Archduke John, which turns to the rt. from the main track, leads, with very little

loss of time, by two other waterfalls, whose effect is much heightened by the grandeur of the surrounding scenery. These are called the *Bärenfälle*. In the back-ground, the Scharreck, which here presents a bold pyramidal outline, is a striking object. Scarcely has the traveller left the *Bärenfälle* when another cascade comes into view. Behind the precipitous rocks that rise above the l. bank of the main torrent, lies an upland glen called *Bockhardt*, but often written Pockhart, containing two Alpine lakes. The stream that drains the lower lake, not finding a channel through which to reach the level of the Gasteiner Ache, attains the verge of the precipitous rocks enclosing the defile, and springs or slides down their face in a singular fall, called *Schleierfall*. Returning hence to the bridle-track, the traveller soon crosses the torrent to its l. bank, by the *Engthorbrücke* (4,959'). One path mounts the very steep rocks to reach the level of the Bockhardt glen, while the main track follows the l. bank of the Ache. [The *Bockhardt* well deserves an excursion from Gastein. It is a short, comparatively broad, glen, or rather hollow in the mountains, resembling, though on a larger scale, those often seen in N. Wales, and there called *cwm*. To such hollows the designation *Kahr* is commonly given in the Eastern Alps; and the name is probably in its original form Pockkahr, the first syllable referring to the crushing process to which the gold-bearing ore of this region is subjected. The mines, which formerly produced both gold and silver, have been long since abandoned. The traveller may mount directly by the path near the Engthorbrücke, or, after visiting the Nassfeld, take a less steep way by a track, anciently used by miners, that diverges from the main valley near the Moserhütte. Another path, shorter than either, leads back to Bockstein. The Bockhardt is divided into two terraces, each partly occupied by a lake. The *Unter-Bockhardtsee* (6,069') is a comparatively large sheet of water, about 150 ft. in depth. A comparatively steep

ascent leads thence to the *Ober-Bockhardtsee* (6,679'), a smaller basin, surrounded by Alpine vegetation, in which the botanist will recognise *Saxifraga planifolia*. It is surrounded by rugged stony slopes wherein are seen very numerous openings of the shafts formerly worked here. Like most of the other mountain lakes of this neighbourhood, these contain no fish, doubtless owing to the presence of metallic salts. From the upper lake, the traveller may reach Kolm-Saigurn in Rauris, by a pass mentioned in the last Rte. Another pass—*Unter-Bockhardtscharte* (7,383')—lies NNE. of the lower lake, and leads to the head of the Angerthal. [By that way an active walker may return to Gastein.]

After passing the Engthorbrücke, a short ascent leads the traveller to the N. end of the *Nassfeld*, a level basin, 2 m. long and about $\frac{3}{4}$ m. broad, doubtless the area of an ancient lake. The name *Nassfeld* is often locally given to similar spots in the Eastern Alps; but this, happening to lie in the way of a frequented highway, is the only one generally known by that name. The timber that once clothed the slopes having been consumed centuries ago by the miners, it is perfectly bare of trees—a green carpet, through which meander many gentle streams, surrounded by stern slopes, above which, to the S. and SW., rise the snowy summits of the Hochnarr range, extending from the Scharreck to the Goiselspitz. It is so nearly level that the Moserhütte, at the N. end, close to the opening of the Sieglitzthal, is only 16 ft. lower than the *Straubingerlütte* (5,403'), more than a mile farther S. At these Sennhütten, wayfarers find the usual dairy refreshments, for which they are expected to pay handsomely.

Besides several glacier streams descending from the higher peaks, the *Nassfeld* receives at its upper end a torrent that flows from ESE. through the *Weissenbachthal*, which may be considered the chief source of the Gasteiner Ache. The traveller bound for the Mall-

nitzer Tauern must avoid the path that follows the torrent through the last-named glen, and leads across the ridge dividing this from the Anlaufthal, and should keep the more beaten track that winds up the slopes on the S. side of the glen. The ascent is easy, and, after winding round a hollow just below the top of the ridge, in $2\frac{1}{2}$ hrs. from the Moserhütte, or 5 hrs. from Bad Gastein, the traveller reaches the

Mallnitzer Tauern (8,038'), marked by a wooden cross. It commands an extensive view on the Carinthian side, extending to the Terglou, and this may be increased by a slight ascent to an adjoining eminence. A few min. below the summit, on the S. side, is the Tauernhaus, the highest of the refuges bearing that name. The person who keeps it is occasionally absent, but, as a general rule, there are found here wine, coffee, bread, butter, and milk, ample refreshment for an Alpine tourist, and a hay couch for the benighted traveller. Posts mark the track when the ground is covered with snow; otherwise no difficulty is found until lower down, where care is required not to be misled by the numerous cattle-tracks. The Kreuz-Kapelle (7,221') is passed in descending to a large group of *Sennhütten*—called *Manhartalp* (5,810')—at the head of the *Mallnitzer Thal*, a tributary of the Möllthal, through which lies the way to Ober-Vellach. Keeping mainly to the rt. bank of the torrent, $2\frac{1}{2}$ hrs.' steady walking suffice to reach

Mallnitz (3,860'), the first village in Carinthia, with a tolerable mountain inn, improved of late years. The landlord is well acquainted with the surrounding mountains, especially the neighbourhood of the Ankogl (see below). A very rough road leads hence to the Möllthal, and equally rough vehicles are usually to be found by those who prefer severe jolting to travelling on foot. After passing *Lassach* (2,980'), the road crosses to the l. bank of the Mallnitz, and the eye accustomed to the stern scenery of this part of the Tauern range rejoices in the

rich foliage of fine walnut trees as the road descends rather steeply to

Ober-Vellach (2,221'), a small town, the chief place in the Möllthal, nearly one m. below the junction of the Mallnitz with the Möll. There are two inns (Zum Prinzen Lichtenstein; Post), of which the first is said to be the best, but rather dear. A chamois-hunter, named Guri, is well acquainted with the neighbouring Alps. A small post-carriage plies three times a week up the valley from Spittal to Winklern, and returns on the alternate days; but the chance, even of a single seat, is uncertain. From this place to its junction with the Drave, the Möllthal extends nearly straight to ESE., although the road, which crosses the valley twice, and winds along the base of the bounding slopes, is very sinuous. The scenery is throughout very pleasing, but more interesting in ascending than descending, as some of the peaks of the Hochnarr range are often in view. Numerous Roman remains have been found here; the way through the Anlaufthal, noticed below, having been a frequented Roman road. On the top of a hill, called *Danielsberg* (3,188'), that rises immediately above the l. bank of the Möll, about 6 m. below Ober-Vellach, stands a chapel which was once a temple of Hercules, as is testified by an inscription built into the wall. This spot commands a fine view up and down the valley, and the pedestrian does well to avoid the road, which here follows the rt. bank of the Möll, and follow a path from the village of Penk which passes over the Danielsberg. He rejoins the road where it returns to the l. bank, at the opening of the Rinkenthal. The detour scarcely costs an hour's additional walk. After passing *Kolmitz* (1,993'), and Mühlendorf, the road from Ober-Vellach joins the high-road through the valley of the Drave at *Möllbrücke* (1,829'), rather more than 13 m. from Ober-Vellach. Travellers intending to ascend the valley of the Drave cross the Möll just above its junction with the latter river, by the bridge, which is only $1\frac{1}{2}$ m. from Sachsenburg (§ 51, Rte. A), while those

bound for Villach follow the road along the l. bank of the Drave to Spittal. [The writer has not seen any notice of the ascent of the *Polinigg* (9,123'), a fine peak that rises about 4 m. SW. of Ober-Vellach. As it is the highest summit in the mountain range that divides the valley of the Möll from that of the Drave, it must necessarily command a very fine panoramic view.]

2. *By the Woigstenscharte* (8,019'). If the height of the Mallnitzer Tauern has not been, as the writer suspects, somewhat exaggerated, this is, by a few feet, the lowest pass over the main range between the Pfitscher Joch and the Arlscharte, and is, at the same time, the most direct way from Gastein to Mallnitz. In spite of these apparent recommendations, it is rarely, if ever, used by travellers; the writer has never heard the pass named at Bad Gastein, nor has he seen any notice of it seeming to be derived from personal observation. The cause of this disfavour seems to be the existence of a small glacier on the N. side of the pass, which may possibly make the passage difficult. The *Woigstenscharte* may be reached by a circuitous path that mounts from the Nassfeld through the *Weissenbachthal*, mentioned above, but there is a much more direct way through the Hiekahr, a tributary glen of the Anlaufthal, further noticed below. To judge from maps, the pass must be nearer to Bad Gastein by several miles than the Mallnitzer Tauern; while it is not more distant from Mallnitz. Further information is desired.

3. *By the Anlaufthal and Hoher Tauern*. This way is rougher and more laborious, but somewhat shorter, than that over the Mallnitzer Tauern. It is little used in summer, but, being exposed to avalanches, is often preferred by natives of the valley who attempt the passage in winter. According to an ancient tradition, this was the course followed by the Roman road that connected the mines of Gastein with the valley of the Drave.

