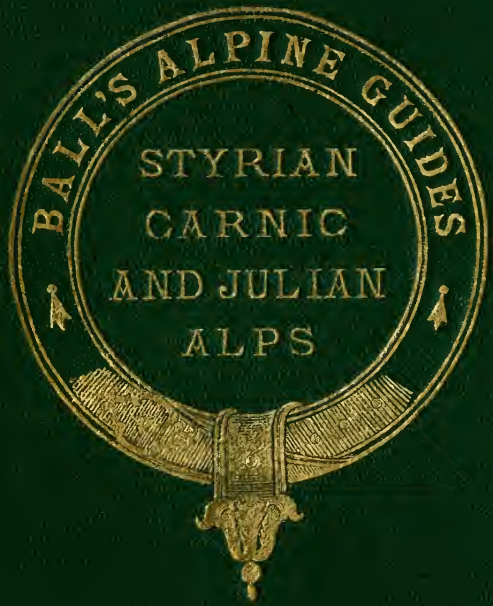


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KEY MAP  
to  
**ALPINE GUIDE**  
Eastern Alps.

*The Numerals refer to the Sections  
The Letters to the Routes*







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

*BALL'S ALPINE GUIDES*

---

STYRIAN, CARNIC

AND

JULIAN ALPS

BY

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

LATE PRESIDENT OF THE ALPINE CLUB

LONDON

LONGMANS, GREEN, AND CO.

1873

## LIST OF MAPS.

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KEY MAP . . . . .	<i>To be pasted inside the cover at the beginning</i>
THE EASTERN ALPS—General Map . . . . .	<i>To face title-page</i>
THE TERGLOU DISTRICT . . . . .	<i>To face page 557</i>

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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.



CHAPTER XV.  
STYRIAN ALPS.

## SECTION 53.

## LESSER TAUERN DISTRICT.

Route A.—Tamsweg to Bruck an der Mur . . . . .	318
Route B.—Schladming to Tamsweg—Ascent of the Hoch Golling . . . . .	322
Route C.—Gröbning to Murau, by the Sölk . . . . .	326
Route D.—Irdning in the Ennsthal to Unzmarkt, by the Donnersbacherthal . . . . .	328
Route E.—Lietzen in the Ennsthal to Leoben, by the Paltenthal . . . . .	328
Route F.—Rottenmann to Judenburg, by the Rottenmanner Tauern . . . . .	332
Route G.—Knittelfeld to the Paltenthal, by the Sekkauer Alps . . . . .	334
Route H.—Leoben to Hiefau, by Eisenerz . . . . .	336
Route I.—Eisenerz to Admont, by Johnsbach . . . . .	338

## SECTION 54.

## MARIAZELL DISTRICT.

Route A.—Bruck an der Mur to Vienna, by railway . . . . .	344
Route B.—Mürzzuschlag to Eisenerz, by Mariazell and Hiefau . . . . .	348
Route C.—Vienna to Bruck, by St. Pölten and Mariazell . . . . .	353
Route D.—Eisenerz to Bruck, by the Frauenmauerhöhle . . . . .	355
Route E.—Eisenerz to Bruck. Tour on foot by the Hochschwab . . . . .	357
Route F.—Waidhofen on the Ips to Mariazell. The Oetscher . . . . .	360
Route G.—Pechlarn to Mariazell, by the Erlafthal . . . . .	361

Route H.—Payerbach to Mariazell, by the Höllenthal . . . . .	362
Route I.—Wiener Neustadt to Mariazell. The Schneeberg . . . . .	366

## SECTION 55.

## VALLEY OF THE NORTHERN GURK.

Route A.—Villach to Marburg by railway — Valley of the Drave . . . . .	371
Route B.—Klagenfurt to Bruck an der Mur . . . . .	374
Route C.—Klagenfurt to Tamsweg, by Turrach. The Eisenhut . . . . .	377
Route D.—Gmünd to Friesach, by Turrach and Fladnitz . . . . .	381
Route E.—Friesach to Murau, or Stadl, in the Murthal . . . . .	382
Route F.—Spittal on the Drave to Friesach, by the Millstädter See, and the Gurkthal . . . . .	383
Route G.—Villach to Feldkirchen . . . . .	384
Route H.—Völkermarkt to Neumarkt, by Hüttenberg . . . . .	386

## SECTION 56.

## LAVANTHAL DISTRICT.

Route A.—Bruck to Marburg, by railway . . . . .	388
Route B.—Marburg to Judenburg, by the Lavantthal . . . . .	391
Route C.—Gratz to Judenburg, by Köflach . . . . .	393
Route D.—Gratz to Wolfsberg, by Köflach . . . . .	395
Route E.—Gratz to Wolfsberg, by Schwanberg and the Koralp . . . . .	395
Route F.—Peggau to Knittelfeld, or St. Michael, by Uebelbach . . . . .	397

IN the last chapter we have described the great central backbone of the Eastern Alps, from the sources of the Adige to those of the Mur, and it has been seen that eastward of that limit it is no longer possible to speak of a single

central chain either in a geological or orographic sense. From its source at the base of the Markkahrspitz to the town of Bruck the Mur flows for more than 100 miles, in a direction somewhat N. of E., between ranges consisting of crys-

talline and metamorphic rocks which diverge from the above-named peak. The region including both these ranges was anciently comprehended within the limits of the Noric Alps, but as that designation was usually held to embrace the whole of the central chain eastward of the Brenner, it is unsuited to the more restricted limits now contemplated. The writer willingly follows the authority of Sonklar in adopting for the region described in the present chapter the title 'Styrian Alps;' although, for the purposes of the present work, some modification is made in the boundaries fixed by that eminent writer. On the S. side, the valley of the Drave, from Spittal to Marburg, is obviously the natural boundary, as on the N. side is the valley of the Enns from Radstadt to Hieflau. It is towards the NE. that the limits must be fixed in a somewhat arbitrary manner. The geologist would throw the greater part of the country lying between the Enns and the sources of the Leitha into the same main division as the Salzburg Alps described in Chapter XIII.; but the orography of the district in question, which determines the course of the principal roads, does not favour that division, and makes it more expedient to include it within the limits of the Styrian Alps.

It is known that at its eastern extremity the Alpine chain subsides very gradually, and some geographers see in the tertiary ranges that extend eastward from near Gratz into Hungary, passing N. of Lake Balaton, and thence NE., by Buda, towards the Northern Carpathians, a connection between two of the great mountain regions of Europe; but for the purposes of this work we hold that the Alps cease where the mountains do not rise beyond the limit of coniferous trees. The utmost limit of the Styrian Alps are therefore fixed at the Schneeberg to the NE., and the eastern boundary is traced by the railway from Wiener Neustadt to Marburg.

It may be well to remark, that although the boundaries above laid down include a great portion of Styria, they take in

parts of the adjoining provinces of the Austrian Empire. The district called Lungau, at the head of the Mur valley, partly described in § 52, belongs to Salzburg; a considerable part of the district lying between the Mur and the Drave appertains to Carinthia; while the summits of the Oetscher and Schneeberg lie in Lower Austria.

Although the district here described is far from being deficient in natural attractions, it is not likely that it will ever be very much resorted to by English travellers. The mountaineer, whose conceptions of mountain beauty are unsatisfied where the background shows no snowy peak, and the inner recesses reveal no more the ethereal blue of the glacier crevasse, must turn his footsteps elsewhere. The traveller of less exclusive tastes, who demands the contrast afforded by bold masses of rock of colossal proportions, rising steeply above an Alpine valley, may find several spots that will not disappoint his expectations; and the more moderate demands of one whose eye is formed to the scale of petty elevations, such as those of the British Islands, will be more than satisfied by scenery which unites much variety with many elements of natural beauty. It is just, however, to say that other deficiencies are found in the region here described. If the Englishman travelling in Germany is constantly liable to severe trials of temper from the phlegmatic humour of a people to whose slow apprehension time seems to be absolutely valueless, he must yet recognise many amiable qualities that go far to reconcile him to their defects. Speaking generally of the Austrian population, the stranger, of whatever country, finds good-will and a friendly greeting, and not rarely active kindness. This observation does not, however, generally hold good in the valleys of Upper Styria. Speaking a rude dialect, ill understood even by their German neighbours, their manners are coarse, and their temper, except when cheered by incipient drunkenness, is morose. Not over-kindly amongst themselves,

they evidently feel a dislike for strangers, which is sometimes shown even by the village innkeeper, whose trade is supposed to require at least the affectation of the contrary feeling. It is scarcely necessary to say that these remarks do not apply to persons of education, nor to the landlords of the inns in the chief towns, who may fairly be reckoned in that class.

Nowhere in the Eastern Alps does the traveller risk encountering the repulsive filth of Dauphiné and of some parts of Savoy; yet in the village inns of Styria he often finds cause for discomfort. The common practice, even in inns of the better class, is for four or five travellers to sleep in the same room; so that he must make it clearly understood that he expects to hold undivided possession of his chamber; and he must look sharp to secure having *clean sheets* upon his bed. As a general rule, let the traveller in Styria never rely upon any native for doing anything within thrice the time that has been agreed upon.

In spite of these drawbacks, the traveller, armed with patience and good humour, may pass some time very pleasantly among the Styrian valleys. A moderate mountaineer may usually count on finding his way without the encumbrance of a guide, and will rarely encounter difficulties that he cannot easily overcome without assistance. There is, to many persons, a pleasure in treading unbeaten tracks, and getting aside from the stream of tourists that annually flows into new channels of the Alpine region; and this taste may long be gratified in the district here described. The naturalist will feel a lively interest in the Fauna and Flora—intermediate between those of Switzerland and the Carpathians—with not a few species peculiar to this region.

## SECTION 53.

## LESSER TAUERN DISTRICT.

UNDER a designation not familiar to English readers we include a remarkably well defined district which includes the highest portion of the Styrian Alps. It is that lying between the Enns and the Mur, bounded on the W. by the road over the Radstädter Tauern (§ 52, Rte. E), and on the E. by the so-called Eisenstrasse between Hieflau and Leoben. In the absence of any mountain, or central place, generally known to travellers, the writer has adhered to the name given by many German writers to the range extending from the Radstädter Tauern to near Leoben. As the name *High Tauern* is now generally adopted for the much higher chain extending from the Dreiherrnspitz to the Markkarspitz, the term *Lesser Tauern* may well be applied to the loftier of the two eastern branches of the main chain, which still exhibits, though on a reduced scale, somewhat of the stern character of the scenery of the higher range.

The true eastern limit of the Lesser Tauern range is doubtless to be found in the deep transverse valley of the Palten and Liesing, connecting Leoben with the Enns at Lietzen. In the triangle lying between that valley, the Enns, and the Eisenstrasse, is the small but very interesting group of the Johnsbacher Alps, intermediate in geological structure, as in position, between the Lesser Tauern and the district described in the next §, but on grounds of convenience best included in the present district.

The most interesting valleys of this district are, with few exceptions, best visited from the Ennsthal, where good quarters are found at Schladming, Lietzen, Admont, and Hieflau. Johnsbach, which may become a favourite haunt of travellers, is, as yet, ill provided with accommodation. Tamsweg in Lungau is a good station for several excursions, but the other chief places on the Mur are rather distant from the higher summits.

In the main range of the Lesser Tauern gneiss and mica schist are the prevailing rocks, but metamorphic slates, probably of palæozoic age, appear in many places. In the Johnsbacher Alps the latter strata are surmounted by the trias, and the higher summits are formed of limestone (referred by some geologists to the infra-lias), probably of the same age as the higher peaks of the Dachstein group. The most prominent peaks in the main range are the Hoch Golling (9,383'), the Predigtstuhl (8,834'), and the Bösenstein (8,018'). In the Johnsbacher group the Hoch Thor (7,478') is the highest summit.

traverses the head of the Mur valley, entering it on the N. side by the Radstädter Tauern, and quitting it by the Katschberg S. of St. Michael. For a distance of nearly 30 m. from its source, the Mur and its tributary glens form a separate district, called *Lungau*, belonging to the Salzburg territory. The chief place of this district is

*Tamsweg* (3,108'), a pretty little town (Inns: Post; Platz-Bräu), with a very fine mediæval church of St. Leonhard, standing on an eminence 400 ft. in height. The traveller who enters the Murthal from Spittal on the Drave, or by the mountain passes at the head of the Zederhauswinkel or Murwinkel (§ 52, Rte. I), will reach Tamsweg by the road from St. Michael, about 10 m. distant. Those who enter the valley by the Radstädter Tauern need not pass by St. Michael, as there is a road leading from Mauterndorf direct to Tamsweg, a distance of about 9 m.

Mountaineers planning excursions from Tamsweg may with advantage consult Dr. Hatheyer, a physician well acquainted with the neighbouring valleys.

The district of Lungau, whose population from an early period has kept itself much apart from its Styrian neighbours, has an inclement climate, and but little of the mineral wealth that enriches the adjoining valleys of Styria. The almost universal use of palings for fences and the prevalence of the mountain-ash, whose bright-red fruit adorns the roadsides in autumn, are characteristic features in the scenery of the lower valleys of Lungau. The population appear dull and morose, and their personal habits are dirty in the extreme. The most interesting excursions from Tamsweg through the chief tributary valleys of the Mur are noticed in Rte. B. One excursion, which is of special interest to the naturalist, and also offers the attraction of a fine view, is the ascent of the *Preberspitz* (8,977'), a detached summit lying SSE. of the Hoch Golling, and very much easier of access. The way is NE. from Tamsweg to the opening of the Prebergraben; turning northward

### ROUTE A.

#### TAMSWEG TO BRUCK AN DER MUR.

	Post- stunden	English miles
Predlitz . . . . .	4	9½
Murau . . . . .	5	11½
Unzmarkt . . . . .	7	16½
Judenburg . . . . .	6	14
Knittelfeld . . . . .	4	9½
Kraubath . . . . .	4	9½
Leoben . . . . .	4½	11½
Bruck an der Mur . . . . .	4	9½
	38½	91½

Carriage-road from Tamsweg to Unzmarkt. Railway recently opened from Bruck to the latter place, and thence by St. Veit to Villach, with a branch to Klagenfurt.

It has been seen in § 52, Rte. E, that the high-road from Salzburg to Villach

through which a road, practicable for light vehicles, goes as far as the *Preber See* (4,897'), about 3 hrs. from Tamsweg. A foot-path cutting off the angle at the opening of the Prebergraben saves some time. Those who wish to reach the summit early sleep at the Prodingershütte,  $\frac{1}{4}$  hr. above the lake. The ascent from that point is moderately steep, but free from all real difficulty. 3 hrs. more—or 6 hrs. from Tamsweg—are required to reach the summit, which may be attained in less time by 2 hrs. from Les-sach (Rte. B). The botanist, not already familiar with the Flora of the Styrian Alps, will be interested in finding here *Valeriana celtica*, *Campanula alpina*, and *Primula minima*, which are characteristic species of the higher summits in the ranges N. and S. of the Mur, and besides these and other local species, will gather *Aira subspicata* near the summit, and *Swertia perennis* by the lake.

The valley of the Mur, for a distance of 25 m. E. of Tamsweg, presents to the physical geographer some singular features.

A broad depression, which appears to be the ancient valley, whose origin is connected with that of the main ranges on either side, extends due E. of the town. The Mur, instead of following what must be called the natural course, flows southward through a comparatively narrow cleft, till, about 5 m. from Tamsweg, it turns eastward through an equally narrow and sinuous valley parallel to the main depression, from which it is separated by a ridge of some height, broken through at intervals by gaps, through which the chief torrents from the valleys on the N. side flow towards the main stream. Several large villages and smaller places stand on the N. side of the ridge that borders the l. bank of the Mur, in what we here call the main ancient valley of the Styrian Alps, and a rather hilly road runs in that direction from Tamsweg, passing Atzmannsdorf, Seebach, St. Peter, and Ober-Wölz; so that it is not necessary to rejoin the Mur until a

point a few miles above Unzmarkt, more than 30 m. by road from Tamsweg.