As mentioned in Rte. A, the *Anlaufthal* joins the main branch of the Gasteiner Thal by Bökstein, at the N. base

of the Radhausberg. Throughout the greater part of its length, it is a defile enclosed between steep slopes, partly covered with pine forest. The finest scenery is in two lateral glens opening on the l. hand as the traveller ascends the valley. Following the path along the l. bank of the torrent, he reaches, in $\frac{3}{4}$ hr. from Bökstein, the first of these glens, called *Hiekahr*. This presents itself as a cirque, or amphitheatre, with one tier of rocks rising above another. On the l. hand, a cascade is seen at a great height on the steep face of a rock; the same torrent forms a more considerable waterfall lower down, not far from the point where it enters the Anlaufthal. A very steep path mounts about 1,600 ft. to the *Hiekahralp*, a high terrace whereon lie two Alpine tarns. By that way, the *Woigstenscharte*, mentioned above, is not very distant; and by bearing to the rt. it is possible to reach the summit of the Radhausberg (Rte. A). In $2\frac{1}{2}$ hrs. from Bad Gastein the opening of the *Tauernthal*, the second tributary glen of the Anlaufthal, is reached. It is marked by another waterfall, the finest in the valley, called *Tauernfall*. From the junction of the two glens, a well-beaten cattle-track mounts to the *Radeckalp* (5,657'), at the head of the main branch of the valley, under the W. face of the Ankogl. From the same point, a hunter's path leads NE. over a high and rough pass to the *Prossaualp*, in the *Kötschachthal*. The way to the *Hoher Tauern*, also locally called *Korn-Tauern*, mounts SSE. through the *Tauernthal*. After attaining a considerable height, the traveller comes, in two places, upon the remains of a broad substantial causeway, paved with large flags of gneiss. The doubt whether any of the subsequent rulers of this region were capable of undertaking such a massive work gives some colour to the tradition that these are portions of the ancient Roman way. In 2 hrs. from the opening of the *Tauernthal*, a steady walker will reach the summit of the pass, 8,089 ft. above the sea. The view is unexpectedly grand, and far superior

to that from the Mallnitzer Tauern, including on the one hand the near range from the Ankogl to the Hochalpenspitz, and to the west the chief summits of the Glockner group. The descent on the S. side is by a steep track that zigzags down the E. side of a narrow glen opening into the *Seethal*. The latter is the E. branch of the Mallnitz valley, which, at the village of that name, joins the main branch, descending from the Mallnitzer Tauern. From $2\frac{1}{2}$ to 3 hrs. from the summit of the pass are required to reach the village of Mallnitz.

[The ascent of the Ankogl—noticed in Rte. A, among the excursions from Gastein—may best be undertaken from the village of Mallnitz, whither an active mountaineer may return on the same day, or even descend by the Radeck Glacier to Bad Gastein. The way lies through the *Seethal*, above mentioned, one of the finest Alpine glens of this district, especially at its upper end, where, under the name *Lassacher Winkel*, it extends to the base of the Hochalpenspitz. About 1 hr. above Mallnitz, just beyond the point where the track to the Hohe Tauern turns northward out of the *Seethal*, the traveller passes close to the *Stapitzsee* (3,942'), a little lake lying on one side above the l. bank of the Seebach. An hour farther are the huts of the *Lassacher Alp* (4,272'), where, in case of need, shelter for the night may be obtained. Here opens a very fine view through the *Lassacher Winkel*, which stretches to ESE. at least 2 Stunden, to the base of a glacier that lies on the ridge connecting the Hochalpenspitz with the *Säuleck* (10,108'). From the *Lassacher Hütten*, the way to the Ankogl lies up a slope of debris, and then through a band of pine forest that girdles the valley, till the traveller enters a ravine, named the *Trom*, which leads up to a glacier that extends to a southern peak of the mountain, called at Mallnitz, *Kleiner Ankogl*. The glacier is reached in $2\frac{1}{2}$ hrs. from the *Lassacher Alp*; and in $1\frac{1}{2}$ hr. more of ice-work, in part rather steep and requiring caution, the traveller reaches the ridge

on the rt. of the Kleine Ankogl. The ascent may be completed by keeping to the ridge that connects the latter with the main peak, or else by following the steep névé slope along the base of the same ridge (by its E. side?). There is another way (rather easier, but longer, than that by the Trom) by the Luckenthörl. With a good guide—more easily found at Mallnitz than at Gastein—the traveller may descend by the Radeck Glacier to the head of the Anlaufthal, and so reach Bad Gastein on the same evening.

A rather rough map by F. Keil, contained in the 'Jahrbuch of the Vienna Alpine Club for 1865,' will be useful for this excursion; but the names inserted do not all agree with those used at Mallnitz.]

ROUTE D.

BAD GASTEIN TO OBER-VELLACH BY THE ZIRKNITZTHAL, OR FRAGANTHAL.

In Rte. B we have pointed out a course by which an active mountaineer may accomplish the distance between Bad Gastein and Heiligenblut, at the head of the Möllthal, in a single long day's walk; and in the last Rte. three passes have been named by any one of which a moderate walker may easily reach Ober-Vellach, in the lower Möllthal, in one day from the baths. Be-

tween these two places—Heiligenblut and Ober-Vellach—extends the long and sinuous valley of the Möll, of which the upper portion only, between Winklarn and Heiligenblut, is described in § 51, Rte. B.

In the present Rte. attention is called to three different glacier passes, by which, starting early from Bad Gastein, they may reach the Möllthal either at Döllach, in the upper valley, or at Fragant, about 1½ hr. above Ober-Vellach. As in any case it is needful to pass by the Neubau, at the mines of Rauris, it is obvious that these passes may be taken from Bucheben, in Rauris, more easily than from Gastein. As both passes are better known than the Goldzech-Tauern (noticed in Rte. B), it is believed that a traveller starting from Gastein or Bockstein may there find a competent guide, which can scarcely be said for the other pass. Those who dislike so long a day's walk, or wish to see something of the Rauris mines, may best go on the first day by the Bockhardt to Kolm-Saigurn, and, taking there a guide for the glacier, may reach Döllach or Fragant in good time on the following day.

Starting from Bad Gastein, or Bockstein, the traveller may reach the Neubau, at the foot of the *Goldberg Glacier*, in 5 hrs. The way then lies over the latter, and nearly due S. towards the *Tramerkopf* (9,644'), or *Altenkogel*, rising at the S. extremity of the névé basin of that great glacier. If desirous to take the shortest way to Döllach, he should bear somewhat to the l. to reach a depression immediately W. of the *Tramerkopf*. This is the pass of the *Tramerscharte* (8,391'), also known as *Windischscharte*. It lies immediately at the head of the northern branch of the Zirknitzthal, which opens into the Möllthal at Döllach (§ 51, Rte. B). This pass is, however, said to involve some difficult glacier work, and to be sometimes impracticable. It is certain that the natives generally prefer the other pass over the main range, which lies a short way E. of the *Tramerkopf*. This

is the *Klein-Zirknitzscharte* (8,855'). On reaching the summit, the traveller sees before him a snowfield that gradually falls towards the SSE., forming the Wurten Glacier, which sends its torrent, to the Fragantthal. To reach Döllach, it is necessary to bear to the rt. from the summit of the pass, scarcely descending below its level, in order to traverse a ridge, diverging southward from the Tramerkopf, which divides the valleys of Zirknitz and Fragant. Having reached a stone man which marks the summit of this latter ridge, the descent lies into the eastern branch of the Zirknitzthal, often called Klein-Zirknitz. At the foot of the glacier is the *Gross-Zirknitzsee* (7,993'), a glacial lake on which often float detached ice-masses. The scenery of both branches of the Zirknitzthal is said to be of a very high order, but little accurate information respecting these passes has reached the writer.

Should the traveller have reached Döllach sufficiently early, he may push on (in a vehicle or on foot) to the comfortable inn at Winklern (§ 51, Rte. B), a distance of 8½ m.

The distance by road from Winklern to Ober-Vellach is about 23 m., and as the road is tolerably good, much time is saved by taking a vehicle; but the scenery is sufficiently varied to make walking agreeable. The pedestrian may save a little time by crossing the Möll below Winklern, and following the path on the l. bank till the road crosses to that side of the stream about 3 m. farther down. Few considerable Alpine streams have so sinuous a course as that of the Möll. Keeping from Heiligenblut a general southward direction, and flowing SSW. for some miles above Winklern, where it is separated from the Drave only by the low and narrow isthmus of the Iselsberg, it bends at first SE. for about 3m., and then turning again nearly at rt. angles, flows about ENE. for many miles to Fragant, beyond which its course is at first E. to Ober-Vellach, whence its channel, after uniting with that of the Drave, is ESE.

to Villach. In descending the valley, the traveller will not fail to remark the vast masses of debris and loose soil borne down by lateral torrents. One great mass, the accumulated result of many separate operations, is traversed before reaching *Stall* (2,778'), a village nearly half-way from Winklern to Ober-Vellach. Still more signal are the effects of another mound of debris borne down through a ravine called Klausengraben, about 4 m. below Stall. Within the last ten years, this has formed a new lake, 1¼ m. long, which has robbed the inhabitants of an equal extent of cultivated ground. About 3 m. farther is *Fragant* (2,300'), at the opening of the lateral valley bearing the same name. The inn here is said to be tolerably good, and the village shoemaker is recommended as a guide for Alpine excursions. The torrent from the Fragantthal is ill-famed for the destruction which it has often caused in the main valley. Here the valley widens out, and extends nearly at a level for about 5 m. to Ober-Vellach, mentioned in the last Rte.

The traveller wishing to take a direct course from the Neubau to Fragant, may descend from the Klein-Zirknitzscharte along the *Wurten Glacier* into the head of the *Wurtenenthal*, or northern branch of the Fragantthal. There is another pass—*Goldberg Tauern* (9,070')—connecting the Goldberg with the Wurten Glacier. It is a little higher, but rather more direct. Some explorer will doubtless find a more direct way from Bad Gastein to the Wurtenenthal by a glacier pass from the S. end of the Nassfeld, on either side of the summit of the *Muraner Spitz* (9,858'); but this remains to be discovered. The Wurtenenthal is said to be a very wild and dreary glen, through which the traveller descends for nearly 3 hrs. to its junction with the *Sadniggethal*, which is the W. branch of the Fragant Valley. A hamlet, called Inner-Fragant, stands at the junction, and below this the valley is known as *Fragantthal*. In the last century, Inner-Fragant was frequented for its mineral spring, now deserted. In little more

than 1 hr. the village of Fragant is reached.

The mountaineer travelling up or down the Möllthal may with little or no loss of time avoid the long circuit between Döllach and Fragant, by leaving the Möllthal at the latter village, and taking a path through the Sadnigg branch of the valley which mounts by the Schober Alp to a pass connecting this with the head of the *Astenthal*. Keeping along the slope at a considerable height above the rt. bank of the Astenbach, a slight ascent suffices to reach the *Astener Sattel* (6,518'), a depression in the range dividing the Astenthal from the Zirknitzthal. From this second pass, the path descends direct to Döllach. If the weather be favourable, it is well worth while to lengthen this excursion by about 4 hrs. in order to reach the summit of the *Stellkopf* (9,554'), the highest point of a promontory projecting southwards from the Hochnarr range. This rises a short way northward from the head of the Astenthal, and appears to be moderately easy of access. Between the summit and Döllach, the traveller may pass either by the Zirknitzthal, or by the path above mentioned along the NW. side of the Astenthal. It is expedient to start very early from Döllach or Fragant, or else to sleep at the highest Hütten in the Astenthal.

ROUTE E.

ST. JOHANN IN PONGAU TO VILLACH, BY THE RADSTÄDTER TAUERN.

	Austrian miles	English miles
Radstadt	3½	16½
Untertauern	2	9½
Tweng	4	18½
St. Michael	3	14
Rennweg	2	9½
Gmünd	2	9½
Spittal	2	9½
Villach	—	—

Post-road. Diligence twice a week between Salzburg and Villach, passing by Radstadt, but not by St. Johann. Extra horses are required for the passage of the Radstädter Tauern and the Katschberg.

We have already seen that for a distance of more than 100 m. eastward of the Brenner Pass no carriage-road traverses the central range of the Eastern Alps. It is only on the E. side of the mountain mass that culminates in the Hafnereck, where the main chain divides into the two parallel ranges enclosing the valley of the Mur, that the barrier between the waters flowing to the Drave and those of the Danube subsides low enough to permit the construction of the road which is known as that of the Radstädter Tauern. That name belongs to the higher pass traversed by that road, connecting the valley of the Enns with the head waters of the Mur, and a second pass (the Katschberg) must be surmounted before the traveller can descend to the valley of the Drave.

The traveller who takes this road from Salzburg to Villach does not keep to the main road along the Salza to St. Johann in Pongau (§ 45, Rte. E), but quits that stream a short way above Werfen, and follows the post-road through the Fritzthal, which is noticed in § 46, Rte. F. The distance from Werfen to Radstadt is 4½ Austrian, or 21 English, miles. Those who come from Gastein or the Pinzgau will naturally take the road here described from St. Johann in Pongau to Radstadt, which shortens the distance by 14 English m.

That portion of the road, formerly very rough, has been recently improved, but the postmaster at St. Johann sometimes objects to supply horses, so that it is often a better plan to hire a carriage from Lend to Radstadt. From the latter place, the traveller may pursue his journey either by diligence or post-ing.

Although the road from St. Johann to Radstadt traverses the water-shed between the Salza and the Enns, it lies along the great line of valley which, with trifling exceptions, forms the northern boundary of the crystalline rocks in the Eastern Alps. The height of land over which the road is carried is only about 900 ft. above the level of the Salza, and scarcely 200 ft. above the Enns at the point where it is first approached. For some miles from St. Johann, the new road mounts at a considerable height above the Kleinarlbach, gaining a fine view over the Pongau, backed by the crags of the Uebergossene Alp; it then runs nearly at a level till it reaches *Wagrain* (2,743'), a village about 7 m. from St. Johann, with a tolerable country inn, at the opening of the Kleinarlthal (Rte. I). A very easy ascent leads hence to the pass, or height of land, dividing the basin of the Salza from that of the Enns, 2,933 ft. above the sea. An interesting view is gained along the upper Ennsthale, especially when clouds do not cover the bold peaks of the Dachstein group, here seen to great advantage. A short descent along a gentle slope leads to the Enns. This is here an insignificant mountain stream that issues from the *Flachau*, its parent glen, further noticed in Rte. I.

The first village on the Enns is *Reitdorf* (2,751'). A little farther, on the rt. bank of the Enns, is *Altenmarkt* (2,707'), supposed to be the Roman station *Ani*, and certainly the original site of *Radstadt*, which stands about 3 m. lower down, on the opposite bank of the Enns, just above its junction with the Tauern Ache. It is noticed in § 47 Rte. A.

The *Radstädter Tauern* is one of those Alpine routes that deserves more celebrity than it has hitherto obtained. The scenery offers far more of variety and interest than the more famous pass of the Brenner, and has special attractions for the geologist and the botanist, who should arrange their journey so as to pass some hours at the summit. The ascent commences close to the town of Radstadt, where the stream of the Tauern Ache, descending from the pass, unites with the Enns. First by the l., then by the rt. bank, the road ascends gently through the lower part of the glen to the picturesque village of

Unter-Tauern (3,338'). The nearer wooded slopes are backed by the rugged mass of the *Windsfeld* (8,532') which rises to the rt. of the pass. Here the ascent becomes more rapid, and the road passes through a defile—the *Tauernklamm*—close to the foaming rapids of the Ache. Higher up, that torrent forms a high waterfall, but partially seen from the road. Tourists usually make a slight detour to visit it, but may enjoy the view of a second, less lofty, but more picturesque fall without quitting the road. Higher up, on reaching the level pastures of the *Gnadenalp* (4,055'), the road bears to the l. away from the torrent, and begins to mount the slope of the mountain. To attain the uppermost shelf in the valley, the road turns abruptly eastward, nearly at rt. angles to its previous direction, while the torrent disappears altogether from view. It is usual to halt where a path turns aside with a finger-post inscribed 'Nach dem Johannisfall.' It is worth while to follow the indication, not so much for the sake of the waterfall as for the remarkable conformation of the rocks around it. Issuing from a narrow cleft, the torrent springs into a hollow abyss 600 ft. deep, and is turned into a cloud of spray before it reaches the bottom. A last ascent leads from this point to the *Tauernhaus*, locally known by the name *Wieseneck*. The group of houses, including the large inn and refuge, a chapel, and a priest's

house, lies in the centre of an amphitheatre of peaks which somewhat exceed 8,000 ft. in height, broken through only by the depression forming the pass, and the way by which the road ascends from Untertauern. The naturalist who would halt here finds rough, but tolerable, accommodation at the Tauernhaus. The geologist will find occupation in examining the limestone masses, apparently of Triassic age, that are inserted between the gneiss and mica schist of the Hafnereck range to the SW., and the clay slate and other Palæozoic rocks that prevail to the east of the pass. As usual, variety in the mineral composition of the rocks is accompanied by a rich and varied flora. Nowhere does the beautiful *Rhododendron hirsutum* cover the slopes with richer masses of colour. Among the rare plants of the surrounding heights may be named *Ranunculus rutæfolius*, *Arabis pumila*, *Cherleria imbricata*, *Saxifraga Bursariana*, *Cineraria crispa*, *Campanula pulla*, *Lomatogonium carinthiacum* (close to the summit of the pass), *Juncus castaneus*, &c. A scarcely perceptible ascent leads from the Tauernhaus to the summit of the

Radstädter Tauern (5,703'). On the very summit is a cemetery (*Friedhof*) for the accommodation of wayfarers lost in crossing the pass in winter—a somewhat lugubrious arrangement for a pass not exposed to unusual risks, yet pleasing because of the serene tranquillity of the spot. A tombstone three hundred years old marks the resting-place of W. Wieseneck, the builder of the Tauernhaus. A Roman milestone was dug up close to the summit. In descending, the road passes a second Tauernhaus at a spot called Scheidberg. Farther on, a view is gained on the rt. hand up the Lantschthal, a short glen leading to the Flachau (Rte. I). A rapid and continuous descent leads to

Tweng (3,846')—more properly called *Weng*—the post-station, with a clean, comfortable, and reasonable inn, offering good head-quarters for a naturalist. Peter Simmerl is recommended as a good

guide. This is the first place in *Lungau*, by which name is designated the uppermost valley of the Mur, along with the numerous glens through which tributary streams are poured into that river. Being traversed by the main high-road leading from Salzburg, through Carinthia, to Italy, this district has been for ages separated from Styria, to which it naturally belongs, and annexed to the dominions of the Archbishops of Salzburg. From Tweng, the road runs ESE. along the *Taurach* torrent for about 7 m. to *Mauterndorf* (3,454'), a very ancient little town, the annals of whose castle—granted to the ecclesiastical rulers of Salzburg by the Emperor Henry II.—are full of grim records of mediæval valour and cruelty. From Mauterndorf (Inn: Post), the Taurach flows a little N. of E. to join the nearly parallel stream of the Mur at Tamsweg; and along it runs the road that follows that river to Judenburg and Bruck (§ 53, Rte. A). The road to Villach winds over the low ridge between Mauterndorf and the Mur crossing the so-called *Staig Pass*, to reach the post-station at

St. Michael (3,507'), a small town, busy with frequent through traffic, with several inns (Post; Wastl; &c.). The passing tourist does not suspect the immediate vicinity of fine Alpine scenery at the head of the Murthal, and in the Zederhausthal (Rte. I). Almost immediately on leaving St. Michael, commences the ascent of the *Katschberg* (5,261'). Though this pass is not 500 ft. lower than that of the Radstädter Tauern, it offers a marked contrast. The latter in its general aspect and vegetation is purely Alpine in character, whereas this recalls merely the mountainous region on the outskirts of the Alps. In the ascent from St. Michael, a view, however, is gained of the head of the Zederhauswinkel, enclosed by a high range, of which the most prominent summit is the Moserwandl (8,790'). On the summit of the Katschberg, the traveller passes the frontier of Carinthia, and descends rapidly to *Reinweg* (3,735'),

the post-station, with a rather poor inn, where delicious trout are kept alive in a tank to furnish a meal for passing travellers. Jäger Hiesl is recommended as a guide. Here the stream of the Lieser, which springs from the SE. base of the Hafnereck, is joined by the road which accompanies it to its junction with the Drave. Though the higher peaks to W. and NW. are scarcely anywhere in view, the scenery of the Lieserthal is throughout interesting and agreeable. At *Kremsbrücke* (2,891'), said to have a good inn, the *Kremsgraben* opens eastward, and through the northern branch of that glen a path leads, by the N. side of the *Königsstuhl*, to *Turrach* (§ 55, Rte. D). Lower down in the valley, at the village of *Leoben* (2,314')—not to be confounded with the Styrian town of that name—another parallel glen leads along the *Leobensbach* to the same place. The latter is the better way for a traveller wishing to take the summit of the *Königsstuhl* on his way. From *Leoben*, where the Lieserthal becomes narrower and steeper, the road descends to