Following the southward course of the Mur, the main road, about 5 m. from Tamsweg, reaches *Ramingstein* (2,945'), with a fair inn (bei Mühlhauser). Three tributary glens pour their torrents into the Mur near this village. A little above it is the opening of the *Thomathal*, which mounts gently due W. for 2 hrs., until it approaches within a short distance of the Mur, and then turns abruptly to the S., assuming the name *Bundschuhthal*. By that way a traveller may go nearly in a straight line from Ramingstein to St. Michael, avoiding Tamsweg. At the head of the Bundschuhthal (where the botanist may gather *Betula nana*), a track leads over the dividing ridge to Kramsbrunn in Carinthia. A little below Ramingstein is the opening of the *Mieslitz-Graben*, a short glen originating at the N. side of the *Schilcherhöhe* (7,055'). This summit is sometimes ascended for the sake of its fine panoramic view, and rewards the botanist with many of the rare plants of this district. It may also be reached from the Bundschuhthal, or from the *Hinteralpenthal*—a third glen, which remains to be noticed. This joins the Murthal about 1 hr. below Ramingstein, at *Kendelbruck*, the last village in Lungau, with an inn kept by Plank, a civil and friendly host. The ironworks at this place derive the ore from the Hinteralpenthal, which originates on the E. side of the Schilcherhöhe. The ridge on the E. side, along which runs the boundary between Salzburg and Styria, divides the Hinteralpenthal from the Turrach Graben (§ 55, Rte. C).

About a mile below Kendelbruck, the Mur, which since Ramingstein has resumed its easterly direction, reaches the frontier of Salzburg, and immediately the road passes opposite *Predlitz* (2,848'), the first place in Styria, standing at the junction of the Turrach. A few miles farther is *Stadl*, at the opening of a wider glen to which it gives its name, which drains the N. side of the Eisen-

hut range, and a considerable portion of the Fladnitzer Alps (§ 55, Rte. D). The road, now keeping to the l. bank of the Mur, passes several villages before reaching the small town of

*Murau* (2,612'), at the junction of the Rantenbach (Rte. C), which flows from WNW. after uniting the torrents from several Alpine glens in the range of the Lesser Tauern. Three old churches here deserve a visit, especially that of St. Anna, which has a rich carved and gilt altar, some old stained glass, and a curious picture, attributed to Israel of Mechlin. The castle of Ober-Murau, over the town, commanding a fine view, is the residence of the director of the important iron and steel works, from which Prince Schwarzenberg derives a portion of his vast revenues. The most important are at this place, at Turrach, and at Stadl. Opposite the junction of the Rantenbach is that of the Lasnitzthal (§ 55, Rte. E). After passing Triebendorf, to which an unauthorised tradition refers the place of Seneca's banishment in the Noric Alps, the road returns to the rt. bank of the Mur, and soon passes opposite the junction of the Katschthal, through which an old road mounts to St. Peter (Rte. C). A few miles farther the road from St. Lambrecht (§ 55, Rte. E), descends from the S. side through the Taja Graben to reach the Mur valley. Henceforward, for about 7 m., the road and the river follow a NE. course. Among several old castles that are seen in this part of the valley, that of Schratzenberg is memorable as having afforded, in 1797, head-quarters to Napoleon Buonaparte, and two years later to Suwarow. Nearly opposite is the opening of the Wölzerthal, through which the road and the torrent from Ober-Wölz (Rte. D) reach the Mur. At *Scheifling*, which, like nearly all the villages of this valley, resounds with the din of iron-forges, the far more important post-road from Klagenfurt to Vienna (§ 55, Rte. B), enters the valley of the Mur, and is henceforth followed by the traveller bound for Bruck. The next place is

*Unzmarkt* (2,410'), a large village with a fair inn (Hirsch). Here the traveller joins the Rudolfsbahn—the important railway destined to connect the iron district of Upper Styria with Lombardy and Trieste—and may follow the Mur to Bruck, or turn southward towards Carinthia. On the opposite side of the river the very ancient castle of Frauenburg rises above the forest that covers the slope of the valley. The scenery is throughout picturesque and pleasing, though it can make no pretensions to grandeur. About 1 m. beyond Unzmarkt the valley resumes its primitive direction, and gradually opens out into the broad and fertile tract locally called Eichsfeld, which extends eastward beyond Knittelfeld. About 8 m. from Unzmarkt the road passes opposite a deep gap in the hills that bound the l. bank of the Mur, over which passes the road leading to the Rottenmänner Tauern (Rte. F). As the valley expands, the traveller will observe the development of wide alluvial terraces on either side, through which the Mur has cut a deep channel. After a rather long ascent the road gains the level of a terrace on the rt. bank, over which it passes for 2 m. before reaching

*Judenburg* (Inns: Post, bei Reisig; Blaue Adler; and several others; the first is the best), an ancient town, once of commercial importance, and still the chief place in this part of the valley of the Mur. A portion of the ancient walls and some old houses still remain; but a great fire in 1807, and another less considerable in 1840, destroyed a great part of the earlier buildings. The alluvial terrace on which the chief buildings stand, 2,425 ft. above the sea, is cut away on one side by the Mur, on the other by a stream issuing from a short glen to the S., and the main street descends steeply some 200 ft., and finally reaches the bridge over the Mur where great iron-works use the current for motive power. The tradition which attributes the name of the town to the massacre of its Jewish inhabitants by their Christian fellow-

townsmen at Christmas 1312, does not appear to be supported by any reliable testimony. In this neighbourhood the botanist will observe *Geranium pratense*, *Scabiosa ochroleuca*, and other plants of Germanic type not often seen in the Alps. The group of the Seethaler or Judenburger Alps, extending SSW. from the town, are most conveniently visited from Neumarkt or Obdach; but the *Wenzelalp* (7,023'), the northernmost summit of the range, may be ascended through the short glen that extends hence to the foot of the mountain. A fine view over the *Eichsfeld*, where the Mur flows through a broad valley teeming with populous villages, is gained from the Kalvarienberg near the town. Close at hand is the ancient castle of *Lichtenstein*, that has given its name to the powerful princely family, which, besides hereditary dominion on the Swiss frontier, owns no less than 72 other strongholds in the Austrian states. The road to Weisskirchen and the Lavanthal is described in § 56, Rte. B. The post-road to Bruck crosses the bridge over the Mur, and then ascends to cross the alluvial terrace that here forms a long narrow promontory between the Mur and the Pöls. The stranger will remark that most of the iron-works in this district are carried on for the benefit of the proprietors, either noblemen of ancient family, or manufacturers who have purchased the soil along with the works. One of the largest establishments is that of *Zeltweg*, important enough to have a separate rly. station. It belongs to Count Henkel, a Prussian nobleman who has large estates in Styria, and is not surpassed in extent by many similar works in England. About 4 m. farther is

*Knittelfeld* (2,115'), a small town with a tolerable inn at the Post, where the diligence stops for refreshments. It stands at the junction of the Ingeringbach with the Mur. A little farther on a road turns NW. to Sekkau (Rte. G), near the rly. station of *St. Lorenzen*. Here the Mur bends to ENE., and the valley narrows between gently sloping moun-

tains, of which those above the rt. bank belong to the group of the Glein Alps, and those on the opposite side are outliers from the Sekkauer Alps, forming the eastern extremity of the range of the Lesser Tauern. The village and post-station of *Kraubath* (2,010') is prettily situated, and the scenery is of the gentle and pleasing order. On serpentine rocks near at hand the botanist may gather *Sempervivum Pittonii*. About 6 m. farther, at *St. Michael* rly. station, is the junction of the Liesingthal with the valley of the Mur (see Rte. E), where the range of the Lesser Tauern comes to an end in the very acute angle formed by those valleys. The main valley widens out below the junction, and there is something stately in the approach to the very pretty town of

*Leoben* (Inns : Strauss, Weinkindler's, old-fashioned but good, Adler, Mohr), 1,881 ft. above the sea. Though the population is small, the style of the buildings, and the general air of the place, are worthy of a provincial capital. It has a theatre, Rathhaus, and various public buildings, a fine old church called Maria Waasen, and a new one, finished in 1856, worth visiting for its picturesque position near the river, which encompasses the town on three sides. The botanist may find *Artemisia pontica* on rocks near the town. In the ancient Benedictine monastery of Göss, which served as his head-quarters, Napoleon Buonaparte took the first step to the betrayal of Venice, by drawing up the preliminaries of the peace that was soon afterwards signed at Campo-Formio. The Eisenstrasse, leading from the Ennsthal through Eisenerz to the Mur, enters the latter valley close to the town, and long trains of waggons laden with ironware are constantly moving towards the rly. station. The line to Bruck keeps mainly along the rt. bank of the Mur. The valley is here narrow, and resumes somewhat of its Alpine character, which it had lost in approaching Leoben. At

*Bruck an der Mur* (1,525'), described in § 54, Rte. A, the traveller who wishes to halt finds comfortable quarters at the Railway Station.

### ROUTE B.

#### SCHLADMING TO TAMSWEG—ASCENT OF THE HOCH GOLLING.

The highest part of the range of the Lesser Tauern is that lying near the boundary between Salzburg and Styria. Here rises the Hoch Golling (9,383'), the highest summit of this range, and the valleys that descend on the one hand towards the Ems, on the other towards the Mur, are more thoroughly Alpine in character than any others in this district. Hence it follows, that the mountaineer approaching the Mur valley from the N., will prefer to the carriage road over the Radstädter Tauern one or other of the passes leading to Tamsweg from Schladming. We briefly notice the chief valleys that may be visited on the way.

1. *By the Unter Schladmingthal and Lessachwinkel.* The way to Tamsweg by the Waldhornthörl, which is considered the easiest pass, is a long day's walk from Schladming—counted 14 hrs. (rather slow walking?). By enquiry

at the good inn (Post) at Schladming, the traveller may hear of Johann Bachler, or Mathias Lechner, who are the best guides for this part of the range. The shooting of the Unter-Schladmingthal belongs to a resident gentleman, Herr v. Vernouillier, who has two shooting-lodges in the valley; and a traveller wishing to make the ascent of the Hoch Golling, or the Hochwildstelle, should ask permission to pass the night at one or other of them.

The opening of the Schladmingthal is very similar to that of most of the valleys that descend from the High Tauern chain towards the Salza—a narrow ravine through which the torrent rushes down a steep slope in rapids and cataracts. In about  $\frac{3}{4}$  hr. from the village the traveller has left this cleft behind him, and, after ascending about 400 ft. above the Ennsthal, reaches the house of the Bruckerwirth, above which two considerable torrents from the Ober- and Unter-Schladmingthal unite their waters. The former glen is noticed below; the latter, which offers the more interesting scenery, will be preferred by most travellers. The path through the *Unter-Schladmingthal* does not at first follow the floor of the valley, but is carried at a height of about 200 ft. along the slope on the W. side. At intervals some of the peaks of the Dachstein group come into view, and present a striking contrast to the nearer summits, in which gneiss and mica schist are the prevailing rocks. About 1 hr. from the partition of the valley is a large farm-house—beim Dettner (3,391')—standing just below a barrier of gravel and débris that stretches across the valley, and partly dams the course of the stream. The ascent is now very gentle for about 1 hr., and, after passing the Weisswand Alp, where good beer is sold to passing travellers, we reach the second fork of the valley, where it divides into two Alpine glens, either of which affords a passage across the main chain. Leaving to the rt. the Steinriesenthal, which mounts to the very base of the Hoch



Golling, a path to the l. is taken by which to mount to the *Riesachthal*. This is the easternmost and longest branch, whose floor is much higher than that of the main valley, so that the torrent in descending forms a fine waterfall. The *Riesachfall*, declared by Professor Simony to be one of the most picturesque in the Austrian Alps, is approached by a good path, which involves a very little *détour*. A short distance above the waterfall the traveller attains the level of the upper valley, and soon reaches the *Riesach See* (4,444'), a pretty Alpine lake, beside which is a comfortable shooting-lodge of Herr v. Vernouillier. Those who would ascend the Hochwildstelle may either sleep here (with permission from the owner), or push on 2 hrs. farther to the hütten of the Waldhorn Alp. The *Hochwildstelle* (8,998') appears to be the second in height of the summits of the Lesser Tauern. It is nearly as precipitous as the Hoch Golling, and, as snow lies in steep couloirs, may require the aid of rope and ice-axe. The view is in one respect superior to that from the higher peak, as this overlooks a long reach of the Ennsthal, which contrasts finely with the bold range of the Dachstein rising behind it. The scenery of the interior valleys of this part of the range is of a very wild and somewhat savage character. They divide into numerous short branches, mere recesses in the mountains, in each of which a small tarn is usually found, while peaks of dark and menacing aspect rise above them with extreme steepness. The general effect more resembles that of the valleys of the Northern Carpathians than any scenery familiar to the traveller in Switzerland or Tyrol.

The Riesachthal mounts SE. for some distance from the lake till, after approaching the SW. base of the Wildstelle, the glen turns to the rt., and the path ascends in succession two high steps (*Thalstufe*) before reaching the upper end, where two small lakes, *Kapuziner Seen* (6,990'), lie immediately below the ridge dividing the Ennsthal

from Lungau. The path, which is rather frequented in summer, passes between the lakes, and mounts the ridge to the *Waldhornthörl* (7,437'), the lowest pass over this part of the Tauern range. On the S. side this overlooks a group of three tarns, called *Zwerchenberg Seen*, lying in a hollow a little on one side of the head of the *Lessachwinkel* or *Lessachthal*, not to be confounded with the *Lessachthal* (§ 62, Rte. A). A steep descent leads down to the head of the main branch of this glen. Another short branch diverges from the peak of the Hoch Golling, which rises with extreme steepness, and is said to be now inaccessible from this side. The *Lessachwinkel* descends due S., towards Tamsweg, where it pours its torrent into the Mur. About 2 hrs. distant from that place is the village of *Lessach*, where the traveller who has come in one day from Schladming may be glad to find night-quarters. The parish-priest, Herr Kurz, is well acquainted with the mountains, and may be consulted with advantage by anyone planning excursions in this neighbourhood.

Although the ridges enclosing the valleys of this district are steep, they are passable, with more or less difficulty, in most directions, and very pleasant excursions may be made, keeping along or near to the crests of the ridges surrounding the *Riesachthal*. Thus, one may go, with a good local guide, from the E. side of the Hoch Golling to the *Waldhornthörl*, and from the latter farther eastward, descending into the valley of the Klein Sölk, Rte. C.