Gmünd (2,385'), a pretty little town, finely situated at the opening of the Maltathal, whose attractions, yet little known to strangers, are noticed in the following Rtes. Of several inns, that kept by *Lax* (who is well acquainted with the neighbouring Alps) and the *Post* are recommended. After a glimpse of the snowy peaks that guard the upper end of the Maltathal, the road descends rather rapidly along the slopes above the rt. bank of the Lieser. About 7 m. from *Gmünd*, a broad valley opens to ESE., wherein lies the *Millstädter See*, one of the largest lakes in this part of the Alpine chain, about 8 m. long and more than 1 m. broad, further noticed in § 55, Rte. F. The lake, which is 1,904 ft. above the sea-level, is drained from its WNW. end into the Lieser. That stream runs to join the Drave through a deep and narrow channel, while the road passes over the low pine-grown ridge that divides the lake from the valley of the Drave. The physical

geologist, who may here speculate on recent theories as to the origin of Alpine lakes, should be aware that, although the terrace on which the town of *Spittal* stands is only 2 ft. above the level of the lake, the bed of the Drave at the junction of the Lieser is lower by 245 ft., or 1,649 ft. above the sea. The road from *Spittal* to *Villach* is described in § 51, Rte. A.

ROUTE F.

ST. JOHANN, IN PONGAU, TO GMÜND BY THE ARLSCHARTE.

Char-road to *Hüttschlag*, about 15 m.; on foot to *Flügelhof*, 9½ hrs.; char-road thence to *Gmünd*, about 9 m.

The course here described, which is entirely free from difficulty, and practicable for every moderate walker, enables the traveller to enjoy much of the fine scenery of the Maltathal, though it does not offer attractions equal to those of the following Rtes. It may be taken by one going from *Salzburg* to *Villach* with little or no loss of time, as on the first day from *Salzburg* he may easily reach *Hüttschlag*, in *Grossarl*, and on the following day may arrive at the *Flügelhof* in time to go on to *Gmünd*. It must be said that there is little chance of finding a vehicle at the *Flügelhof*, unless it should be ordered beforehand by a letter to the postmaster at *Gmünd*.

The *Grossarlthal* opens into the val-

ley of the Salza just at the point where that river, after flowing due eastward from its source, turns at rt. angles to its previous course, and runs northward towards Salzburg. Thus it happens that the *Grossarl Ache* is nearly continuous with the lower course of the Salza. The road from St. Johann crosses the Kleinarlbach, and ascends above the rt. bank of the Salza, till in about 5 m. the road reaches, at *Stegenwacht*, the entrance of the savage defile through which the Grossarl Ache descends to join the Salza. In this defile thermal springs exist similar in character to those of Gastein, and have, at various periods, been used with similar salutary effects; but inundations, avalanches, and similar accidents, have as often made the spot inaccessible, or diverted the channels of the warm springs. In 3 hrs. from St. Johann the road reaches

Grossarl-Dorf (2,899'), the chief place in the valley. An active walker may from hence reach Dorf Gastein in 3 hrs. over the *Arlthörl*, and another, rather longer, pass leads to Hof Gastein over the Aigenalp. Following the road, which is constructed for the sake of the copper mines, the traveller passes, about 1½ hr. above Grossarl, the opening of the *Töfirnthal*, by which way Bad Gastein may be reached in 4 hrs., crossing the shoulder of the Gamskahrkogel. A short way farther up the valley, 5 hrs.' walk from St. Johann, is

Hüttschlag (3,125'), a mining village, where copper of excellent quality is extracted and refined. The veins are near the junction of the metamorphic slates with the trias. As much as 100 tons of sulphur are said to be annually extracted from the ore. Above this place, the track, which for some distance is practicable for rough carts, follows the valley in a SE. direction to the hamlet of *Stockham*, 1½ hr. from Hüttschlag. Not much higher up is the last permanent dwelling, a farmhouse near a little lake, appropriately named Hof am See (3,490').

Here the valley narrows to a stony defile, but the path continues to ascend

gently as far as the Schöderalp. The *Hütte* stands on a huge pile of debris, the remains of a bergfall from the E. side of the valley, which bridges over the torrent for a distance of 700 or 800 yards. Here the path to the Arlscharte turns to SW., and ascends rapidly along the slope of a promontory that projects between the Marchkaar and the Kolbenkaar. After ascending for 1 hr. the path reaches a sort of terrace, called 'Am Kolben' (5,991'), where the forest comes to an end. The path now turns, first to the l., then back to the rt., and ascends over piles of debris to the *Arlscharte* pass, reached in 4 hrs. from Hof am See [K. S.] Beside the summit is a knoll, called Arlhöhe, only 62 ft. higher, found by Sonklar to be 7,561 ft. above the sea. It commands an extensive view in both directions.

Here the traveller looks along the main branch of the *Maltathal*—more correctly written *Malteinthal*, but we adhere to the commoner usage. This, by the unanimous testimony of the few travellers who have traversed it, is one of the grandest and most picturesque in the Eastern Alps. A rapid descent leads the traveller from the pass to the *Samerhütte*, the highest alp in the main branch of the valley. On the way to Gmünd he will enjoy scenery that offers a rare combination of all the elements of scenic grandeur and beauty. Rock masses of the boldest and most fantastic forms, luxuriant vegetation of pine and larch, and, above all, a marvellous variety of waterfalls, leave nothing wanting to enhance the effect. The upper portion of the valley from the *Flügelhof* to the *Wastelalp*—called for distinction *Maltagraben*—is nearly throughout a narrow defile, opening, at intervals, into a little basin, containing green pasture and a *Sennhütte*. In this space Dr. Ruthner reckons a dozen fine waterfalls, without counting those in the lateral valleys. 'Nowhere in the Alps,' says Sonklar, 'are the traces of glacial action to be seen on a vaster scale.' These are well exhibited a little below the *Samerhütte*. Here the main torrent of the Malta flows into the

proper head of the valley. It is formed by the union of two glacier streams from the Grösse Elend and Kleine Elend glens, mentioned in the following Rtes., which join their waters about a mile W. of the Samerhütte. The character of the scenery here is that of an upland Alpine glen, nearly bare of timber, enclosed between a high ridge that extends northward from the Hochalpenspitz to the Brunnkahrnock, and that connecting the Markkahrspitz with the Hafnereck. Descending over rough ground, first by the l., then by the rt., bank of the Malta, the traveller, in about one hr., reaches the *Wastelalp*, or *Wastelbauerhütte*. This is the largest Sennhütte in the valley, but more commodious night-quarters are now to be found, as mentioned in the next Rte. Here we enter upon the characteristic scenery of the Malta-graben. For a considerable distance, the path keeps to the rt. bank. The *Rosstümpel*, a fine fall of the Malta, is followed by that of a torrent descending from a ravine on the rt. Nearly one hr. is required to reach the *Adambauerhütte*, which lies on the l. bank, and the path keeps that side of the torrent through the remarkable defile which extends hence to the Traxhütte.

Supported in places on projecting beams, or cut into the face of the live rock, the footway finally returns to the rt. bank by a bridge flung across from rock to rock, at a great height above the torrent. Shortly below this the traveller reaches what is, perhaps, the most remarkable spot in the valley, and which, therefore, forms the turning-point for most tourists who visit it from Gmünd. With a background of bold rocks and noble pine-trees, two waterfalls are brought together into the same picture. As seen from below, the Hochalpenbach, which drains the chief glacier of the Hochalpenspitz, forms on the l. hand a double fall—above a cataract, below a bolder spring from the edge of a ledge of rocks. On the rt., and close at hand, the more copious stream of the Malta is abruptly hurried over a barrier some

50 ft. high, into a deep circular caldron. From the colour of the water in this 'Kessel,' the waterfall is known as the *Blaue Tumpf*. Scarcely $\frac{1}{2}$ m. below this singular spot is the *Traxhütte* (3,775'), about 2 hrs. from the Wastelalp. The huts lie in a little basin closed at the lower end by a projecting buttress of the mountain, and it is necessary to ascend some way before resuming the descent, which is henceforward rather rapid. Near a fine fall of the Möllniggbach is a picturesque bridge—*Hochsteg* (3,205')—below which the last Sennhütte is passed. Though long, the valley is so interesting that it is almost with regret that the traveller reaches the highest hamlet, a group of very poor houses, called *Brandstall*. This lies only a short way above the junction of the Gössgraben, a considerable glen described in Rte. H. Close to the junction, on the rt. bank of the Malta, is the

Flügelhof (2,762'), a large farming establishment, surrounded by fine lime trees, belonging to Count Lodron, the owner of a large modern residence in the town of Gmünd, and one of the chief proprietors of the adjoining district. The farmer here will give refreshment, and, doubtless, in case of need, night accommodation. At another house, on the opposite side of the Malta, the farmer (*der Klampferer*) sometimes has a vehicle available for hire. This place is commonly reckoned 11 hrs. from Hüttschlag, but an active walker will reach the pass in 5 hrs., and descend to Flügelhof in $4\frac{1}{2}$ hrs.