2. *By the Gollingscharte, and the Göriachwinkel.* This way from Schladming to Tamsweg is rather shorter, but rougher and steeper, than that above described. Sleeping at the highest hütten on either side of the pass, the traveller may ascend the Hoch Golling on the way between those places. The upper end of the Unter-Schladmingthal, above the junction of the *Riesachthal*, is called *Steinriesenthal*, and well deserves that name, as it is in great part occu-

pied by débris fallen from the surrounding heights, which invades the Alpine pastures, and the slopes once covered with pine forest. After surmounting a first step in the ascent, the traveller for the first time gains a near view of the peak of the *Hoch Golling* (9,383'). It is a rugged mass of dark rock, rifted with snow, rising almost vertically above the head of the valley, but towards the summit sloping (though very steeply), so as to form a pyramidal peak. The valley mounts towards the base of the peak in a series of lofty steps, each of which is occupied by a small Alp. Having passed in succession the Stegerhütte (4,717'), and the Ober-Eibelpalp, the extreme head of the valley is reached at the *Ober-Steinwändleralp* (5,564'). Beside the hut of the herdsman is a small cottage belonging to Herr v. Vernouillier, and intended to afford shelter to his keepers. Here may be found good shelter for the night, though there is no space to spare. A moderately steep, continuous ascent from the Alp leads up to the *Gollingscharte* (7,586'), a depression in the ridge on the W. side, but close to the peak. From the summit the traveller on one side looks back on the head of the Steinriesenthal, and on the other down a steep snow-slope that extends to the head of the *Göriachwinkel*, one of the lateral valleys of Lungau. The traveller who has started early from the Steinwändleralp may make the ascent of the Hoch Golling from the summit of the pass, and have ample time to reach Tamsweg on the same evening. Though the appearance of the peak is forbiddingly steep, it is not very difficult to any one used to crag-climbing, but should not be attempted by those in the least liable to giddiness. The way lies at first along the slope that descends towards the *Göriachwinkel*, but before long begins to mount in a tolerably direct course towards the summit. Here and there a notch cut into the rock, at the instance of the Archduke John, who made the ascent in 1817, is found useful. The highest peak is a narrow ridge of shat-

tered rock, whereon a sort of shed has been constructed of loose stones, covered by a few boards, which affords partial shelter from rain or wind to two or three persons at a time. The view is very extensive, including in the panorama the chief summits of the Eastern Alps, but it shows but little of the valleys, even of those nearest to the mountain, excepting the *Göriachwinkel* and the *Lessachthal*. In descending, care is requisite, as the slope is steep ( $50^{\circ}$  according to Prof. Simony), but there is usually good hold for feet and hands. It is not necessary to return to the summit of the pass, as the descent may be effected directly to the head of the *Göriachwinkel*. Soon after quitting the course leading from the *Gollingscharte*, the traveller passes through a singularly wild scene on a part of the mountain where the rocks are rifted into the boldest and strangest forms, and huge fragments encumber the intermediate space. Below this the descent lies for 1 hr. (2 hrs. ascending) over a moderately steep slope, in a SW. direction, to the *Zegrighütten*. These lie in a recess at the head of the *Göriachwinkel*, and are sought as affording shelter for the night by those ascending the mountain from Lungau. About half-way, in descending the valley, are the hamlets of Hinter *Göriach*, and Vorder *Göriach*, lying near together. About 4 hrs. from the *Zegrighütten* is *St. Andrä*, where the *Göriach* torrent joins the *Taurach*, and presently after their united waters are poured into the *Mur* nearly at the same point as the *Lessach*. In  $5\frac{1}{2}$  hrs. from the *Gollingscharte* the traveller may reach *Tamsweg*.

3. *By the Ober-Schladmingthal.* It has been already seen that this valley unites its torrent with that of *Unter-Schladming* about  $\frac{3}{4}$  hr. from the point where both enter the *Enns*. This branch of the valley has attractions for the mineralogist, as it produces various ores of cobalt, bismuth, nickel, associated with other metals. The shafts, but one of which is now worked, are at a high level, and not very easy of access. Though the scenery is not equal to that of the

Unter-Schladmingthal, it has much the same general character. Numerous tarns, some of rather large size, lie in recesses on either side of the main valley. Through one of these short lateral glens, called *Neualpenth*, lies a path to Tamsweg over the *Liegnitzscharte*, a pass overlooking the head of the *Liegnitzthal*. This is one of the four nearly parallel Alpine glens that descend into the valley of the Mur between the Radstädter Tauern road and the frontier of Styria. A path, said to be difficult, and even dangerous, goes eastward by the Gamsrinne from the head of this valley to that of Göriach. It is said that there is another path direct from the head of the Ober-Schladmingthal to the Göriachwinkel, but of this the writer has no authentic information.

4. *By the Preuneggthal and Weissbriachwinkel.* It has been seen in the preceding pages, that the three upper branches of the Schladmingthal, all approached from the Ennsthal through the same narrow gorge, lead to three different lateral valleys of Lungau—Lessach, Göriach, and Liegnitz—through each of which the traveller may, without any great détour, reach Tamsweg. There is another more circuitous way, through two valleys, which rarely see the passage of a stranger, and which have not very much of interest, as compared with those above-mentioned, except to the geologist, who will here be enabled to trace the eastern limit of the zone of triassic rocks that extend on the S. side of the Salza and the Enns, along the N. border of the main chain, through the valleys of Rauris, Gastein, Grossarl, Kleinarl, and actually cross the chain and descend into Lungau on either side of the Radstädter Tauern.

About 5 m. W. of Schladming, at the hamlet of Pichl, is the opening of the *Preuneggthal*, through which lies the way to Lungau here noticed. Near the opening are abandoned smelting-houses, connected with a mine, from which copper, with small quantities of gold and silver, were formerly extracted. The entrance of the glen is a narrow

cleft, and the path winds up the steep slope above it by the W. side, and finally reaches the upper level of the Preuneggthal in 1 hr. from Pichl. The valley is well wooded, with open patches of meadow and scattered farm-houses. The chief object of interest is the *Kalkspitz* (7,499'), a bold peak of triassic limestone rising above the head of the valley. The forest, composed mainly of pine, with scattered clumps of *Pinus Cembra*, extends nearly to the head of the valley. This, at its upper end, opens into a broad basin of Alpine pasture—the *Ursprungalp*—with several sennhütten, in some of which very fair quarters for the night may be found. As above mentioned, this valley, and that of Weissbriach, which is reached by an easy pass from the Ursprungalp, nearly coincide with the eastern limit of the trias.

[To trace this in detail, it would probably be expedient to traverse a pass east of the Ursprungalp, which leads to one of the lateral branches of the Ober-Schladmingthal, in which lie two lakes. The lower of these, called *Unter-Giglachsee*, is one of the largest in this neighbourhood, being nearly 2 m. in length. By that way the traveller may return to Schladming, or reach Tamsweg by one or other of the passes already described.]

The *Weissbriachwinkel* is nearly parallel to the other tributary valleys of the Mur above-mentioned, but bears more nearly SE., as does the next adjoining glen on the W. side through which the post-road from Tweng descends to Mauterndorf. If bound for Tamsweg, the traveller should take the path by the l. bank of the Weissbriach, which will lead him to the road about half-way between Mauterndorf and Tamsweg.

[The *Weissbriachwinkel* divides, near its upper end, into two branches, and the pedestrian going from Tamsweg to Radstadt may follow the W. branch, and so reach the Radstädter Tauern road near the summit of the pass (§ 52, Rte. E). It is also pos-

sible to reach the valley of the Enns on the S. side of the defile of Mandling (§ 47, Rte. A), through the *Forstau* glen, which enters the main valley about 5 m. E. of Radstadt. Forstau belongs to Salzburg, as the boundary between that province and Styria runs southward from the Enns along the ridge dividing this from the adjoining glen of Preunegg, then turning eastward, and following the main range of the Lesser Tauern, as far as the summits that enclose the head of the Les-sachwinkel.]

### ROUTE C.

#### GRÖBMING TO MURAU, BY THE SÖLK.

It has been seen in the last Rte. that a considerable portion of the main range of the Lesser Tauern is drained by three valleys that unite their waters in the Schladmingbach, corresponding to which, on the E. side, three independent, nearly parallel, valleys descend towards the Mur. In a similar manner a still larger tract on the N. side of the chain is drained through five Alpine glens which unite in one main valley called Sölkthal, or, more commonly, *Die Sölk*, whose torrent enters the Ennsthal below Gröbming. Though there is but one frequented pass leading this way from the Enns to the Mur,

several others may be found by a mountaineer wishing to explore the recesses of this part of the range. The scenery appears to be of a wilder character than that of the district lying farther E., and there are many summits in this part of the range much surpassing 8,000 ft. in height. The *sennhütten* of the Sölk are said to be unusually clean and comfortable, and the people to be superior to those of Langau.

*Gröbming* (§ 47, Rte. A) stands on a height above the l. bank of the Enns, so that time is lost in crossing the valley, in order to reach the opening of the Sölkthal. A traveller approaching from the side of Schladming should quit the high-road at *Aich*, where it crosses the Enns, and follow the track by the rt. bank. A rough road mounts to the village of *Gross-Sölk*, by the E. side of the Sölkbach, but a steep foot-path is shorter by nearly  $\frac{1}{2}$  hr. The village has a fine church, an old castle, and an inn, a large grim building of considerable antiquity, about which local tradition tells some tragical tales. From *Gross-Sölk* the traveller may make in 5 hrs. the ascent of the *Gumpeneck* (7,292'), a green pointed summit rising to SE., which commands an admirable view, highly spoken of by the few travellers who have visited this valley.

A short way above the village the valley divides into two main branches—*Klein-Sölk* and *Gross-Sölk*. The most direct way to the valley of the Mur is through the latter. A track, passable for country carts, is carried up it for a considerable distance. In 2 hrs. this reaches a country inn, '*In der Oed*,' and in another hour the hamlet of *Mössna*. Here the valley again divides. Through the E. branch the traveller may find his way across the main range, through one of the tributary glens of the Wölzerthal, to *Ober-Wölz* (Rte. D). Following the main branch of the valley nearly due S., the track leads, in 1 hr. from *Mössna*, to the village of *St. Nicolai*, the chief place in the upper valley. A frequented bridle-

track mounts thence in 2 hrs. to the

*Sölkerscharte* (5,767'), one of the easiest and lowest passes in the range of the Lesser Tauern, 6 hrs. from Sölk. From the pass the path descends a little E. of S., through one of the chief branches of the Katschthal. The torrent from this glen, uniting with those of two other parallel glens, flows about due E. to *St. Peter* (2,851'), and then turns ESE. to join the Mur between Murau and Unzmarkt. The road, which for some distance follows the Katschbach, does not, however, keep along that stream to its junction with the Mur, but passes eastward from St. Peter, crossing the low ridge that divides the Katschthal from the Wölzerthal, to *Ober-Wölz* (Rte. D), whence a good road descends through that valley to the Mur, nearly opposite the point where the post-road from Klagenfurt enters the Murthal. The shortest way from Gross-Sölk to Murau does not, however, pass by St. Peter. On reaching the road at the village of *Schöder* (2,937'), which has a picturesque mediæval church, the course lies at first S., and then SW., across the low ridge that divides the upper part of the Katschthal from the *Rantenthal*, and reaches the latter at the village of *Ranten* (3,144'). From that place, where the traveller may probably find a country carriage, a road follows the course of the Rantenbach to *Murau* (Rte. A), about 6 m. distant. From the village of Sölk to Schöder is counted 9 hrs., exclusive of halts: about 4 hrs. more, on foot, are required to reach Murau.

The scenery of *Klein-Sölk* is decidedly superior to that of the other branch of the valley. It divides into several branches, from which at least two paths lead across the main range to the upper part of the Rantenthal; but it is a more circuitous way to the Murthal, and the traveller should arrange to sleep at one of the clean *sennhütten* in the upper part of the valley. Starting from Gross-Sölk it is necessary to descend, and then reascend by a steep path, in order to cross the main stream and

gain the slope above the l. bank of the Klein-Sölk torrent. In little more than 1 hr. from the former village he reaches *Wald*, the chief place in Klein-Sölk, with a church containing one or two good pictures, and an inn. For 2 hours the path ascends gently amid very pleasing scenery, till it enters a gorge between the base of the *Kesselberg* on the W. side, and the fine peak of the *Knallstein* (8,511') to the E. Here Klein-Sölk divides into two branches—locally known as *Oberthal* and *Unterthal*—the former being the western, the latter the eastern division of the valley. The ridge dividing them culminates at its S. end, where it joins the main range of the Lesser Tauern, in the *Predigtstuhl* (8,834'). Other measures give a greater result, and it is certainly one of the highest summits of this district. Numerous small lakes lie in the upper recesses of this valley, and of these the *Schwarzensee* is said to be especially picturesque. It is impossible to reconcile the brief notices which the writer has obtained in regard to the upper branches of the Klein-Sölk with each other, or with the best maps. The most frequented way to the valley of the Mur is by the *Neualpenscharte*, a pass lying at the head of the *Neualpenthal*; but there is another way, probably offering bolder scenery, that crosses the main range closer to the *Predigtstuhl*. On the S. side these passes lead to the *Krakauthal*, which is the uppermost NW. branch of the Rantenthal.

From the *Putzenthal*, which is the highest SW. branch of the Oberthal, a fine pass leads over the ridge dividing this from the *Lessachthal*, passing near the *Lansitzer Seen*, a group of Alpine tarns whose drainage runs to the latter valley; and by that way the traveller may reach *Tamsweg* from the lower *Ennthal* in less time than by *Schladming*. The Oberthal is sometimes called *Lassachthal*, and care must be taken not to confound this with the *Lessachthal* on the opposite side of the main range. The very rare *Saxifraga hieraciifolia* has been found somewhere

on the rocks above the head of the Putzenthal.

pass to Ober-Wölz, has produced a number of rare Alpine plants which would scarcely be expected at such a moderate height. Amongst these may be mentioned *Thalictrum alpinum*, *Oxytropis triflora*, *Saxifraga Kochii* and *S. Rudolphiana*, *Gentiana frigida*, *Pedicularis versicolor* and *P. incarnata*. From the Hohenwart the traveller descends in a nearly direct line through the glen of the Schöttlbach to

*Ober-Wölz* (2,660'), a small ancient town, kept alive, like most places in the Murthal, by iron and steel works. A road runs along the l. bank of the Wölz-erbach for about 6 m. from that place to Nieder-Wölz in the Murthal, nearly opposite the point where the high-road from Klagenfurt enters the valley.

#### ROUTE D.

##### IRDNING IN THE ENNSTHAL TO UNZMARKT, BY THE DONNERSBACHERTHAL.

Schaubach, Ruthner, Schleicher, and other authors who have described in detail the Styrian Alps, are almost completely silent respecting the portion of the lesser Tauern range, lying between the *Bösenstein* (Rte. E), and the *Predigtstuhl*, mentioned in the last Rte., and the present writer is unable to supply the deficiency by personal observation. This part of the range is considerably lower than that described in Rtes. B and C, and, except to a botanist, there does not appear to be any special inducement to take the course here indicated. It is, however, the most direct way to the valley of the Mur for a pedestrian who has entered the Ennsthal by the road from Ischl (§ 46, Rte. D) at Neuhaus, close to *Irdning* (2,197'). This place stands on the S. side of the Enns, close to the opening of the *Donnersbacherthal*, through which lies the way to the Murthal. This is a long valley, and it would be scarcely possible to reach Ober-Wölz in one day's walk, especially if the traveller make the ascent of the *Hohenwart* (7,732'). This summit, rising on the E. side of the

#### ROUTE E.

##### LIETZEN IN THE ENNSTHAL TO LEOBEN, BY THE PALTENTHAL.

	Austrian miles	English miles
Rottenmann . . . . .	2	9½
Gaishorn . . . . .	2	9½
Kallwang . . . . .	3	14
Zimmersdorf . . . . .	3	14
Leoben . . . . .	2	9½
	—	—
	12	56½

In the preceding Rtes. the reader has found notices of secluded Alpine valleys, rarely traversed by a stranger; and the only frequented road hitherto described

In this section serves, at least in its upper portion between Tamsweg and Unzmarkt, mainly for local traffic. The road now to be described forms, on the contrary, one link in an important line of communication between the SW. of Germany and the Adriatic. To English travellers it is not a matter of much importance that there should be a direct road from Salzburg to Bruck, on the railway from Vienna to Trieste. Those who travel for business make the detour by Vienna, and the tourist does not hurry through such a district as the Salzkammergut without halting; but it is worthy of notice that there should be a very direct road through the Eastern Alps, by which a traveller may go from the centre of Germany to the Adriatic without rising much, if at all, above the level of 3,000 ft., and without encountering a single steep slope of any importance, unless it be in crossing the Karst between Laybach and Trieste. The Semmering Pass, between Vienna and the basin of the Mur, is not only higher (3,256 ft. above the sea, not speaking of the railway tunnel, which is lower by 365 ft.), but it differs still more in the steepness of the slope on either side, and the necessity of ascending, within a comparatively short distance, a vertical height of 1,900 ft. While the construction of the railway over the Semmering was an enterprise of great difficulty, and the maintenance of the line since its completion has encountered still greater obstacles, the making of a railway from Salzburg to Trieste would have been comparatively a light matter, and the obstacles of a secondary kind that would have been encountered in going from Salzburg to Lietzen through the Salzkammergut might have been avoided by making the not long detour by Werfen and Radstadt. But although the valley drained by the Patten and Liesing streams, which cuts diagonally through the range of the Styrian Alps N. of the Mur, seems to invite the construction of a railway, it never could have been supposed that when, in the fulness of time, the railway

did appear, it would be the realisation of a colossal blunder.

When the Rudolfsbahn Railway was devised, with the main object of connecting the iron districts of Styria on the one hand with the trunk line that leads from Vienna to Western Germany, and on the other with the Southern provinces of Austria and Northern Italy, it was seen that the line must approach the Alps by the valley of the Enns, and that it must traverse that of the Mur between Leoben and Unzmarkt. Between Hieflau, on the Enns, and Leoben (only 29 m.) is Eisenerz, the main centre of mining activity, to whose inexhaustible wealth in ore of the finest quality this region mainly owes its celebrity; and the so-called Eisenstrasse between the places above named (see Rte. H), is one of the greatest thoroughfares for traffic in the Austrian dominions. It is true that a steep ridge divides Eisenerz from the Murthal, and that to carry a railway that way would require the construction of a tunnel of moderate length, but, unlike every other tunnel yet proposed, this would have paid very nearly the cost of its own construction, as it would have been driven through a portion of the vast mass of solid iron ore which forms a great part of the ridge in question. It seems hardly credible that engineers should have seriously proposed to turn aside from such places as Eisenerz and Vordernberg, and to mount through the romantic scenery of the Gesäuse, a distance of 26 m. nearly to Lietzen, in order to turn round at a very acute angle, and reach Leoben by a détour of 50 m., through a district all but absolutely devoid of local traffic. It appeared that at the last moment there was some chance of avoiding this monstrous blunder, but in 1867 the earthworks were commenced in the Liesingthal, and the line is now near completion.

The distances along the road between Salzburg and Bruck are as follows:—Salzburg to Ischl (§ 46, Rte. A),  $34\frac{1}{4}$  m.; Ischl to Steinach (46, Rte. D),  $35\frac{1}{2}$  m.; Steinach to Lietzen (§ 47, Rte. A),  $9\frac{1}{2}$  m.;

Lietzen to Leoben (described here) 56½ m.; Leoben to Bruck, 9½ m.: in all 145 m. The mallepost is a very slow conveyance, employing 32 hrs. to accomplish the journey.

*Lietzen* (§ 47, Rte. A) stands on the N. side of the Ennsthal, here a level marshy tract 2 m. in width. The road to Leoben crosses the valley (where peat is extracted for burning), and then turns eastward, parallel to the Enns, till it reaches the opening of the *Paltenthal*. It is obvious to the common observer that this is utterly unlike the ordinary lateral valleys of the Alps, fashioned, if not formed, by erosion. It is a nearly straight trough of considerable breadth, sloping upwards, a little S. of E., so gently that in many places a stranger might doubt in which direction the drainage flows. The *Paltenbach*, which is no torrent, but a sluggish stream, flows in a direction nearly opposite to that of the Enns, so that its source is only a few miles distant from the defile of Gesäuse. Although the level of the valley is as nearly as possible the same as that of the Enns—the opening is confined by a projecting ridge of rock. The road at that point crosses the *Paltenbach*, but soon returns to the l. bank, and passes below the ancient castle of *Strechau*, a very picturesque object, especially as seen from

*Rottenmann* (2,215'), an ancient little town, with iron-works and an inn (post), the best on the road between Lietzen and Leoben.

[The pedestrian approaching Rottenmann from the upper part of the Ennsthal, or *vice versa*, may with little or no loss of time take in preference to the road a way which affords a variety of charming views. This lies through the Gollingthal, a short open valley that enters the Ennsthal a little way E. of Irđning, just opposite Steinach. At first the path ascends SSE., but after about 1 hr. the main branch of the valley turns eastward, and this is followed as far as *Oppenberg*. Here one path turns southward to follow the Gollingbach to its sources, and another mounts

slightly to NE., towards a deep opening in the hills that divide the Gollingthal from the Paltenthal. The latter path follows a streamlet through a little glen in the S. side of the castle of *Strechau* to join the road near Rottenmann.]

The post-road keeps to the S. side of the valley between Rottenmann and *Trieben*, where the branch road to the Rottenmann Tauern (Rte. F) turns off to the rt. For the greater part of its length the Paltenthal is an almost continuous morass, with several small lakes, partly choked by marsh plants, such as *Senecio paludosus*, *Thysselinum palustre*, &c. In the wet meadows *Malaxis paludosa*, and other rarities, may be found; but it is feared that drainage has destroyed the habitat of the beautiful arctic species, *Pedicularis sceptrum*, extremely rare in continental Europe. In the *Triebensee*, *Nymphæa biradiata* was first found by one of the Benedictine monks of Admont. About 2 m. beyond *Trieben* the road quits the S. side of the valley and crosses it diagonally to *Au*, where a torrent, descending through a narrow glen from the Sparafeld, has brought down a mass of detritus, to which Schaubach attributes the origin of the *Gaishornsee*. The post-station at

*Gaishorn* (2,339') stands on a gentle slope overlooking the lake, which is approached with difficulty, owing to the extent of the surrounding marshes. The Post is a rather rough country inn.

[A traveller going from the Paltenthal to Admont may take a very direct and agreeable course by the *Kaiserrau*. Starting from Rottenmann or *Trieben* he passes by the village of *Barendorf*, and mounts thence by a rough road, just passable for light vehicles, through a short glen, which, in 2 hrs.' steady walking from Rottenmann, leads to the *Kaiserrau* (4,183'). This charming spot is a green basin enclosed by pine forest, and backed by the fine crags of the Sparafeld and the Kalbling. In the midst stands a massive building, which combines the purposes of a monastery, shooting box, and dairy, being an appendage of the great monastery of



Admont. The scenery throughout the descent is charming. In going from Gais- horn to Kaiserau the traveller should ascend from *Dittmannsdorf* (nearly 3 m. above Bären- dorf) by a woodcutter's track, nearly all the way through forest. The summit of the ridge, which is rather higher than by the Bären- dorf path, is marked by an oratory, beside which stands a horse- chestnut tree, the highest known to the writer on the N. side of the Alps. Ladies who may travel this way, between Admont and Bären- dorf, in country vehicles, should be prepared to get out here and there, as the road is in places extremely steep and narrow. A pedestrian going from Steinach to Admont may combine this course with the course to Rottenmann by the Gol- lingthal, mentioned above, in one very charming day's walk.]

Above the Gaishornsee the Paltenthal rises perceptibly, though very gently, to the watershed between the Palten and the Liesingbach. The last rivulet flow- ing to the Enns is passed near a solitary inn, and presently the ground begins to fall in the opposite direction. The sum- mit level—2,722 ft. above the sea—is about half-way between Gaishorn and

*Kullwang* (2,392'), a village with an inn at the Post. There are considerable copper works near at hand, which also produce sulphur and vitriolic acid. The chief sources of the Liesingbach are in two glens that descend northward from the so-called Sekkauer Alps (Rte. G) into the main valley. This is at first narrow, and is throughout less broad than the Paltenthal; and though the slope is gentle, it is rather greater than that of the latter valley. The Paltenthal de- scends from the watershed about 650 ft. in 22 m.; while the Liesingthal in 26 m. shows a fall of 870 ft. The latter lies between ridges of crystalline slate, over- laid on the N. side by metamorphic rocks. For a notice of the passes leading to Eisenerz and Radmer see Rte. I. Pass- ing through *Liesingau* (2,308'), where Jäger Anderl and Hiesl are good guides for the neighbouring Alps, the road descends imperceptibly to *Mautern*

(2,290'), a small market-town. The *Gösseck* (7,242'), a conspicuous mountain rising N.W. of this place, is mainly com- posed of clay slate, over which, towards the summit, are calcareous rocks. Keep- ing to the l. bank of the stream, the road goes to the post-station at *Tim- mersdorf*. If the valley were prolonged in the direction followed from Rotten- mann to this point it would enter the main valley of the Mur very near Leo- ben; but in that direction it is barred by undulating hills of slight elevation, which appear to be partly composed of miocene tertiary strata. About 2 m. below Timmersdorf the Liesingbach turns to the rt., towards SSE., and descends through a channel, at least partially produced by erosion, with a more rapid flow than in its upper course, to St. Michael (1,852'), a railway station in the Murthal, about 5 m. above Leoben (Rte. A).

## ROUTE F.

ROTTENMANN TO JUDENBURG, BY THE  
ROTTENMANNER TAUERN.

	Austrian miles	English miles
Hohen-tauern . . .	3	14
Unter-Zeyring . . .	3	14
Judenburg . . .	2½	10½
	8½	38½

The line of road described in the last Rte., though easy, is very circuitous for travellers going from the Ennsthal to the upper valley of the Mur. In truth the distance by that route from Rottenmann to Judenburg is about 70 m., or 31½ m. more than by the road now to be described. But, as the latter enters the Murthal some miles above Judenburg, the saving to a traveller (going, for instance, to Klagenfurt), bound for Unzmarkt, is nearly 40 m. This consideration doubtless caused the construction of the road over the so-called Rottenmanner Tauern. This is a depression in the Lesser Tauern range, and is the most easterly pass that is known as a *Tauern*. It is little frequented, and not traversed by any public conveyance. As mentioned in the last Rte., the road turns to the rt. at *Trieben*, where the *Triebenbach* torrent descends from the direction of the pass. Leaving on the rt. hand near the torrent the large ironworks belonging to the monks of Admont, the road mounts rather steeply along the E. slope of the glen towards the *Triebenstein* (5,923'), a detached summit, conspicuous throughout the ascent. On reaching the E. base of this mountain the main branch of the *Triebenbach*, which originates in the Sekhauer Alps (next Rte.), is left behind, as the road turns sharply to WSW., making a half-circuit of the *Triebenstein*. About 7 m. from *Trieben* 2½ hrs. ascending, is the post-station of *Hohentauern*; it includes only two or three houses in addition to the church, priest's house, and inn. This is rather rough, but affords eligible head-quarters to a geologist or botanist, who will find abundant occupation for some days in

this neighbourhood. The inn stands between 100 and 200 ft. below the summit of the Rottenmanner Tauern, which scarcely attains 4,900 ft. in height. The elevation attributed to it in guide-books is, certainly exaggerated, and, by a singular confusion, this exaggerated estimate has been attributed to the watershed between the Paltenthal and Liesingthal, which falls considerably under the level of 3,000 ft. In mounting from *Trieben* the traveller may, without losing time, take a track that passes round the W. side of the *Triebenstein*. It diverges from the road about 1 hr. above *Trieben*, and follows the course of a stream through a little glen, wherein large masses of rock have fallen from the crags on either side. In one place, called *Die Sunk*, the mass of fallen blocks is so great that it completely fills the bottom of the glen, and the stream for some distance is entirely concealed from sight and hearing. Following the same track, the traveller rejoins the road close to the inn at *Hohentauern*.

Of the numerous excursions that may be made from hence, the shortest is the ascent of the *Triebenstein*, easily reached in 1 hr. Though it is overlooked by most of the neighbouring mountains, the view is interesting, and it is a convenient surveying point for anyone intending longer excursions.

The most interesting expedition to be made here is the ascent of the *Bösenstein* (8,017'). This is the easternmost high peak in the Styrian Alps on which any considerable amount of permanent snow is to be found; which is the less surprising, as it surpasses in height every summit E. of the *Predigt-Stuhl*. According to Herr Schleicher it is composed of true granite, while the neighbouring mountains are formed of gneiss or mica-schist. The summit appears to be tolerably easy of access in from 3 to 3½ hrs. from the post-house. The traveller is surprised to see on a mountain of such moderate height, in a hollow between the summit and the adjoining peak of the *Dreysteck*, a small lake that

usually remains partly frozen over throughout the summer. Besides an extensive panorama, the mountain has many attractions for the botanist. Not counting the species peculiar to this region, but which are found on most of the other summits of the range, the following deserve to be specified: *Ranunculus crenatus*, *Cerastium lanatum*, *Saxifraga biflora*, *Sempervivum Funkii*, *Gentiana pumila*, *Pedicularis asplenifolia* and *P. Portenschlagii*, *Aretia Wulfeniana*, *Carex aterrima*, and *C. fuliginosa*. *Myosotis variabilis* and *Calamagrostis tenella* have been found near the summit of the pass. The portion of the Tauern range lying E. of the road to Judenburg, known as the Sekkauer Alps, is further noticed in the next Rte. The westernmost high summit of that group is the *Griesstein* (7,653'). It lies SSE. of Hohentauern, and to reach the summit it is necessary to follow a ridge, passing over several intermediate summits, or else to make a considerable circuit. From the summit it is easy to descend to the road between Hohentauern and Zeyring.

The *Pölsthal*, through which lies the descent from the Tauern to the valley of the Mur, has at its upper end a wild and somewhat dreary aspect, scarcely in keeping with its very moderate elevation. For many miles the road runs nearly due S. along the torrent, whose chief sources are on the flanks of the Bösenstein. The village of *St. Johann am Tauern* (3,332') is passed, and some 5 or 6 m. farther the traveller reaches *Möderbruck*, at the junction with the Pöls of the *Brettsteinbach*. This torrent flows through a branch of the valley quite as long, if not longer, than that through which the road descends from the Tauern. Towards its summit it is formed by two torrents flowing from nearly parallel glens. Through the more westerly of these it is possible to reach the head of the Donnersbacherthal (Rte. D), by the N. side of the Hohenwart. The more northerly glen leads under the summit of the Brettstein to a pass connecting this with the head of the Gollingthal (mentioned in

the last Rte.). About 3 m. S. of *Möderbruck*, is

*Unter-Zeyring*, close to the junction of the *Gföllbach* with the Pöls. It is a small cluster of houses, including the post-station and a rather rough country inn. A road runs eastward along the *Gföllbach* to *Ober-Zeyring* (2,916'), about 2 m. distant. This is a very ancient place, with two churches—one dating from the twelfth, the other from the fourteenth century—and some Roman remains. Several successive sovereignties of Austria attempted in vain to re-discover a rich silver mine which, according to tradition, once existed here; but the iron mine and iron-works that have risen to some importance in this century, afford a far securer basis for its present prosperity. At *Unter-Zeyring* the country road from *St. Oswald*, noticed in next Rte., joins the high-road. The lower part of the *Pölsthal* is studded with many villages, and exhibits the same aspect of activity and well-being that strikes the traveller in the adjoining portion of the valley of the Mur. The Pöls bends gradually to the left below *Unter-Zeyring*, and for many miles the direction of the valley is towards ESE., parallel to the *Murthal*, from which it is separated by a range of hills of no great height. A country road runs along the l. bank of the stream, passing *Pöls* (2,511'), the chief place in the valley, and several other villages, before reaching the junction of this valley with the *Murthal*, about halfway between *Judenburg* and *Knittelfeld* (Rte. A). The post-road, leading from *Zeyring* to *Judenburg*, or to *Unzmarkt*, passes through a deep gap in the line of hills above spoken of. On the Pöls side the ascent is scarcely perceptible; but, as the bed of the *Mur* is here considerably lower than that of the Pöls, there is a steep descent on the S. side of the pass. Crossing the *Mur* at *Thalheim*, where the *Rudolfsbahn*, now in construction, follows the l. bank of the river, the road joins the post-road from *Klagenfurt* by *Unzmarkt* (Rte. A), about  $4\frac{1}{4}$  m. from *Judenburg*.