Below the junction of the Gössgraben, the Maltathal completely changes its character, and is henceforth a broad and nearly level valley, with numerous farmhouses, and a good deal of land available for tillage. About half-way to Gmünd is the village of *Malta* (2,662'), with a tolerable inn, kept by Aderl Krammer. The parish priest, Herr Kohlmayr, has largely contributed to dispel the general ignorance which, till very lately, prevailed as to this beautiful valley, and has published a

little descriptive work which the writer has not been able to procure. He strongly recommends tourists to ascend to a point called *Faschauner Thörl* (about 6,200'), reached by a good path in 3 hrs. from the village, and kindly lends to strangers a panorama by which they may identify the principal peaks. By persevering in the same direction, nearly due N. from Malta, the traveller may reach the summit of the *Faschauner Nock* (9,130'), one of the chief summits in the range dividing the Malta- from the Lieser-Thal. A gentle descent along a good road leads from Malta to *Gmünd* (Rte. E).

ROUTE G.

GMÜND TO BAD GASTEIN, BY THE KLEINE ELEND.

By road to Flügelhof, 9 m.; 14 hrs. on foot, exclusive of halts, thence to Bad Gastein.

Of the glacier passes connected with the inner recesses of the Maltathal, the least laborious and difficult is that leading to Bad Gastein by the Klein-Elendscharte, but it is certainly inferior in interest to the passes leading to the Mallnitzthal, enumerated in the next Rte. The Maltathal, despite its undoubted attractions, has been under a decided disadvantage as compared with most other considerable valleys in the Eastern Alps, owing to the want of an inn above the village of Malta, and to the difficulty of finding competent guides. The best guide for the glacier passes is

probably Jäger Florian, a gamekeeper, usually to be found at Count Lodron's Jagdschloss, or shooting-lodge, at Dornbach, about half-way between Gmünd and Malta. Johann Fercher, of Malta, has also been recommended. He asks 10 fl. (too much) for the pass to Gastein. A mountaineer planning excursions will do well to apply to Herr Kohlmayr, the parish priest at Malta. A traveller, accompanied by an experienced guide, who designs merely to effect the pass from the Kleine Elend to Gastein, may count on finding sufficient local guidance at the highest Sennhütten, and need not engage a man in the lower part of the valley. The difficulty as to accommodation in the upper part of the valley has been to a great extent overcome through the liberality of Baron Werner, who has built two shooting-lodges—one at Schönau, the other (smaller) at the Sommerhütte under the Klobenhöhe—and kindly makes them available as night-quarters for tourists.

At the Samerhütte, where the path to the Arlscharte is left on the rt. hand, the traveller bound for Gastein turns to the l., along the torrent which unites the waters of the Klein- and Gross-Elendbach, and, keeping along the l. bank for $\frac{1}{2}$ hr., reaches, in 6 hrs. from the Flügelhof, the *R. chenbüchlhütte*. This group of Hütten stands at the junction of the Kleine Elend, which mounts due W., with the Grosse Elend, which bears at first SW., then nearly due S. The scenery here is wild and impressive. Right in front, in ascending from the Samerhütte, is the Schwarzhorn, a double-pointed peak—*Vorder-Schwarzhorn* (9,444'); *Hinter-Schwarzhorn* (9,536')—which crowns a massive buttress projecting NE. from the Ankogl, and divides the two Elend glens. The Grosse Elend lies between this and a longer ridge, extending due N. from the Hochalpenspitz to the *Brunnkahrnock* (9,003'). The *Kleine Elend*, through which lies the way to Gastein, is enclosed at its head and on its N. side by a portion of the main range of the Tauern Alps, dividing Salzburg from

Carinthia. From the summit of the Ankogl, this extends nearly due N. to the W. summit of the *Tischelkahrkopf* (9,288'). At that point, it turns at rt. angles, and extends due E. to the *Arlscharte*, and thence to the *Markkahrspitz*. There is a *Sennhütte* in *Kleine Elend*, 1 hr. higher up than the *Rechenbüchlhütte*, but it supplies very contracted and comfortless quarters. It may be here noted that the name *Elend*, given to these glens, is almost certainly derived from *Elenn* (elk), which animal inhabited this part of the Alps within the historic period. It is here necessary to note a serious error in *Sonklar's* generally excellent map. He there places the pass to *Gastein* between the above-mentioned W. peak of the *Tischelkahrkopf* and the more southerly summit of the *Faschnock* (9,698'); whereas it appears that the pass is more nearly where it is shown in the sketch map by *E. Keil*, in the 'Jahrbuch of the Austrian Alpine Club for 1865,' some way E. of the E. summit of the *Tischelkahrkopf*, and not far from the spot where *Sonklar* lays down a track leading to *Grossarl*. In regard to this, and one or two other errors in this part of the range, it must be observed that *Sonklar's* map is partly based upon that of the Austrian *Etat-Major*, which is in this district by no means completely accurate.

After following the l. bank of the *Klein-Elendbach* for about $\frac{3}{4}$ hr. from the above-mentioned *Hütten*, the traveller turns to the rt., nearly due N., and commences a steep and long ascent. On approaching the snow-slopes that cover the summit, it is necessary to bear somewhat to the l., till, in $3\frac{1}{2}$ hrs. from the *Rechenbüchlhütte*, the summit of the *Klein-Elendscharte*, also known as *Kesselkahrkarte*, is attained. Though only 8,231 ft. above the sea, this displays a considerable field of *névé*, which, on the N. side, is developed into a glacier of some extent. The view is said to be extremely fine. At first, the course lies well to the l., or nearly due W., in order to avoid crevasses; but soon it becomes expedient to bear to the rt.

hand, in a northerly direction, along the E. side of the glacier (*Kesselkahrkees*), soon leaving the ice, so as to avoid the crevassed extremity of the glacier, whence numerous glacier streamlets trickle down the face of steep ledges of rock. Without local knowledge there may be a little difficulty in effecting the descent to the *Kesselkahralp* (5,987'). The *Hütte*, reached in $1\frac{1}{2}$ hr. from the summit of the pass, lies in a hollow a little on the N. side of the head of the *Kötschachthal*, where the torrent of that valley is formed by the confluence of several glacier streams.

The *Kötschachthal*, through which lies the course to *Gastein*, is, undoubtedly, one of the finest valleys of this district, though it must yield the palm to the *Maltathal*. It is a favourite haunt of chamois and other game. Too rarely visited by the tourist, it well deserves an excursion from *Bad Gastein*. In descending from the *Kesselkahralp* into the valley the assistance of one of the herdsmen may be required to find the way, which is rather circuitous, passing on one side of a very fine waterfall. The main branch of the valley is reached at the *Prossau-Alp* (4,188'). This is very finely situated at the junction of three considerable glacier torrents, each of which forms a considerable waterfall in its descent to the level of the main valley. Above the forest-clad slopes that surround the alp is a circuit of rugged peaks, whose flanks are clad with glaciers or snow-slopes. A beaten track descends the valley from the *Prossau-Alp*, first by the rt. bank of the *Kötschache*, afterwards by the opposite side of the stream. The traveller bound for *Bad Gastein* must not follow the torrent to the *Badbrücke*, on the old road from *Hof Gastein*, whence he would have to reascend to the baths, but take a well-made path, frequented by the bath visitors, that winds round the slope of the hill, and involves only a trifling ascent. The descent from the *Kesselkahralp* to *Bad Gastein* is effected in 3 hrs.' steady walking.

ROUTE H.

GMÜND TO OBER-VELLACH. ASCENT OF
THE HOCHALPENSPITZ.

The finest passes connected with the Maltathal are those leading westward to Mallnitz or Ober-Vellach; and there is little doubt but that the active mountaineer may take on his way the ascent of the Hochalpenspitz, so as to reach Mallnitz on the second day from Gmünd. It is certain that the ascent of that peak may be effected from the Grosse Elend; and a mountaineer who wishes in a single excursion to enjoy the finest scenery of the Maltathal cannot do better than go on the first day to the highest Hütten in Grosse Elend, ascend the peak on the following day, and, if possible, descend to the Flügelhof by the Gössgraben.

We shall, in the first place, enumerate the passes leading from Malta to Ober-Vellach.

1. *By the Pleschnitzscharte.* This is the most circuitous way from Malta, involving a walk of 13 hrs., exclusive of halts, from the Flügelhof; but for a traveller intending to make but one excursion through the Maltathal, it deserves a preference, as this shows more of its noble scenery than the passes approached through the Gössgraben. The first day from Malta or Gmünd

will be employed in reaching the Rechenbüchlhütte, at the junction of the torrents from Grosse Elend and Kleine Elend; but it is possible to go about 1 hr. farther, to the highest Hütten in Grosse Elend, which afford tolerable shelter. The glen of *Grosse Elend* is said to present a peculiarly stern and desolate aspect, but rises to grandeur at its upper end, where it forms the centre of a vast amphitheatre of glacier-clad peaks. On the rt. is the ridge, dividing this from Kleine Elend, that extends from the Ankogl to the Schwarzhorn; in front the much longer and higher range, extending from the Ankogl to the Hochalpenspitz; and on the l. the scarcely less lofty ridge connecting the latter with the Brunnkahrnock (see last Rte.). The great mass of glacier falling into the head of the valley is collectively called *Gross-Elendkees*; but, though usually connected by snow-slopes, so as to appear a nearly continuous mass, this, in fact, includes, at least, four distinct glaciers. On Sonklar's map, two of these are indicated, and a third is inserted on F. Keil's sketch map, mentioned in the last Rte. That descending very steeply from the peak of the Ankogl is the *Kaltewand Glacier*; S. of this is the gently sloping *Pleschnitzkees*; SE. of the latter, from the part of the range between the Thörlspitz and Kärkspitz, descends the *Fallbachkees*, which, like it, is little crevassed; divided from the Fallbach Glacier by a ridge called Kälberriegel, is the *Brunnkahrkees* (*Gross-Elend-Gletscher* of Sonklar), the most considerable of these glaciers, fed by the snows that accumulate on the NW. side of the Hochalpenspitz. From the Rechenbüchlhütte, the way to Mallnitz lies along the main torrent, till, at the junction of the streams from the Pleschnitzkees and the Fallbachkees, it bears somewhat W. of N. along the former torrent. The glacier is free from difficulty, and in about 3½ hrs. from the Rechenbüchlhütte, the traveller reaches the summit of the *Pleschnitzscharte* (about 8,500'). The name is written in various ways, and it appears that the pronunciation at Mall-