## ROUTE G.

KNITTELFELD TO THE PALTENTHAL, BY  
THE SEKKAUER ALPS.

In the triangular space enclosed between the valley of the Mur from near Judenburg to St. Michael above Leoben (Rte. A), the road through the Leisingthal and Paltenthal from St. Michael to Trieben (Rte. E), and the road described in the last Rte. from Trieben to Judenburg, lies the easternmost portion of the Lesser Tauern, known by the designation *Sekkauer Alps*. The chief summits of this group lie in the eastern prolongation of the axis of the Lesser Tauern range, while the Bösenstein and the adjoining summits noticed in the last Rte. belong to a diverging ridge that projects to NE. from the main range. The valleys of this district, abounding in chamois and other game, offer many rare plants to the botanist, and contain some fine scenery, which has been a little overpraised by German writers. The botanist accustomed to the Swiss or Tyrol Alps, where the presence of permanent snow maintains the fresh vegetation of high alpine species until the autumn brings a fresh covering of snow, should remember that the conditions are different on mountains from which nearly all the snow disappears by the end of July, and that com-

paratively few species remain in flower after the middle of August. The heights recently assigned to the chief summits of this group are *Hoch Reichart* (7,900'), *Hoch Zinken* (7,795'), *Schrumpfkogel* (7,840'), and *Griesstein* (7,653'). In the writer's opinion the three first-named summits do not differ in height by more than a few feet.

Of the three paths here briefly noticed, the first is the most direct, and offers by far the most interesting scenery.

1. *By the Ingering See*. About 9 hrs. to Trieben. A good road from Knittelfeld follows the course of the *Ingeringbach*, a torrent fed by the streams that drain many of the inner glens of the Sekkauer range. On the way the botanist will observe *Spiræa salicifolia*, common, and apparently indigenous. The pedestrian may, on leaving Knittelfeld, take a footpath through the meadows, more agreeable and a little shorter than the road, which is rejoined after 2 m. Leaving on the l. hand a branch road to Sekkau, he keeps to the l. bank of the stream till he reaches the junction of the two main branches of the valley. The northern branch leads to the Ingering See, while the west branch, drained by the Gaalbach, leads to the Pölsthal. Three hamlets—*Pitschach*, *Bischofffeld*, and *Gaal*—stand near the junction, and close to the bridge over the Ingeringbach is a large 'schloss,' purchased a few years ago by one of the ironmasters of this district, who also owns the extensive shooting of the upper valley. A few minutes' walk before reaching the schloss the traveller passes a wayside inn (bei Wegscheider), where he may find tolerable rustic quarters, and more civility than is common in Styria. If bound for the Ingering See he will find a path from the inn that carries him to a bridge higher up than that which is crossed by the road. Above this bridge the Ingeringbach runs through a wild mountain glen, with no population excepting a few gamekeepers and herdsmen. The bridle track mounts rather steeply above the rt. bank of the torrent, and the scenery

gradually increases in interest. After surmounting a long and high step in the ascent, the path enters the pine-forest, and in  $1\frac{1}{2}$  hr. from the inn reaches a comfortable shooting lodge, with annexed dairy buildings, beyond which there is a partial clearing of the forest. Immediately in front is a steep ridge extending southward from the *Hoch Reichart*, the summit of which is not here visible. Through a glen on the E. side of that ridge is the way to a pass between the Reichart and the Hoch Zinken, leading to Kallwang in the Liesingthal; but this is reached by a steep and circuitous path over the shoulder of the former mountain. The summit of the *Hoch Reichart* (7,900') is attained by following the ridge. *Saxifraga hieraciifolia*, *Anthemis Styriaca*, *Pedicularis versicolor*, *Gentiana frigida*, and other very interesting plants, have been found near the summit, but not in any abundance. Above the Jagdhaus the main branch of the valley ascends to N.W., and about 20 m. farther the track reaches the *Ingering See* (4,742'), picturesquely situated in the midst of rock and pine-forest. Higher up the head of the valley is a wild and savage glen, beset with rocks, fallen from the surrounding heights, to which, as to several similar spots in Styria and Upper Austria, the natives have given the name *Die Hölle*. Passing the ridge at the head of this glen, on the SW. side of the Schrimpfkogel, the traveller enters the head of the Triebenthal, and following this for  $2\frac{1}{2}$  hrs. he will fall into the road descending from the Rottenmanner Tauern to *Trieben* in the Paltenthal (Rte. F).

2. *By the Gaalthal*. As mentioned above, the torrent which joins the Ingeringbach at Pitschach is called Gaalbach, and the branch of the valley which it drains is locally known as *Gaalthal*—written on most maps Gailthal. Although *Gaal*, standing near the junction, is the highest hamlet, there are many scattered farm-houses throughout the upper part of the valley. A rough road is carried along the N.

side for nearly 2 hrs., keeping a general direction somewhat N. of due W., when a glen opens to the N. and discloses the highest branch of the valley, a glen about 7 m. in length, originating a short way W. of the Schrimpfkogel. Following this glen to its head, the traveller may either cross the ridge dividing it from the head of the Triebenthal, or return to Pitschach by the Hölle and the Ingering See. The easiest way to reach Trieben is, however, to cross the ridge dividing the Gaalthal from the Pölthal. The pass is seen from Pitschach, and is reached by following the road above-mentioned to a house that stands by a large establishment of charcoal-burners. Three rough tracks diverge from this point; the middle one is to be selected. A good path, passing to the l. of a large farm-house standing in a hollow, leads to the ridge, the summit of which is marked by a paling and wooden gate, reached in 3 hrs'. steady walking from Wegscheider's inn. On the W. side a rough and steep path drops down through pine-forest to the lower level of a little glen, wherein stands the village of *St. Oswald*. A tolerable road leads thence to Unter Zeyring, in  $1\frac{1}{2}$  hr. from the summit, or  $4\frac{1}{2}$  hrs. from Wegscheider's inn. There the traveller may hire a small open vehicle which will carry him to Trieben over the Rottenmanner Tauern.

3. *By Sekkau*. The little town of *Sekkau* (2,800'), the original see of a bishopric, which has in modern times been transferred to Gratz, stands in a hollow at the SSE. side of the Hoch Zinken, 2 hrs. walk from St. Lorenzen (Rte. A). The abbey-church is a very fine building, with a remarkable monument of Duke Charles II., of Styria, and his wife, in a chapel lined with white marble. The chief object of most travellers who visit this place is the ascent of the *Hoch Zinken* (7,795'). The most agreeable, but not the shortest, way is by the pilgrimage church of *Maria Schnee* (6,048'), standing on the ridge of the mountain due N. of Sekkau. The view from the summit is said to be

superior to that from the Reichart, and the botanist finds a more abundant harvest. The species mentioned above are all found here, except *Saxifraga hieraciifolia*, and in addition, *Aira subspicata*, *Pedicularis incarnata*, *Sempervivum Funkii*, and *S. Wulfenii*, with many others. There is no difficulty in descending on the N. side of the mountain into a short glen that opens into the Liesingthal about 1 m. below Kallwang.

### ROUTE H.

#### LEOBEN TO HIEFLAU, BY EISENERZ

	Austrian miles	English miles
Vordernberg . . .	2 $\frac{1}{2}$	10 $\frac{1}{2}$
Eisenerz . . .	2	9 $\frac{1}{2}$
Hieflau . . .	2	9 $\frac{1}{2}$
	—	—
	6 $\frac{1}{2}$	29 $\frac{1}{2}$

A short branch railway has lately been opened between Leoben and Vordernberg. Only two trains run daily each way—one in the morning; one in the evening.

The post-road here described is the most important portion of the *Eisenstrasse*, or iron road, constructed to connect the chief mining district of Upper Styria, on the one hand, with the Danube, on the other, with the Mur. The portion of that road lying along the valley of the Enns, between the town of Eans and Hieflau, is

described in § 47, Rte. A. On leaving Leoben, the traveller who recollects the roads of England before the railway era is surprised to find an amount of traffic such as used to be encountered in the neighbourhood of our great manufacturing towns. The road, especially between Leoben and Vordernberg, is covered by almost continuous trains of heavy carts, mostly laden with iron, in some stage of its manufacture. Strange to say, there is, or was, no public conveyance from Vordernberg to Eisenerz. The road follows the l. bank of the *Vordernbergbach*, which works a succession of forges, and almost spares the very pretty scenery from the defilement of smoke. About half-way to Vordernberg is *Trofayach* (2,109'), a busy little town, with several inns, and a fine old church. This place stands at the meeting of three glens. That opening to NW. is the *Gössgraben*, originating on the NW. side of the Gösseck (Rte. E), and not to be confounded with the beautiful valley described in § 52, Rte. H. NNE. from Trofayach is the glen of the *Rötzbach*, through which several paths lead eastward to the Tragösthäl (§ 54, Rte. D). The post-road runs due N., through the central branch of the valley to

*Vordernberg* (2,565'), next to Eisenerz the most important place in the iron district of Styria; the best inn (Post) is kept by Ander, a civil landlord. This is the seat of an association of ironmasters (Radmeister-Communität), one of whom was the late Archduke John, who possess a large share of the vast deposit of iron lying between this place and Eisenerz. The light vehicle conveying the mail hence to Eisenerz will carry a portmanteau but no passengers. The way is so agreeable and interesting that many travellers will prefer to walk, even though they should not intend to quit the high-road. The high summit rising W. of Vordernberg is the *Reichenstein* (7,082'), a mountain known to botanists as a habitat for many rare plants. There has, however, been much confusion between this and

the Johnsbacher Reichenstein noticed in the next Rte. The road, for about 2 m., mounts along the W. slope, and then turns to the l., towards a depression in the range enclosing the valley, away from the Vordernbergbach, which originates about 4 m. higher up, near the base of the *Hochthurm* (6,808'). The lowest point in the ridge traversed by the road, dividing Eisenerz and the valley of the Enns from that of the Mur, is the *Prebichl Pass* (4,014').

The pass lies on the E. side of the famous *Erzberg*, which for 20 centuries has been an unfailing source of wealth and importance to the people of this district. The descent is rather long and steep till, at *Trofeng*, the stream from *Gsollgrund* enters the valley from the E., and the road then descends gently towards Eisenerz. [Instead of following the road, the pedestrian may follow the *Vordernbergbach* to its source under the *Hochthurm*, and then mount a steep slope to the *Hirscheck* pass on the W. side of that mountain, whose summit rises in steep crags on the rt. hand. On the way, and on the ridge near the pass, the botanist may gather *Papaver alpinum*, *Arabis bellidifolia*, *Dianthus alpinus*, *Silene alpestris*, *Potentilla clusiana*, *Heracleum austriacum*, *Achillea clusiana*, *Hieracium glabratum*, *Campanula pulla*, and other interesting plants. A steep descent, with faintly traced path, leads down to the *Gsollgrund* (§ 54, Rte. D). In the pine-forest grows *Cardamine trifolia*. The way from *Vordernberg* to Eisenerz by the *Hirscheck* requires 5 hrs., exclusive of halts.]

*Eisenerz* (2,294') has the usual aspect of mining towns, but smoke, slag, and ashes do not here befoul the face of nature, as they do in similar places in England where coal is the chief fuel. Besides its importance as a place of business, it is at times the resort of persons of distinction who are invited to join the Emperor's shooting parties, of which this is often the centre. There are several fairly good inns (beim Brot, best; König von Sachsen, very fair;

also well spoken of). On a terrace above the town stands the extremely picturesque church of *St. Oswald*, founded in 1279 by Rudolph of Habsburg, according to the local chronicle. The ramparts surrounding it recall a much later period when even this remote mountain town was not thought secure from the incursions of the Turks. The great smelting furnaces are government establishments, as are nearly all the mining works here. The main object of interest to a stranger halting here is the *Erzberg*, or Iron-ore-mountain, which was passed on the l. hand in crossing the *Prebichl* pass. Permission to visit the mine, and enter the shafts, is obtained at the director's office (or *Hüttenverwaltung*) in the town. The mountain is 5,013 ft. in height. It is scarcely an exaggeration to say that it is one mass of metallic ore, as the deposit is so vast that if it were removed the summit would subside to one half its present height above the valley. The prevailing ore is a very pure carbonate of iron, yielding from 36 to 44 per cent. of metal. The estimate (necessarily vague) by a local engineer reckons the remaining mass of ore at 45 millions of tons, the present annual rate of produce being about 14,000 tons of iron. The upper part of the mountain belongs to *Vordernberg*, and is worked by shafts that open on that side of the dividing ridge, while the lower part, worked from the *Eisenerz* side, is government property. The mode of working is singular. In summer, when the workmen have no need of shelter, the ore is simply quarried out from the face of the mountain, while the winter season is turned to account in driving shafts into the interior. Between miners and men employed in the various processes of reduction, about 5,000 workmen gain a living on the spot. About half-way up, on the side facing *Eisenerz*, is the chapel of *St. Barbara*, for the use of the miners, and some way higher, the *Kaisertisch*, commanding a fine view. On the summit is a massive iron crucifix, 25 ft. high, erected by the late Archduke

John. The vast deposit of iron ore, which makes this place so remarkable, lies in the upper portion of the zone of palæozoic metamorphic strata that extend westward from the neighbourhood of Vordernberg to that of Lietzen. The excellent quality of the iron secures a superiority for certain purposes over the produce of England, Belgium, and most other countries. The most interesting excursions from Eisenerz are those to the Frauenmauerhöhle and to the Leopoldsteiner See, both of which are noticed in the next section. The road to Hieflau follows the stream of the Erzbach through a glen abounding in varied scenery, whose freshness and wildness contrast strangely with the noise and dust of the mining town. The castle of Leopoldstein is seen on a ridge that conceals from view the charming lake behind it (§ 54, Rte. E). In approaching Hieflau, the opening of the Radmer valley, noticed in next Rte., is passed on the l. hand, and presently after the Eisenstrasse enters the valley of the Enns, and the traveller reaches Steuber's good inn at

*Hieflau* (described in § 47, Rte. A).

The Austrian Government has lately leased to a private company the important works at Eisenerz, along with its rights over the Erzberg. The persons having the charge of the mine at Hoch Ofen are no longer Government officials, but probably little change will be made in the management.

## ROUTE I.

### EISENERZ TO ADMONT, BY JOHNSBACH.

The small mountain district lying N. of the Palten and Liesingthal, bounded on the E. side by the road from Leoben to Hieflau, described in last Rte., and on the N. by the valley of the Enns, deserves in many ways the attention of travellers. Though the mountains do not rise to a great height, the extreme boldness of their forms, contrasted with the rich vegetation of the valleys, offer attractions to the lover of nature, surpassing those of any other part of the region lying between the Enns and the Drave, while the geologist and the botanist will join in regretting that no decent accommodation is to be found in the valley of Johnsbach, where interesting occupation might be found for days, if not for weeks.

The mountains enclosed within the small space here described, are often, but in the writer's opinion, erroneously, spoken of as forming a western prolongation of the range of the Hochschwab, described in § 54. In the first place it must be observed that within this narrow space we have two distinct ranges. The one, a continuous ridge, extending westward from the Reichenstein above Vordernberg, to the neighbourhood of Rottenmann, formed mainly of metamorphic palæozoic rocks, is intermediate in position as in age between the crystalline rocks of the Sekkauer Alps and the triassic range of the Hochschwab, whose western termination is the ridge descending from the Brandstein towards the town of Eisenerz. The other group of bold limestone peaks, rising N. of the upper valleys of Johnsbach and Radmer, is geologically more recent than the Hochschwab range, and forms part of the great limestone mass that includes the Dachstein group, the Todtes-Gebirg, and the summits rising on the N. side of the Gesäuse defile.

Even for an active walker the distance from Eisenerz to Admont, by the route



here described, is too great to leave time to enjoy the scenery, and it is better for the traveller to rough it for one night at Johnsbach, or else to break the journey at Radmer an der Hasel, 5 hrs. (moderate walking) from Eisenerz. From that place to Johnsbach is about  $4\frac{1}{2}$  hrs. walk, and 12 m. by road carries him from that village to Admont.

The main branch of the Erzbach torrent, which descends from Eisenerz to Hiefiau, originates on the S. side of the *Kaiserschild* (6,817), and after flowing eastward for some distance, turns NE. to join the stream from the Gsollgrund at Eisenerz. The track follows at first the rt. bank of the torrent, passing by the great smelting houses, and then by vast piles of timber prepared for consumption in the furnaces. As the traveller advances the scenery improves, and towards the head of the glen the crags of the Kaiserschild rise very boldly to the rt. A pass here mounts to SSW., and crosses a pass leading to Kallwang in the Liesingthal. The main track, just passable for light vehicles, zigzags up a slope half covered by large bushes of deadly nightshade (*Atropa belladonna*). Near the summit of the pass, where the track again enters the shade of pine-forest, is a plain little cottage, built of squared pine trunks, where the Emperor lodges when chamois hunting in this neighbourhood. Soon after the summit of the pass—called *Radmer-Hals* (3,824')—is reached, and the track, no longer passable for carriages, begins to descend along a steep slope overlooking the glen of the *Finster Graben*. This branch of the valley was once covered with a vast pine forest, but of late years the axe has made havoc, leaving bare and deformed large spaces on the flanks of the mountain. A steep descent leads down to the stream of the *Finster Graben*, which presently opens into a wider valley opposite the village of *Radmer an der Stuben* (2,396'), the chief place in the valley, which is collectively called *Radmer*, reached in 4 hrs. from Eisenerz. The village church with two towers,

two miserable inns, and most of the houses, stand on a projecting knoll, some 250 ft. in height, said to be composed of nearly pure iron ore.

Instead of the way above described, the traveller coming from Eisenerz may reach Radmer an der Stube by carriage road, passing on the way through very fine scenery. Having followed the road to Hiefiau (described in last Rte.), to within about  $1\frac{1}{2}$  m. of that place, he turns sharply to the l. at the junction of the Radmer valley with that of the Erzbach, and passes through a very fine defile between the base of the Lugauer and that of the Kaiserschild.  $1\frac{1}{2}$  hr. on foot (or less in a carriage) from the opening of the valley, suffices to reach the bridge below the village. The object which chiefly fixes the attention of the traveller in Radmer is the very bold peak of the *Lugauer* (about 7,240'). The E. side, facing Radmer, which was constantly in view in descending from the pass of Radmer Hals, rises with extreme steepness in crags whose nearly horizontal stratification is very strongly marked even from a distance. The ascent may be effected from this side by a steep path, bearing to the N. side of the mountain, which leads in  $1\frac{1}{2}$  hr. of rapid ascent to the Scheieck Alp, where, in case of need, very fair night-quarters are found in a roomy and moderately clean chalet. The same place may be reached in 2 hrs. from Hiefiau, ascending through the *Waggraben*, a ravine which affords abundance of fossils to the geologist. The peak has a double summit, divided by a deep cleft. The N.E. point, nearest to the Scheieck Alp, has the trigonometric signal, and was found to measure 7210. The SW. point, reached by Herr Schleicher in 2 hrs. from the alp, is higher by some 30 ft. The view is not equal to that from the Grosse Buchstein on the N. side of the Gesäuse (§ 47. Rte. A), or from the Hoch-Thor. Herr Schleicher failed in his attempts to descend from the summit either directly towards Radmer, or towards Johnsbach, and was obliged to

retrace his steps, and finally reached the Gesäuse by the Hartelsgraben.

The traveller bound for Johnsbach, who has entered the valley by either way from Eisenerz, has no occasion to mount the hill on which the village stands, but may follow the cart-track along the l. bank of the stream. On the way he passes the abandoned works of a copper mine, once considered very productive, but ruined, it is said, by bad management, and in 1 hr. reaches a large building—a 'schloss'—now inhabited by an overseer appointed by the Mining Association at Vordernberg, who have purchased the forests of Upper Radmer. The overseer is willing to receive guests, who will probably find themselves better off here than at the inns of Lower Radmer or Johnsbach; but the place has a dilapidated air, not promising much comfort. Donat Graz, who lives near, is said to be a good guide. The hamlet, consisting of a number of houses scattered near the schloss, is called *Radmer an der Hasel*. This is the best starting-point for the ascent of the *Zeiritz Kämpel* (6,952'), the highest summit in the range, already spoken of, that extends westward from the Reichenstein near Vordernberg. It may also be reached from Radmer an der Stuben, through the Finster Graben, but does not seem to offer a particularly fine view. Passes on either side of the summit lead to Kallwang (Rte. E). The path to Johnsbach quits the valley of Radmer, and ascends the steep slope immediately W. of Radmer an der Hasel; the path cannot be missed, and in 1½ hr. the summit of the pass is attained. This is quite flat, and a tract of peat moss extends for some distance, in which *Andromeda polifolia*, *Carex irrigua*, *C. pauciflora*, and other interesting plants, are found. As the traveller advances, and the really grand scenery of the Johnsbachthal opens before him, he will feel surprise that this beautiful glen has not attained a wider celebrity. The Hoch-Thor and Hoch-Zinödl on the N. side of the valley, and the Reichenstein in the

western background, are summits that remind him, on a not very reduced scale, of the daring peaks of the Dolomite Alps. The descent is rather greater and longer than he is led to expect when he first gains a view of the lower valley, and he ultimately finds that the church and inn of *Johnsbach* are not where they are commonly marked on the maps, but some way farther, on the S. side of the stream, close to the point where this turns northward to descend towards the Enns. A brief acquaintance with the inn will explain why this spot is not a favourite resort of tourists. It is in every way repulsive, but the traveller will find civility, and clean but rough quarters, kept by Fr. Gasteiner, about 1½ m. above the village, a little below the bridge by which the road crosses to the l. bank of the stream. A lying and drunken old fellow, who professes to have been up all the surrounding peaks, volunteers his services as guide. The writer thought himself better off in going alone.

Many interesting excursions may be made in this valley, and the first place must be given to the ascent of the Hoch-Thor (7,478'), the highest of the limestone peaks overlooking the Gesäuse defile. It maintained the reputation of being inaccessible until Herr Schleicher, who has climbed nearly all the high summits of the neighbourhood of Admont, published an account of his ascent of this summit, achieved several years ago with the assistance of a Hiefiau guide, who showed himself to be an excellent cragsman. (See the Jahrbuch of the Austrian Alpine Club for 1866.) The summit has two peaks of nearly equal height, connected by an extremely narrow and difficult arête, of which the eastern point was attained by Herr Schleicher. The writer is persuaded that the western peak is accessible by the S. and SE. side, and believes that this will be found less difficult than the course taken by the first explorer. Those who have not practical experience of the *Krummholz*, or *Pinus mughus*, which

clothes the upper slopes of the mountain, should be aware that much time may be saved by making a long detour in preference to crossing even a short slope defended by this formidable obstacle to mountain climbing. The uppermost peak of the Hoch-Thor is all but completely bare of vegetation, and the difficulty of the climb is much increased by the crumbling nature of the rock.

The *Hoch-Zinödl*, a bold summit rising between the Hoch-Thor and the Lugauer, and about equal in height to the latter, is comparatively easy of access. It has a rich and varied flora, and offers great attractions to the entomologist.

East of the village of Johnsbach, a high ridge extends parallel to the Enns, including three summits, the *Reichenstein* (about 7,400'?), *Sparafeld* (7,346'), and *Kalbling*. The first of these is a remarkable mountain. The summit is, at least on three sides, a tower of limestone, with faces that are, in great part, absolutely vertical. The writer has climbed to the base of this tower, which is 400 or 500 ft. in height, and as far as he could discover there is little chance of reaching the summit by the side facing Admont, the only portion which he did not fully see. It is easy to descend along the ridge dividing the Johnsbachthal from the glen which falls into the Paltenthal at Au, near Gaishorn (Rte. E). At the Tröfenhütte, the traveller who may take this pleasant walk, will fall into a path that leads in 3 hrs. from Johnsbach to Gaishorn.

Those who shun difficult paths may, nevertheless, choose a way that will enable them to enjoy near at hand some very fine and wild scenery, by going from Johnsbach to Hiefiau through the *Sulzkar*. This is a deep depression between the Lugauer and the Hoch-Zinödl, through which a tolerably well-traced path leads to Hiefiau. Instead of descending directly to that place it is possible to reach the high road to Admont through the ravine of the *Hartelsgraben*. Those who wish to ascend the Hoch-

Thor or Hoch-Zinödl in good time, may seek night-quarters at the Koter Alp, or the Wolfbauern Alp, in preference to sleeping at the disagreeable inn at Johnsbach.

Whatever other excursions may be made here, the traveller should, on no account, omit the very remarkable defile through which the torrent, and the rough but practicable road, descend northward from Johnsbach to the Ennsthal. Within a few hundred yards of the village the rocks close around, completely shutting out the view of the valley and the surrounding mountains. Nothing can be more fantastic than the forms of the rocks, and the scene is one which leaves a permanent impression, being scarcely to be surpassed for singularity. The main valley is reached about 8 m. from Admont, and the entire walk or drive is one of the highest interest. The limestone mountains here named, extending along the S. side of the Enns from Admont to Hiefiau, are extraordinarily rich in rare plants. The summit easiest of access, and which has supplied many of the most interesting species, is the westernmost of the entire range—the *Kalbling*—best visited from the Kaiserau, near Admont (Rte. E); but the more eastern summits, though less often visited, seem to be at least equally rich. Many high alpine plants here descend to a low level in the narrow cleft-like valleys; thus, *Papaver alpinum* may be gathered by the roadside in the Gesäuse. The following list includes only the most interesting species:—

*Papaver alpinum*; *Arabis pumila*;  
*Draba stellata*; *Thlaspi alpinum*; *Dianthus alpinus*; *Cherleria imbricata*;  
*Potentilla minima*; *P. clusiana*; *Saxifraga Burseriana*; *Valeriana elongata*;  
*V. celtica*; *Achillea clusiana*; *Cineraria alpestris*; *Saussurea pygmaea*; *Leontodon taraxaci*; *Soyeria hyoseridifolia*;  
*Pedicularis asplenifolia*; *P. incarnata*;  
*P. rosea*; *Cortusa Matthioli*; *Euphorbia pilosa*; *Salix Wulfeniana*; *S. Waldsteiniana*; *Malaxis Monophylla*; *Avena alpestris*; *Festuca Scheuchzeri*; *Sesteria tenella*.

## SECTION 54.

## MARIAZELL DISTRICT.

IN this section we propose to give a short notice of the more interesting parts of the mountain district lying on the borders of Styria and Austria proper, whose centre is at Mariazell. Its limits are well defined on the SE. side by the railway from Wiener Neustadt to Bruck an der Mur, and the road thence to Leoben, and by the Eisenstrasse from Leoben to Steyer on the Enns to SW. On the N. side the Alps subside so gradually towards the valley of the Danube that it is impossible to fix a definite boundary; but we take as the extreme limit the road from Steyer to Waidhofen, and thence to Wiener Neustadt by Kirchberg, Traisen, and Altenmarkt. The hilly region lying N. of that limit, known as the *Wiener Wald*, does not fall within the scope of this work. With the exception of a band of crystalline slate, and a parallel strip of metamor-

phic rocks in the valley of the Mürz, all the mountain masses of this district are formed of secondary limestone, and as usual they do not lie in such definite ranges as are usually shown where siliceous rocks prevail. It is, nevertheless, sufficiently obvious that the higher summits lie in two ranges, both nearly parallel to the valley of the Mürz. In the higher of these, known as the Hochschwab range, the most conspicuous summits are the Brandstein (6,542'), Hochschwab (7,441'), Veitschalp (6,478'), Raxalp (6,575'), and Schneeberg (6,809'). The northern range, which is far less well-defined, shows a series of rugged summits extending ENE. from the confluence of the Styrian Salza with the Enns, and gradually subsides into the hill country in the ridge dividing the Traisen from the Bielach. In this range the highest points are the Dürrenstein (6,142') and the Oetscher (6,320'). The Hochstein, between Kirchberg and Türnitz, measures only 3,848 ft.

Though not much visited by foreigners, the valleys of this district are more tourist-ridden than any part of the Alps, if we except the most frequented spots in Switzerland. The inhabitants of Vienna, and, speaking generally, those of all the German provinces of Austria, share in a love of mountain scenery that seems to extend from the Emperor to the meanest of his subjects. Lying within such a convenient distance of the capital this district has long been frequented by tourists, but the numbers deserving that appellation are trifling compared to that of the new variety of our species developed in these later days—the Excursionist. These naturally abound in the spots most easily reached from railway stations, such as Buchberg, Reichenau, Mürzzuschlag, and the neighbouring villages; and are, usually speaking, inoffensive and unobtrusive, which is more than can always be said of the same class in France or England. If it be a matter of genuine satisfaction that an influence of the most purifying and ennobling kind is thus

brought to bear upon a constantly increasing number of our fellow-creatures, it is yet allowable to feel thankful for the fact, that a large part of the Alps is likely to be long available for the quiet enjoyment of the solitary traveller. In the district now described there is a great deal of charming scenery, and some spots that approach to rivalry with the grander scenes of the High Alps; but its attractions are unconsciously exaggerated by writers who measure beauty and grandeur by comparison with the scenery of the arid hills near Vienna. The inhabitants of that city enjoy an inestimable advantage in living within easy reach of real mountains, of live torrents, and aboriginal pine forests. Many a man in London would think a similar privilege cheaply purchased at the price of a quarter of his income; but when we read in German and English guide-books of the 'awful ravine' of the Höllenthal, of the 'majestic peak' of the Oetscher, and of the 'perfectly Swiss scenery' and 'snowy mountains' of the Semmering Pass, we must suppose that the writers have never seen, or have forgotten, the interior recesses of the greater ranges of the Alps.

The district now described may be truly called a paradise of sportsmen, but a paradise whose access is confined to the chosen few. The best shooting is in the hands of imperial and princely owners, and the game is almost everywhere strictly preserved. Yet, in this land, which is supposed to be the headquarters of feudalism, it has never entered the imagination of the most insolent noble to attempt to exclude the human race from his possessions and debar them from the right of breathing the air of the mountain-tops. To the disgrace of our islands, Britain is the only part of the civilised world where so monstrous an outrage has been submitted to under the plea of rights of property.

For a traveller who enjoys scenery of the wilder kind, and who is able to indulge in rough mountain walking, the best head-quarters in this district are at Wildalp (Rte. B), but Reichenau, Buch-

berg, and Mürzzuschlag are spots at which weeks or even months may be pleasantly passed by a family desirous of spending the summer season within easy reach of Vienna.

The traveller will find throughout the southern provinces of Austria that prices of almost everything required by a traveller rise continuously as he approaches the capital. This is particularly true of the district now described, and the charges of inns, properly called reasonable by comparison with others in the same neighbourhood, are universally higher than in Tyrol or Carinthia.