nitz corresponds best to Blasiskscharte! The pass is sometimes called Gross-Elendscharte, but that designation is vague, being often extended to the entire ridge connecting the Ankogl with the Hochalpenspitz. The view in both directions is extremely fine, and the traveller moderately favoured by weather will not fail to make a long halt on the summit of the ridge. The near peaks of the Ankogl and Hochalpenspitz—especially the latter—first claim attention; and in the eastern background, the range of the Hafnereck, on the opposite side that of the Hochnarr, are objects of further interest. The descent lies in a SW. direction, over a steep slope set with loose blocks, more or less covered with snow according to the season. After a while, the ground becomes easier, but continues to be steep and pathless until, in about $1\frac{1}{2}$ hr. (descending from the pass), the Ochsenhütte, surrounded by the scanty remains of an ancient larch forest, is attained. A tolerably good path leads hence along the Pleschnitzbach to the uppermost group of Hütten of the Lassacher Alp, mentioned in Rte. C, in connection with the ascent of the Ankogl from Mallnitz. That village may be reached in $3\frac{1}{2}$ hrs. from the summit of the pass, or 7 hrs. from the Rechenbüchlhütte; but as it lies at least 1,500 ft. lower than the Hütte, 8 hrs. should be allowed when the pass is taken in the opposite direction—i.e. 2 hrs. to the Lassacher Alp; 4 hrs. thence to the summit; 2 hrs. descending from the pass to the Rechenbüchlhütte.

Mountaineers may be tempted to effect a pass from the Lassacher Winkel, at the head of the Mallnitzthal, to the Grosse-Elend, by the ridge connecting the Thörlspitz with the Kärlspitz (9,689'), descending on the NE. over the Fallbach Glacier. The scenery must be even finer than that of the pass above described; but as the ridge on the Lassacher side is very steep, it would be best to make the attempt from that side. There are two guides at Mallnitz—Schöberl, and Filipp Sauper, both rather advanced in

years, who are well acquainted with the upper end of the Maltathal. They are satisfied with 2 fl. for daily pay.

Of late years, a few travellers have made their way from Mallnitz to Gastein by crossing on the first day the Pleschnitzscharte, sleeping at the *Hütten* in Kleine Elend, and on the following day crossing the Klein-Elendscharte (Rte. G). Those who take this course should not follow the path through the Grosse Elend to its junction with the other glen, but keep along the slope of the Schwarzhorn at a height of about 7,300 ft., and pass a little lake at the foot of the peak of the Vorder-Schwarzhorn, which commands a noble view of the surrounding Alps. Thence they can descend to the Hütten in Kleine Elend.

2. *By the Dössner Scharte.* 10 hrs.' walking from Flügelhof to Ober-Vellach. The chief lateral glen of the Maltathal is the *Gössgraben*, which opens due westward from the Flügelhof. It offers scenery which in this region is second only to that of the main valley, and leads by at least three fine passes to the Möll Valley. Besides Florian, of Dornbach, named in the last Rte., Simon Moser, and Moidle Franz, are named as good guides. Filipp Sauper, of Mallnitz, is also acquainted with the pass here described. Travellers wishing to undertake this pass, or that of the Kapponig Thörl, from Ober-Vellach, should enquire for a hunter named Guri. He is also acquainted with the way up the Säuleck.

The finest scenery of the Gössgraben is in the lower portion, extending from the Flügelhof to the Zwillingfall. There is no lack of fine waterfalls to rival those of the Malta. The first is the *Treskafall*, where the Göss springs in one mass of foam down a ledge 168 ft. in height. Another, less considerable in volume, is formed by a tributary torrent that joins the Göss at the *Wirtalp*. This is, perhaps, the most beautiful point of view in the valley. The fine pyramidal peak in the further background is the *Säuleck* (10,108'), and to the l. is the pass of the Dössner Scharte,

over which the traveller is to make his way to the Möllthal. Another remarkable point is reached some way farther, at the so-called *Zwillingfall*. As in the main branch of the Maltathal, we have here two fine waterfalls, very different in character, placed side by side. One is formed by a slender stream descending from the Trippenalp, the other by the main torrent of the Göss, falling through a vertical height of 250 ft. A steep ascent by a narrow track on the S. side of the main fall leads to a higher step in the valley, and, keeping chiefly to the rt. bank, the path ascends very gently till another rocky step is reached, above which is the *Ulrichhütte* (3,926'), a large Sennhütte offering the best night-quarters to be found in the valley. Up to this point, the ascent has been very gentle, except where the two *Thalstufen*, mentioned above, have to be surmounted. Here, as we approach the head of the Gössgraben, the slope becomes more rapid and continuous. Traversing the Göss by a solid wooden bridge, and mounting among scattered groups of larch wood, the path leads from the Ulrichhütte to the Obere Tripphütte, which is an excellent resting place for an Alpine luncheon, as it commands a complete view of the peaks that enclose the head of the valley. The giant of the group—the Hochalpenspitz—is connected by the Trippeskamm, a long and steep ridge, with the Säuleck; adjoining the latter is the *Grossgössachspitz* (9,657'), and then the *Kleingössachspitz* (9,588'), with the Dössner Scharte between them. The next depression to the l. is the Kapponig Thörl (mentioned below), and then follows the ridge dividing the Malta from the Möll, whose most conspicuous summits are the *Dristenspitz* (9,605'), and the *Reisseck* (9,693'). A considerable glacier, lying on the S. declivity of the Hochalpenspitz, is concealed from view at the Tripphütte by an intermediate ridge, but is seen from various points on the way. By all the travellers who have written about this district, this is called *Trippenkees*, but, at least on the Lassacher side, it seems

to be locally known as *Winkelkees*. Above the Tripphütte are many cattle-tracks, but apparently no defined path. The ascent for some distance lies over Alpine pasture, and gradually enters a stony hollow, with scattered pools of ice-cold water, leading to a ravine or couloir, up which, over a rather steep snow-slope, lies the way to the pass. The summit of the

Dössner Scharte (8,748'), sometimes called Mallnitzer Scharte, is a narrow gateway between steep rocks, commanding a remarkable view that on the E. side extends along the whole length of the Gössgraben, and in the opposite direction through the Dössenthal. From hence, the summit of the Säuleck was reached with little difficulty in $1\frac{1}{2}$ hr. by Dr. P. Grohmann. On the W. side of the pass, the descent lies over a long slope, covered with huge blocks of gneiss set at a high angle. Except in seasons when these are covered with snow, this demands much caution and patience from a traveller not well used to such ground. The slope is locally known as *Das böse Gemäuer*; nearly 1 hr. must be allowed for the descent, and rather more for the ascent when the pass is taken the other way. At the foot of the steep slope lies a large tarn, about 1 m. in circumference, seemingly formed by an ancient Bergfall (or? moraine), as it has no visible outlet. Keeping well to the rt., a faintly marked track leads the traveller from this wild and dreary scene to the head of the Dössenthal. On turning round to view the head of the valley, this seems to be completely barred by a dam formed of colossal blocks of gneiss, which sustains the lake. The *Dössenthal* is a short, rather steep, glen, that pours its torrent into the Mallnitz, nearly half-way from the village of that name to Ober-Vellach. It offers much pleasing scenery, and, in descending, the peak of the Grossglockner is frequently seen above the intermediate ranges; while in ascending the glen, the Säuleck is always a striking object. The highest Hütten are those of the Egger Alp. Below these the path de-

scends a steep slope, and before long reaches another Hütte, where it is well to obtain local guidance, in order to avoid losing time at the opening of the glen. A path to the l., which, below the junction of the Dössenbach, keeps the l. bank of the Mallnitz, leads to the road $\frac{3}{4}$ hr. above *Ober-Vellach* (Rte. C). Those who are bound for Mallnitz follow a track along the slope of the mountain overlooking the lower end of the Dössenthal, passing two farmhouses, and finally descend to the main valley close to the village.

3. *By the Winkelscharte.* In a paper contained in the 'Jahrbuch' of the Austrian Alpine Club for 1865, Dr. Wagl mentions the existence of the pass here named, connecting the head of the Lassacher Winkel with the Trippenalp in the Gössgraben. No further information has reached the writer, but, as it appears to lead through the very finest scenery of this part of the range, it must deserve the attention of mountaineers. The ridge which is crossed between the two valleys is that which has been called Trippeskamm by Mojsisovics.

4. *By the Kapponig Thörl.* This is the most direct way from the head of the Gössgraben to Ober-Vellach, and is said to be shorter by 1 to 2 hrs. than that by the Dössner Scharte. The summit, which is also called Vellacher Thörl, is 8,732 ft. above the sea-level. On the WSW. side, the descent lies through the *Kapponig Graben*, a narrow, steep ravine, whose torrent flows in a nearly direct line from the summit of the pass to the town of Ober-Vellach.

5. *By the Zwengberger Thörl* (about 8,700'). Of this pass, which lies SE. of the *Dristenspitz* (9,605'), no information has reached the writer. It is approached from the upper part of the Gössgraben, and the descent lies through the *Zwengberger Thal*, which opens into the Möllthal about 3 m. below Ober-Vellach. The ascent of the *Dristenspitz*, which must command nearly the same view as the *Reisseck*, might probably be taken on the way.