It has appeared most convenient to divide the brief account given in this work of the railway from Vienna to Trieste into three portions. That between Bruck an der Mur and Vienna is given in this section; the line between Bruck and Marburg in § 56, and the remaining portion between Marburg and Trieste in § 64.

## ROUTE A.

## BRUCK AN DER MUR TO VIENNA BY RAILWAY.

	Austrian miles	English miles
Kapfenberg . . . . .	$\frac{1}{2}$	2 $\frac{1}{2}$
Kindberg . . . . .	2	9 $\frac{1}{2}$
Mitterdorf . . . . .	1	4 $\frac{1}{2}$
Krieglach . . . . .	$\frac{1}{2}$	2 $\frac{1}{2}$
Mürzzuschlag . . . . .	1 $\frac{1}{2}$	7
Spital . . . . .	1	4 $\frac{1}{2}$
Semmering . . . . .	1 $\frac{1}{2}$	7
Breitenstein . . . . .	1	4 $\frac{1}{2}$
Klamm . . . . .	1	4 $\frac{1}{2}$
Payerbach . . . . .	1 $\frac{1}{2}$	7
Gloggnitz . . . . .	1 $\frac{1}{2}$	7
Neunkirchen . . . . .	1 $\frac{1}{2}$	7
Wiener Neustadt . . . . .	2	9 $\frac{1}{2}$
Vöslau . . . . .	2 $\frac{1}{2}$	11 $\frac{1}{2}$
Baden . . . . .	$\frac{1}{2}$	2 $\frac{1}{2}$
Mödling . . . . .	1 $\frac{1}{2}$	7
Vienna . . . . .	2	9 $\frac{1}{2}$
	<hr/> 23	<hr/> 108

Several of the minor stations, of no interest to travellers, are omitted. The distances, as given in the Company's time-bills, are somewhat in excess of the truth. The express train from Trieste, passing Bruck at 5.31 P.M., reaches Vienna at 9.36 P.M. Four other trains daily employ from 6 to 7 hrs. Two additional trains ply daily between Payerbach and Vienna, and many more on the line between Vöslau and the capital.

*Bruck an der Mur* (1,524') is a small but busy town at the junction of the Mur with the Mürz, where the stream of traffic from Eisenerz, Salzburg, Klagenfurt, and the Upper Murthal, that had been concentrated at Leoben, meets the great line of railway between Vienna and Trieste. There are several inns (Adler, Mitterbraü, &c.) in the town, but the traveller will fare much better at the Eisenbahngasthof, beside the railway station, one of the best hotels in South Germany. It does not, however, contain many bedrooms, and strangers must sometimes seek elsewhere, or go on by night-train to some other station. The town is well built, but has few sights except the old *Fürstenhof* with a Gothic (or semi-byzantine) front and a large church. On the S. side is a long wooden bridge over the Mur, here grown to a stately river with a deep and steady

current. On the E. side of the town the far less ample stream of the Mürz hurries by. A bridge leads across it to the railway station, and a few hundred yards lower down the two rivers join their waters.

The position of the town, which may be well seen from the heights on which stands the old castle of Landskron, is interesting to the physical geographer. The course of the Mürz from Mürzzuschlag to this place is about WSW., or exactly contrary to that of the Mur from Knittelfeld downwards; and it is clear that these streams flow towards each other in what is orographically one and the same valley. The united waters escape towards SSE. through a narrow cleft at rt. angles to the direction of their previous course. The range of the Glein Alps (noticed in § 56, Rte. F), extending parallel to the Mur from Obdach nearly to Bruck, is evidently prolonged to the ENE. by the mountains rising above the l. bank of the Mürz from Bruck to the Semmering Pass. Commencing with the *Rennfeld* (5,321') immediately E. of Bruck, the most noticeable of these summits are the *Teufelstein* (4,888'), *Stuhleck* (5,834'), and *Grosse Pfaff* (4,985'). If we include with these a diverging ridge culminating in the *Wechsel* (5,701'), it will be seen that this is the only mass deserving the designation of a mountain range that rises E. of the boundary assigned to the Styrian Alps in the introduction to this chapter.

*Kapfenberg*, the first station in the Mürzthal, is nearly opposite the opening of the valley of the Thörlbach, through which runs the road to Mariazell by Seewiesen (Rte. C). The little town is on the l. bank of the Mürz; and on the opposite side of the valley, some 700 ft. above the stream, stands *Oberkapfenberg*, now a ruin, but once one of the finest castles of Upper Styria. Still higher up are the remains of an older castle, and on the summit of the hill stands the Loretto Chapel, where are preserved some relics of the knightly founder of the castle. Two or three

hours may be well spent in visiting these remains of a distant age.

The scenery of the Mürzthal is throughout very picturesque; and the traveller, if not pressed for time, may well prefer to traverse it on foot, or in a country carriage. The next place of any note is *Kindberg* (1,801'), on rising ground above the stream, with several inns (Schwarze Adler; Krone, &c.). An avenue of trees leads from the little town to the modern castle of *Oberkindberg*; commanding a fine view, and contrasting in its aspect with the many ancient and mostly ruined strongholds of the valley. The next station is *Mitterdorf* (1,879'), at the opening of the *Veitschthal*, descending from the Hohe Veitsch. An active walker may take the summit on the way from this place to *Mariazell* or *Mürzsteg*. A few minutes after leaving *Mitterdorf* the train reaches the next station at *Krieglach* (1,957'). Inscriptions on the wall of the church-tower record the three calamities which befell this place in the first half of the 16th century:—In 1529 an incursion of the Turks; in 1541 a plague; in 1544 a cloud of locusts that darkened the sun at mid-day. A road ascends from *Fressnitz*, a little below *Krieglach*, over the range on the SE. side of the valley, and leads either to *Birkfeld* on the *Feistritz*, or to *Friedberg*, on the frontier of Hungary, about 30 m. distant. Anthracite coal is worked in several of the glens that open on the l. bank of the Mürz. The head of the main branch of the Mürzthal is reached at

*Mürzzuschlag* (2,246'), a small town, with numerous inns (*Bräuhaus*; *Elephant*; *Hirsch*; and others). There is, besides, a good hotel and restaurant at the rly. station. *Herr Brunner*, the innkeeper, an active member of the Austrian Alpine Club, may be consulted with advantage as to mountain excursions. The upper valley of the Mürz, through which runs the road to *Mariazell* (Rte. B), here opens to NW., while the rly., and the old post-road, mount towards the *Semmering Pass* along the *Fröschnitzbaeh*. The railway between this station

and that of *Gloggnitz*, long claimed, with justice, to be considered the most remarkable mountain railway in the world, not only on account of the absolute height to be surmounted, but still more because of the steepness of the slope on the NE. side. The difficulties on the SW. side, ascending from *Mürzzuschlag* to the summit, are comparatively inconsiderable; but the look-out, as the train gradually attains a height of several hundred ft. above the torrent, is interesting. The best views are gained from the seats on the rt. side of the carriage going from *Mürzzuschlag* to *Gloggnitz*. The construction of this portion of the line cost six years' labour, and about 1,400,000*l.* sterling. The commendable precautions taken for the security of the trains have been so effectual that no accident is recorded during 14 years since it was opened for traffic in 1854. As mentioned above, the distances between the stations given in the Company's bills are exaggerated. The actual distance along the line, from hence to *Gloggnitz*, is just 25½ m., while in a straight line it does not exceed 13½ m. Nearly the entire difference of 12 m. is caused by the windings of the road between the summit and *Gloggnitz*, a distance of only 6 m. in a straight line. In the following notice the heights above the sea of the rly. stations are indicated, not those of the neighbouring villages that give their names to the stations.

From *Mürzzuschlag* station (2,145'), where the ponderous locomotives used for this part of the journey are attached to the trains, the ascent begins along the slope on the N. side of the *Fröschnitzbach*, and at the next station—*Spital* (2,539')—has attained a height of nearly 400 ft. above that torrent. A little higher up, the glen through which the stream descends bends abruptly to the S., and a track (said to be passable for light carriages) mounts along it to a comparatively high pass, called *Sattelberg* (4,142'), between the *Grosse Pfaff* (4,985') and the *Stuhleck* (5,834'). From the pass it descends SSW. into the head

of the valley of the Feistritz, one of the chief affluents of the Raab. Above Spital, the railway passes alternately through deep cuttings and over long viaducts, till it reaches the opening of the great tunnel, pierced by the railway engineers to avoid the last and steepest part of the ascent. It is lighted with gas, and to prevent the mischievous effects of frost in winter the tunnel is, at that season, closed at both ends by wooden gates, that are opened only to allow the passage of the trains. This precaution is the more necessary, as there is a considerable infiltration of water from above through the rock, which is an impure limestone, probably of carboniferous age. To facilitate the drainage the summit level—2,891 ft. above the sea—is in the middle of the tunnel. This is 4,667 ft., or about seven-eighths of a mile in length, and the trains take 6 or 7 minutes to go through it. At the E. end of the tunnel the train reaches the Semmering station (2,881'). A traveller not pressed for time may here quit the rly., and mount the slope to the summit of the *Semmering Pass* (3,256'), only  $\frac{1}{2}$  hr. distant. The great road over which the traffic formerly passed between Austria and Bohemia on one side, and Trieste and Venice on the other, is now almost abandoned. A once-frequented inn, still visited by pleasure tourists, stands at the top, and close to it is an inscription recording the completion of the road in 1728 by the Emperor Charles VI. The *Sonnenwendstein* (5,069') rising SE. of the pass, and easily reached in less than 2 hrs., commands a fine view, reaching to the Neusiedler See in Hungary. From the summit of the pass the old road descends towards ENE., in numerous zigzags, to *Schottwien*, and thence to Gloggnitz, which place may be reached in  $2\frac{1}{2}$  hrs. on foot, while the omnibus trains take about  $1\frac{1}{2}$  hr. A traveller wishing to inspect the principal works on the rly. must make a considerable circuit, and give several hours to the undertaking. Between the Semmering station and Payerbach the railroad

passes through or over a succession of tunnels, covered galleries, cuttings, and viaducts, every yard of the way requiring heavy labour and expense. At first the direction taken is northward, in order to cross a deep ravine called *Kalte Rinne*. The line then runs eastward for several miles, until, on reaching a projecting angle of the mountain, immediately overlooking Gloggnitz, it turns sharply WNW. into the lateral valley of the *Schwarzau*, and crosses that valley. After making a circuit round the village of Payerbach it returns nearly parallel to its previous course to Gloggnitz. Only the more remarkable works are here enumerated. After passing through three long tunnels, and over a short viaduct, the *Adlitzgraben* is traversed by a viaduct nearly 500 ft. long and 75 ft. high; but this is much surpassed by the succeeding viaduct over the *Kalte Rinne*, 715 ft. long, and 150 ft. in height. On this part of the way fine views are gained by those who sit on the rt. hand of the carriages. Another tunnel, and another viaduct, lead to the *Breitenstein* station (2,545'). The way now lies along the very steep face of mountain, in great part a mere precipice of bare rock, called *Weinzettelwand*. The original design was to carry the rly. along a shelf cut in the face of this precipice, but the crumbling nature of the stone made this impracticable. Hence the passage is effected by frequent tunnels, and in one part by an artificial stone gallery, with lateral openings, but covered with a massive stone roof, for protection from falling stones and avalanches. After passing the *Klamm* station (2,240') the slope is much less steep, and the traveller gains more frequent peeps over the valley on his rt., where lie *Schottwien*, and numerous smaller villages. On approaching the angle of the mountain, the train bears to the l., and, after passing through a short tunnel, a new and striking view is gained towards Gloggnitz, backed by the hills that rise beyond the Hungarian frontier. Still turning to the l. the train completes the sharp curve, and



passes the *Eichberg* station (2,165'). The traveller now finds himself overlooking the course of the Schwarza, which, after issuing from the Höllenthal, above Reichenau, descends ESE. towards Gloggnitz, through a comparatively open valley. The descent towards Payerbach, which is seen backed by the mass of the Schneeberg, is the steepest on the whole route, preserving an inclination of 1 in 40. The stream of the Schwarza and the valley are traversed by a massive embankment, and a viaduct, about 750 ft. in length, and 80 ft. in height, which sweep in a curve round the W. side of the village of *Payerbach* (Rte. H), which is at a lower level, and some minutes' walk from the station. This is 1,580 ft. above the sea, or 585 ft. below *Eichberg*. *Payerbach* and *Reichenau* are further noticed in Rte. H. Passing by a very extensive government paper-mill, said to produce yearly 150,000 reams, the rly. now descends more gently along the N. side of the Schwarza to the *Gloggnitz station* (1,356'), where, looking upwards, the railway works so lately passed may be discerned in unexpected places on the steep slope of the opposite mountain. The little town of *Gloggnitz* (Inn: *Alpenhorn*; restaurant at the rly. station) is very prettily situated, but is not so convenient for mountain excursions as *Payerbach* or *Reichenau*. It will be remarked that the valley extending hence to *Neustadt*, through which the rly. and the high-road are carried, lies in the prolongation of that of the *Mur* and the *Mürz*.

*Neunkirchen*, a small but thriving manufacturing town, is the best station for the traveller wishing to make the interesting excursion to *Buchberg* (Rte. I). The *Ternitz* station, nearer to *Gloggnitz* by 2 m., is also rather nearer to *Buchberg*, but there is no certainty of finding a vehicle there without much delay. At *Wiener Neustadt* (Inns: *Hirsch*; *Kreuz*; *Löwe*) an important town, in former days the frequent residence of Austrian sovereigns, the railway may be said finally to leave the Al-

pine region, and to enter the plain of lower Austria. The town is only 833 ft. above the sea. The Military Academy, located in the ancient imperial castle, is an important institution, not undeserving the careful notice of military men. The *Kehrbach*, along which the road has been carried since *Gloggnitz*, here joins the *Leitha*, and the Hungarian frontier is 2 or 3 m. E. of that river. The railway now turns about due N., skirting the E. base of the hilly district of the *Wiener Wald*. The *Schneeberg* is often in view, but only justifies its name during 8 or 9 months in the year.

*Vöslau* is best known to foreigners by the full-bodied red wine which is produced in the surrounding district. It is surrounded by the villas of wealthy Viennese, and is beginning to rival as a place of popular resort

*Baden*, the next station on the railway, the Brighton of Vienna, if that name can be given to a place where water is a scarce commodity. Though deserted by the court, it is the favourite resort of citizens, and excursion trains carry thousands here on holidays, while many families reside here during the summer and autumn. There are some pretty walks and rides, especially that to the *Helenthal*, but the place is hot and dusty, and not tempting to English tourists. Seventeen trains start daily in summer for

*Vienna*. It is beyond the scope of this work to describe this great city, transformed and beautified during the last 20 years, so as to have become the Paris of Eastern Europe. What further progress the city, and the empire of which it is the capital, may make under the vivifying influence of free institutions is one of the questions to which futurity will give a reply. Much might be said of the hotels of Vienna, but it suffices here to give a list of those in the centre of the town and those in the suburbs, it being understood that those here called second-class are on a par in general standing with the first-class hotels of other cities of Germany, and that those ranked as third-class are (as

far as the writer's information goes) frequented by persons of respectable station in life. *In the Inner City*—first-class—Erzherzog Karl, extremely well managed; Oesterreichischer Hof; Hotel Münsch; Römischer Kaiser—second-class—Stadt Frankfurt, a favourite dining place; Kaiserin Elisabeth, somewhat fallen off; Matschacher Hof; Stadt London; Hotel Meisl—third-class—Wilder Mann Ungarische Krone; König von Ungarn. *In the Leopoldstadt*—second-class—Hotel National; Goldenes Lamm; this and the last deserve to be called first-class hotels, but, being farther from the centre, they are less convenient for families, and the prices are a degree lower than those of equal rank in the city—third-class—Weisses Ross; Hotel Schroeder. There are many other hotels, some probably deserving to be classed in the above list, while others fall into a lower category.