6. *By the Richen-Thörl.* This is a pass which avoids altogether the Maltathal, as it connects the head of the Radlgraben, a glen opening into the Lieserthal $\frac{1}{2}$ hr. below Gmünd, with that of the *Rinkenthal*, which joins the Möllthal a little above Kolmitz. The chief inducement to take this course is in order to combine with it the ascent of the *Reisseck* (9,693'), a detached summit which commands one of the finest views of the eastern portion of the High Tauern Alps. The *Radlgraben* is a narrow glen, originating in two Alpine tarns at the SE. side of the *Reisseck*. It contains iron-works, and an alkaline spring near its opening, where accommodation for the night may probably be obtained. Dr. Grohmann, who ascended the *Reisseck* from this side, took as guide Michael Kreidel of Aich. The *Reisseck* may be ascended from the Gössgraben; and a traveller sleeping at the Ulrichhütte might take the summit on his way to Gmünd, descending through the Radlgraben.

It seems desirable to give here a slight notice of the ascent of the *Hochalpenspitz* (11,026'), a peak surpassing by several hundred feet all those lying E. of the Grossglockner and Vischbachhorn, whose importance until very lately had been strangely overlooked. The engineers engaged in the triangulation for the Austrian Military Map, instead of measuring the highest point in the range dividing the Maltathal from the Mallnitzer Thal, fixed their attention on a minor summit, forming the easternmost extremity of that range, which rises between the Maltagraben and the Gössgraben. To this, which is but 8,561 ft. in height, and is apparently a point called Gamsnock by the herdsmen, they gave the name Hochalpenspitz. Most travellers preferred official authority to the evidence of their own senses, and the received height of the Hochalpenspitz continued to be 8,568 ft. until Dr. Ruthner reached the second peak in 1859, and found its height by the barometer to be 10,979 ft. The

highest summit was first attained in the following year by Dr. Grohmann, and he was succeeded in 1861 by Herr v. Mojsisovics, whose barometric observations, by comparison with Klagenfurt, give a height of 11,288 ft. We have here preferred Col. v. Sonklar's determination, intermediate between the others, and resting on nearly concordant observations from three different points. The best guide for the ascent is probably Lenzbauer, of the village of Malta. Hans Fercher, of the same place, cannot be recommended; but Franz Weinzierl, the 'Senner' at the Stranerhütte, who accompanied M. Mojsisovics, showed himself a good mountaineer.

The three ascents known to the writer were all effected from the Hochalp. This is reached from the Hochsteg, in the Maltathal, a short way below the Traxhütte. A steep ascent leads to the upper pastures, where the traveller reaches in succession the Stranerhütte (5,318'), the Anemannhütte, and the Hochalpenhütte (6,360'). The second of these offers the best night-quarters. It is here necessary to point out an error in Sonklar's usually excellent map. The second peak of this group, the *Preimelspitz* (10,648'), is placed by him too far E. of the ridge extending northward to the Brunnkahrnock, and the ridge laid down on the map connecting it with the *Steinerne Mandl* has no existence. The Hochalpenkees, a considerable glacier, flows at first ESE. from the ridge connecting the highest peak with the *Preimelspitz*, but it gradually bends to ENE. round the base of the latter peak, and sends its torrent by the *Preimelalp* to feed the fine waterfall above the Traxhütte (Rte. F). The stream, passing by the Hochalpenhütte, which some way lower down unites with that glacier torrent, originates in a wild stony hollow, wherein lie three tarns. This hollow is divided from the Hochalpen Glacier by a ridge called *Thürriegel*, but this is in several places overflowed by the ice-stream, and one arm of the glacier

descends as far as the uppermost turn, whose height is 8,217 ft. It is by this lake, and the above-mentioned arm of the glacier, that the main ice-stream is most easily reached. M. Mojsisovics is convinced that the best course is to reach a projecting point in the main ridge—called *Steinerne Mandl* (10,317'), and follow the ridge to the apparent summit; but the guides have always preferred a more circuitous course keeping considerably to the rt. of the direct line. On attaining the highest point in the snowy ridge forming the boundary of the glacier-basin, the traveller finds that this is overtopped by a rocky point near at hand, which projects from the ridge connecting this with the Säuleck. This highest peak is connected with the lower snow summit by a very narrow arête, similar in character to that uniting the two peaks of the Grossglockner. None of the travellers who have reached the summit appear to have been fortunate in point of weather, but the view must be both very extensive and very interesting, from its overlooking many of the greater valleys of the Eastern Alps.

The innkeeper at Malta, who accompanied Dr. Ruthner, effected a descent towards the Grosse-Elend by the Brunnkahrkees, but it is yet to be seen whether it may not be possible to reach directly the *Lassacher Winkel*, or to make a descent (probably less difficult) by the *Trippenkees* to the *Gössgraben*.

ROUTE I.

ST. JOHANN IN PONGAU TO ST. MICHAEL
IN LUNGAU. THE HAFNERECK.

In Rte. E, the circuitous carriage-road from St. Johann to the head of the Mur Valley by Radstadt, and the Radstädter Tauern, has already been described. It may not occur to many travellers that there is a choice among various paths, by which the same point may be reached much more directly, which offer the attractions of fine scenery, and the advantage of making closer acquaintance with a mountain mass that has some special interest for the physical geographer. Although the course of recent geological investigation tends to modify the belief in the extreme antiquity of the rocks, forming what is commonly called the central chain of the Alps, there can be no doubt of the relative antiquity of these masses as compared with the ranges which flank them on the N. and S. sides; and some special interest attaches itself to the district in which this central chain bifurcates, and extends eastward as a double range, divided by a broad and deep valley, whose existence dates from a date anterior, at all events, to the latest period of geological history. The point at which this bifurcation occurs is the peak of the Markkahrspitz, one of the summits of the Hafnereck range, which has been already referred to as forming the NE. boundary of the Maltathal. This range, whose direction is parallel to that of the Hochalpen-spitz, and to that of all the chief ridges

of the High Tauern Alps E. of the Velber Tauern, is also remarkable as being the easternmost portion of the central chain, lofty enough to produce glaciers of notable dimensions. One such, at least, is found on the flanks of the Hafnereck, while E. of this group we find indeed patches of permanent snow, but nothing deserving the title of glacier. It will be seen lower down that the most interesting of the passes here enumerated may be taken quite as conveniently from Gastein as from St. Johann, and involves no loss of time to a mountaineer going from that place to Vienna or Gratz.

The better to understand the orography of these valleys, the reader should fix his attention for a moment on the *Markkahrspitz* (9,245'), the cornerstone at which meet the basins of the Mur, Drave, and Salza. At its N. and E. sides, this peak sends its drainage into the uppermost branches of the Murwinkel; its NW. face overlooks the head of the Grossarlthal; while on the S. side it rises above the head of the Maltathal. From this central point, a high range extends ESE. parallel to the latter valley; but this forms only for a short distance the watershed between the Drave and the Mur. From the Hafnereck (10,044'), a much lower ridge diverges to the E., and forms the dividing range between those rivers. In the opposite direction, from the summit of the Markkahrspitz, the boundary between the waters of the Mur and those of the Salza extends nearly due N. for about 9 m., and then, at the summit of the Rothhorn, turns eastward, forming the northern limit to the basin of the Mur, and dividing its waters from those of the Enns. Of the three parallel valleys lying between the Gasteiner Thal and the Radstädter Tauern, the Grossarlthal alone approaches the base of the Markkahrspitz, while Kleinarl and Flachau terminate farther N., near the Rothhorn and the adjoining summit of the Moser Wandl (8,790').

1. *By Kleinarl and the Zederhausthal.*

Char-road to Kleinarl, about 13 m. On foot thence to St. Michael, 10 to 11 hrs. In following the road from St. Johann to Radstadt, the opening of the Kleinarlthal was passed at Wagrain, about 7 m. from the first-named place. The geologist will be struck by the vast dimensions of the terraces of diluvium (or glacial drift?) about this point. A tolerable road goes as far as *Kleinarl* (3,105'), the only village of the valley. By starting in a light carriage very early from St. Johann, the traveller may reach St. Michael on the same day. About 1 hr. above the village is the *Jägersee* (3,588'), with a little shooting-box beside it. Another hour's walk leads to the uppermost part of the Kleinarlthal, called *Tappenkahr*. This is a deep recess, surrounded by steep slopes, in the centre of which lies the *Tappenkahrsee* (5,407'), a rather large and deep lake, famous for its *saibling*. The farthest head of the valley above the lake, locally known as *Kahrboden*, is a *Freigebirg*, or open pasture, to which the people of the adjoining valleys are entitled to send their cattle. One consequence of this is to produce a convergence of numerous cattle-tracks, and the traveller on that account will find the aid of a local guide almost indispensable, the more so as the maps of this district are discordant. There are paths, leading on the one side to the Grossarlthal, and on the other to Flachau; but the most frequented is that to Lungau over the *Schiereck*, 4 hrs. from Kleinarl. The pass may be reached from Grossarl, by a path over the Tappenkahralp, in little more time than by Kleinarl. The Schiereck overlooks the upper end of the Zederhausthal, through which lies the easiest way to St. Michael; but the traveller wishing to enjoy the finer scenery of the Murwinkel may reach the head of that glen (without descending into Zederhaus?) by a path passing by the *Gling-spitz* (7,976'), which involves only a slight detour.

The *Zederhausthal*, more commonly called here *Zederhauswinkel*, is said to

offer less interesting scenery than that of the adjoining Murwinkel. It is a long pastoral glen with many Sennhütten. The name *Zederhaus* (cedar house) is derived from the *Pinus cembra*—one of whose many designations in the Alps is *Zeder*—here used for building. The uppermost end of the valley, called *Hinterriding*, descends, at first, towards ENE.; the stream then bends to the rt.; and from Hof to St. Michael its direction is ESE. Fully 3 hrs., or perhaps more, are required to reach *Hochpichl*, the highest hamlet. Hof, Gries, and other groups of houses are passed in succession, before the traveller reaches *Zederhaus*, the only village, where, in case of need, accommodation may be had for the night. He will probably prefer to push on 2½ hrs. farther to St. Michael (Rte. E).

The geologist may be tempted to diverge from the direct course above pointed out, in order to visit the adjoining valley of *Flachau*, whence the head-waters of the Enns enter the main valley above Radstadt (Rte. E). The valley contains important iron mines, said to be the most productive in the Salzburg territory; but the chief interest to the geologist arises from the presence of undoubted miocene tertiary deposits near the opening of the valley. The geological map annexed to this volume shows that similar deposits are believed to exist elsewhere, in the main valleys of Styria and Carinthia, but they are not always to be identified with certainty. The scenery of the Flachau is said not to be very interesting, but it is a comparatively short valley, and an easy pass over the *Windsfeld* (7,037') leads to Zederhaus, and thence to St. Michael. Another pass, noticed in Rte. E, leads from the Flachau to Tweng; and another, higher and more laborious, to the Tappenkahr, at the head of the Kleinarlthal. *Schwarzpichler*, to be heard of at Zederhaus or Hochpichl, is recommended as a guide.

2. *By Grossarl and the Murthörl.* Char-road to Hüttschlag, about 15 m.; thence to Mur, 8 hrs.' walking;

char-road from Mur to St. Michael, 10 m.

At Stockham (Rte. F), about $1\frac{1}{2}$ hr. above Hüttschlag, the path leading to the sources of the Mur quits that leading to the Arlscharte. Passing the Krähalp, this leads to the *Murthörl*, a depression in the range connecting the Mureck with the Wachteck. 'The Joch is marked by a cross, and there is everywhere a findable path. On reaching the head of the Mur valley, turn to the W., and climb one of the adjacent mountains. The Wachteck is the best, though difficult, if I recollect aright.'

[W. B.] The upper valley of the Mur, into which the traveller descends from the pass, exhibits a singular parallelism to the Zederhaus Valley, already described. The extremity of the valley, containing the chief source of the Mur, descends for some distance towards the ENE., and that portion is called *Schmalzgraben*. On bending round to ESE., the valley assumes the name Murwinkel, which it retains till its junction with the Zederhausthal, close to St. Michael. The scenery of the Murwinkel is fine, but it rises to grandeur only in the two lateral glens which are passed on the rt. hand by a traveller descending the valley. The first of these is the Moritzenthal, the second the Rothgidenthal, both leading to the Maltathal by passes mentioned below. In 8 hrs.' steady walking from Hüttschlag, the traveller reaches

Mur (3,638'), the highest village on the river of that name. Inn (Gferrerwirth), 'small, but bearable, 15 years ago.'

[W. B.] Near the village are the abandoned smelting-houses of *Schellgaden*, at the opening of a short glen called *Gangthal* which mounts to SSW., and is said to offer many attractions to the mineralogist and the botanist. A tolerable road leads from Mur to St. Michael.

2. *By the Maltathal and the Moritzenthal.* The passes above described are free from difficulty, and to find his way, the traveller can have recourse to the herdsmen who are always found in

summer at the highest pastures. The case is different in regard to the passes leading from the Murwinkel to the Maltagraben. These can scarcely be undertaken except from the E. side, where, at the village of Mur, several competent guides are to be found. Leopold Genser, Peter Simmerl, Rupert Schiefer, and Paul König are all recommended. The pass here mentioned as well as th^a. over the Rothgildenscharte, next enumerated, are not likely to be selected by a traveller going from St. Johann to St. Michael, or vice versa, as they involve a considerable detour, yet show nothing of the finest portions of the Maltathal. But the way through the Moritzenthal offers a very direct route from St. Michael to Bad Gastein; going on the first day to the Rechenbüchlhütte, and on the next crossing the Klein-Elendscharte to the Köttschachthal (Rte. G). Supposing that the distance from Mur to the Rechenbüchlhütte can be accomplished in 7 hrs., the whole distance from Mur to Bad Gastein requires 15 hrs., exclusive of halts. This was accomplished in one day by the late Archduke John, before Alpine Clubs had come into existence. The opening of the *Moritzenthal* is about 3 hrs. above Mur. It is said to be a short wild glen, encompassed by rocks and snow-slopes, in the midst of which lie three small lakes. Above these lies the pass which leads to the head of the Maltagraben at the Samerhütte. The way is said to be laborious and rather difficult; but no details have reached the writer.

4. *By the Rothgildenscharte.* For the reason above mentioned, this pass must be approached from the E. side. The *Rothgidenthal* is the finest of the lateral glens of the upper Murthal, and the traveller whose course lies eastward along that river or its tributaries may here bid adieu to the characteristic scenery of the high Alps. In this glen are important mines of arsenical ores, from which as much as 100 tons of white arsenic are said to be annually extracted. The process is carried on

in winter, when the ground is covered with snow, in order to avoid poisoning the cattle pastured on the surrounding slopes. The glen contains two lakes, of which the larger, called *Rogeler See*, is enclosed between steep faces of rock, above which rises the rugged peak of the Hafnereck, and others scarcely inferior in height. Masses of permanent snow rest in the rifts; while in the uppermost hollow, N. of the main peak, lies a rather considerable glacier.

To the rt. of the Hafnereck is the pass of the *Rothgildenscharte*. It is described as difficult, and even dangerous, on account of a crumbling mass of steep rocks, a little below the summit on the E. side, which must be climbed in order to reach the ridge. The descent is to the Wastelalp in the Maltagraben (Rte. F). It is said that those bound for the lower part of the Maltathal may reach that valley at a point lower than the Wastelalp, by bearing to the l. to the Mairalp. But by taking this course the traveller would lose some of the finest scenery of the Maltagraben.

The ascent of the *Hafnereck* (10,044') is said to be impracticable from the side of the Murwinkel, and the course taken by the few travellers who have climbed the peak has been to mount from the village of Mur, along the ridge dividing the Murwinkel from the head of the Lieserthal, and, passing round the peak, to reach the summit from the SE. side. Thé ascent may probably be shorter and easier from the Traxhütte, in the Maltagraben.

The pass from Mur to the head of the Lieserthal by the *Büchlwand* is said not to be difficult, and a fine walk may thus be made to Rennweg, on the high-road from St. Michael to Gmünd.

Much information respecting the Lungau district, including the upper valley of the Mur and its tributaries, is found

in a paper by Dr. Wallmann, in the 'Mittheilungen of the Austrian Alpine Club for 1864,' but more detailed and accurate information as to the passes connected with the Maltathal and the upper branches of the Mur Valley is much to be desired, and will be thankfully received by the writer.

BALL'S ALPINE GUIDES,
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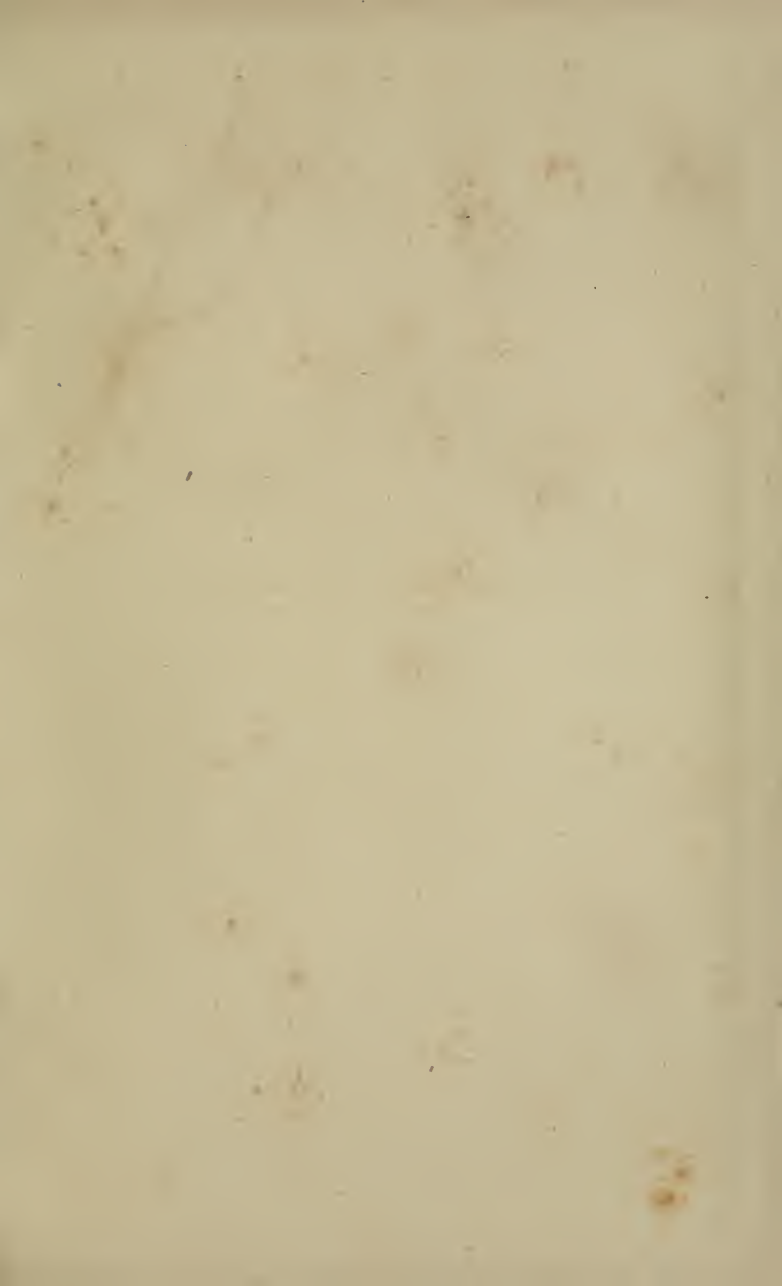
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