## ROUTE B.

## MÜRZZUSCHLAG TO EISENERZ, BY MARIAZELL AND HIEFLAU.

	Austrian miles	English miles
Mürzsteg . . . . .	3	14
Mariazell . . . . .	4	18½
Wildalpen . . . . .	6½	29½
Hieflau . . . . .	4½	20
Eisenerz . . . . .	2	9½
	19½	91½

No post-horses. Carriages may be hired at the following rates:—Carriage with two horses

(Zweispann), from Mürzzuschlag to Mariazell, 20 fl.; if taken only to Mürzsteg, 6 fl. Light car with one horse (Einspann), from Mariazell to Wildalpen, 8 fl.; if taken only to Weichselboden, 5 fl.; Zweispann to Wildalpen, 15 fl. Einspann from Wildalpen to Hieflau, 6 fl. Zweispann, 12 fl. Einspann from Hieflau to Eisenerz, 2 fl., or (?) sometimes more. These charges include tolls and trinkgeld to the driver. The distances here given are approximate. The usual reckoning is somewhat higher.

The route here pointed out is well suited for tourists smitten with the plague of haste, who wish within a very short time to see as much as possible of the scenery of this district without quitting a carriage road. Leaving Vienna by the express train at 7 a.m., they arrive at Mürzzuschlag at 10.14 a.m., and may easily reach Mariazell in time to see the church and something of the neighbourhood on the same evening, especially if they have taken the precaution of ordering a carriage in advance from the post-master at Mürzzuschlag. On the following evening they may, with an early start, reach Eisenerz. The pedestrian may with advantage vary the route as is suggested below. This excursion is frequently made by tourists from Vienna on their way to the Salzkammergut, following the Enns through the defile of Gesäuse, and taking the road to Ischl by Steinach and Aufsee. In summer the inns on this line are sometimes crowded, and when ladies are in question it is prudent to order rooms in advance.

The scenery of the Upper Mürzthal is throughout very picturesque, and numerous forges preserve the local characteristic of the valleys of Upper Styria. The first place of any note is *Kapellen*, about 5 m. from Mürzzuschlag. Standing at the SW. base of the Raxalp, a glen runs eastward below the steeper part of that mountain to a pass locally called *Gschaid* (3,526'), commanding a fine view, and connecting the Mürzthal with the Schwarzau. By the track, which is scarcely passable for carriages, there is an easy walk, or ride, to *Reichenau* (See Rte. H, where there is a further notice of the Raxalp). Another

glen—*Altenberger Graben*—leads northward from Kapellen to the *Nasskamp* (3,879'), an interesting pass lying between the Raxalp and the Schneevalp (See Rte. H). About 3 m. above Kapellen is

*Neuberg* (2,378'), the chief place in the upper valley of the Mürz, and residence of the Director of the Government iron-works in the valley. The inn is said to be tolerably good. The noble fifteenth century church belonged to a suppressed Cistercian monastery, founded here in 1327. The structure of the roof, the wood carving, and the tombs of the abbots, deserve at least the passing notice of the traveller. This is the most convenient point for ascending the *Schneevalp*—not to be confounded with the loftier *Schneeberg*, which lies altogether in Austria, while this is on the Styrian side of the boundary. Like the Raxalp and Schneeberg, this is rather a high plateau rising into numerous eminences than a single mountain. The highest point is called the *Windberg* (6,213'). The traveller may take the summit on his way to the Nassthal (Rte. H); but, considered as an independent excursion, the ascent is in no respect so interesting as that of the *Veitschalp* noticed below. From *Neuberg* the road ascends gently for 6 m., between the steep limestone rocks that enclose the valley on either side, to

*Mürzsteg* (2,499'), with a clean and tolerably comfortable inn (Post), very finely situated at the point where the main stream of the Mürz, whose general course from hence to Kapellen is but little S. of E., is formed by the confluence of two mountain torrents. The more considerable of these, which preserves the name Mürz, descends nearly due S. through a remarkable gorge noticed below, while the other branch flows in the same direction as the united stream through the *Dobreinthal*, which originates on the N. side of the *Veitschalp* (6,478'). This is most conveniently ascended from *Mürzsteg*. It will be observed that the Mürz in its course from this point to Mitterdorf on

the railway, above Bruck, makes fully the half circuit of this extensive mountain, from which project many lateral ridges. In addition to many of the local species of the limestone region of Upper Styria, *Viola alpina* is found in great abundance on the upper plateau of the mountain.

Pedestrians may choose between three passes leading to Mariazell, but the carriage road ascends through the *Dobreinthal*. The scenery is, however, extremely agreeable, and offers a variety of interesting points of view. The carriage mounts slowly, passing the hamlets of *Dobrein* and *Niederapl*. The latter, at which there are large smelting works, gives its name to the pass of *Niederapl* (3,994'), which here divides the basin of the Salza from that of the Mur. The view of the crags of the *Hochschwab*, the highest and boldest summit of this district, is unexpectedly fine. A rapid descent on the W. side leads down to *Wegscheid* (2,750'), so called from the junction of this road with the post-road from Bruck to Mariazell, noticed in Rte. C. The latter road is now followed along the stream of the *Aschbach*, which descends gently to its junction with the Salza at the Imperial Foundry (noticed below). Rather more than 3 m. farther is

*Mariazell* (2,744'), one of the most renowned sanctuaries of Europe. While other spots of the same kind see a gradual diminution in the resort of pilgrims, the simple faith which survives among the people of South Germany annually sends hither processions whose united numbers are said to reach 100,000. Although every second house is an inn, or lodging-house, it is at times difficult to find a room, especially in the first week of July, and throughout the greater part of August. The best inns are the *Löwe*, *Post*, *Weintraube*, *Greif*, and *Goldne Krone*. A solitary traveller wishing to spend a few days here will be better off at the inn at the *Gusswerk* (see below), quite as good as any of those in the town, where he meets in the evening engineers and other intel-

ligent gentlemen connected with the direction of the Foundry.

The first object visited by strangers at Mariazell is the church. Only the great central tower, 270 ft. in height, now remains of the building founded in the second half of the fourteenth century by Louis I. of Hungary, to whom the sanctuary first owed its wealth and wide renown. Two centuries before that date a priest brought into the valley a wonder-working image of the Blessed Virgin, carved in lime-tree wood. Unlike most other images of the kind, tradition has not attached to this a supernatural origin; its fame rests upon an unbroken series of authentic miracles continued to the present time. The roof, and a great portion of the interior of the church, was consumed by a great fire in 1827, which almost destroyed the town, and the greater part of the present building is modern. It is well placed, on rising ground, reached by broad steps, and very finely proportioned—208 ft. long, 70 ft. broad, and 103 ft. high. The Treasury contains a valuable collection of royal and imperial gifts. Within 2 m. of Mariazell is the picturesque

*Erlaf See*, a charmingly situated little mountain lake, lying in a hollow W. of the road to St. Pölten (Rte. C). If for nothing else, it deserves a visit for the charm it has exerted over so many German poets and artists. The boundary between Styria and Austria runs through the lake, which sends its waters to the Danube through the *Erlafthal* (farther noticed in Rte. G). Many pleasant walks may be found in the environs of Mariazell, for all the surrounding heights command fine views. The *Gusswerk*, or Imperial Foundry, standing near the Salza, more than 3 m. below Mariazell, is one of the most important establishments of the kind in Europe. It includes three smelting-houses, and all the necessary appliances for the manufacture of iron from the ore (carbonate of iron, or sparry iron), found abundantly in the neighbourhood. The annual produce is about 15,000 tons of manufactured metal. The Guss-

werk has recently been leased by the Government to a company. It is said that the manufacture of iron ordnance has been discontinued, but the stranger who wanders from the beaten track, through the defile of the Salza, may yet find, here and there, large cannon-balls, though he is no longer likely to hear the firing of heavy guns, which used formerly to produce a startling effect in an uninhabited Alpine valley.

[As mentioned above, the pedestrian has a choice of two paths from Mürzteg to Mariazell besides the carriage road. The shorter but less interesting of these leaves the road at the hamlet of *Niederlpl* in the *Dobreinthal*, and mounts NNW. to the *Buchalp* (4,494'), a pass lying on the E. side of the *Tonionalp* (5,550'). Bearing to the l., the path descends to join the road from *Frein* to Mariazell, mentioned below. The other way is much more interesting, offering scenery of a very wild character. The path follows the main stream of the Mürz through a narrow defile between high and precipitous rocks. The name '*Zum Todten Weib*' is locally given to the entire defile, though applied in guide-books only to the waterfall at the upper end. As the defile grows narrower, the path crosses the torrent from side to side by wooden bridges, or is carried along the stream on a platform propped on iron stanchions against the rocky wall. At the upper end is a singular waterfall, formed by a torrent that issues from a cavern in the face of the mountain. With the help of a ladder, borrowed from an adjoining house, the botanist may reach the mouth of the cavern, where *Cortusa Matthioli* and other Alpine flowers bloom in profusion.

Beyond the waterfall the valley opens gradually, and before long the traveller enters the upland basin of *Frein*, in which four torrents unite their waters to form the Mürz. The hamlet of *Frein* (2,836'), consisting of a chapel, school-house, and some twenty houses, is the dwelling of a little colony

of wood-cutters, who were placed here to furnish wood and charcoal to the Foundry at Mariazell. The inn, often crowded with pilgrims to that place, is very poor and uninviting. Into the basin of Frein the two chief torrents (of which the longer is called Kalte Mürz), flow from the E. and ENE. sides, a lesser stream enters from the N., and another from a direction rather S. of W. On the N. side the ground rises with a gentle slope to the low ridge dividing this from the uppermost glen of the Salza, while, on the S. side, steep and high rocky ranges shut in the valley, except at the point where the Mürz escapes southward, and carries the drainage in a direction certainly different from that which it would have followed if erosion were the sole agent in determining the relief of the surface. A tolerable road, constructed for the conveyance of timber and charcoal, mounts WSW. along the stream to a pass, 3,894 ft. in height, between the Seekogel and the Studentalp, and then descends about due W. till it joins the post-road from Wegscheid, 2½ m. above the Gusswerk, or nearly 6 m. from Mariazell. The distances are reckoned from Mürzsteg to Frein 3 hrs.; thence to Mariazell 5 hrs.; but an active walker will easily complete the walk in 7 hrs., exclusive of halts. A shorter way by 1 hr., from Frein to Mariazell, is by a footpath over the *Freinsattel* (4,252'). This goes direct to the upper end of the Salza valley, above Mariazell, instead of descending to the Gusswerk, and then reascending along the Salza. A guide is quite unnecessary for a traveller going from Mürzsteg to Frein over the beaten path by the Todten Weil, but strangers unused to find their own way will do well to take a local guide, if they cross the *Freinsattel*.]

The road from Mariazell to Eisenerz follows the valley of the Styrian Salza from a point near its chief source to its junction with the Enns. The scenery is throughout interesting and agreeable, but the pedestrian may take a course in some respects more attractive, by follow-

ing the road to Bruck as far as Wegscheid, and then taking the track over the Kastenriegel (Rte. E) to Weichselboden. The road to that place is now sufficiently good for light carriages, but narrow in places. Turning to the rt. at the Gusswerk, where the post-road to Bruck ascends the glen of the Aschbach, it follows the Salza to *Greuth* (2,215'), a distance of about 7½ m. The village inn is kept by a fisherman who, in default of other luxuries, can usually supply a dish of excellent trout. As the road advances towards a defile which gives a passage to the river, but leaves no space for the road, the latter turns away from the stream, and mounts a rather steep ascent to a sort of neck of land more than 600 ft. above the river, called the *Hals* (2,788'). As the river flows for some way nearly due S. through the defile, while the road has ascended westward, the traveller, on reaching the summit, is separated from the Salza by a rocky knoll of considerable mass. Round this the stream flows through a cleft so deep as to be completely concealed, and in order to join its rt. bank at the lower end of the defile, the road turns sharply to the l., and descends rapidly along a stream that drains the Radmer glen to

*Weichselboden* (2,140'), about 18 m. from Mariazell, the centre of a community whose houses are scattered among the adjoining glens. There is a rough little mountain inn here, supplying a few clean beds and tolerable food, at prices that in Tyrol would be thought exorbitant. The ruggedness of the surrounding mountains, and the savage and inhospitable aspect of the sombre defiles that give access to this enclosed basin, confer a wild and almost dreary aspect on the place, that recalls spots higher by 3,000 or 4,000 ft., lying in the interior recesses of the great chain of the Alps. To NE. is the impassable defile of the Salza above mentioned, and in the opposite direction the river descends to the Enns through a gorge of not much less menacing aspect. SE. is the opening of the

savage glen of the Hölle described in Rte. E, where there is also a notice of the ascent of the Hochschwab. The road from Weichselboden to Wildalpen has been much improved, and need not cause anxiety even to nervous travellers. In the gorge, where the rocks close on either side of the stream, a massive dam (Klause) has been constructed to assist in floating timber down the stream, and a short tunnel permits the passage of the road. Amid fine and varied scenery, the traveller advances through a long defile, overlooked on the S. side by crags that belong to the Hochschwab, and on the opposite by an outlier from the *Hochstadt* (6,266'), to *Gschöder* (1,923'), at the opening of the Anten Graben, a short glen, or hollow, running into the range of the Hochschwab. The ascent may be made from this point (see Rte. E). The valley opens but a little here and there, but maintains its character as an almost uninhabited defile throughout the remainder of the way to

*Wildalpen* (1,781'), nearly 12 m. from Weichselboden. This name is now generally given to St. Barbara, one of several hamlets that make up the commune of Wildalpen. The most populous of these, locally called Klein-Wildalpen, laid down on some maps as Wildalpen, is fully 2 m. away from the Salza in the adjoining glen of the Wildalpenenthal (Rte. E). W. of the bridge, at St. Barbara, is a large church, with a few good houses, and, finally, an excellent country inn, kept by Zisler, a favourite resort of tourists from Vienna. Although the surrounding mountains do not afford scope for arduous excursions, they are steep enough to allow of pleasant, and even difficult climbing, while the scenery is everywhere agreeable, and often extremely picturesque. The most interesting walks are through the glens that converge towards the Wildalpenenthal, further noticed in Rte. E. Besides the charming path direct to Eisenerz, there is a track which leads from Klein-Wildalpen to Lainbach (see below) by a solitary inn called Auf der

Wacht, descending to the Enns through the *Schwabelthal*. This way does not appear to be very interesting; it is certainly more laborious, and not much shorter, than that by the carriage-road. It is called a walk of 7 hrs. (probably too much); but Lainbach may be reached by road in 5½ hrs. very moderate walking.

In following the road from Mariazell to Wildalpen, the traveller has constantly had on his rt. hand a range of craggy calcareous mountains, that form the line of boundary between Styria and Austria, but no frequented path leads across that barrier. In the lower part of the Salza valley the prevailing rock is a very friable sandstone, often passing into a coarse conglomerate, through which the mountain torrents cut deep trenches. About 4½ m. below Wildalpen the Salza receives a considerable torrent from the *Lassingthal*, a long lateral valley that opens to ENE. At its head rises the *Dürrenstein* (6,142'). By the W. side of that mountain a country road leads from the Lassingthal to the valley of the Ips, a little above Gössling (Rte. F), while another pass S.E. of the Dürrenstein leads to the sources of that river on the S. side of Oetscher. Some 5½ m. lower down on the Salza a much more frequented road descends into the valley from the *Mendling Pass* (Rte. F), which offers a shorter and easier way to the Ips, and so to Waidhofen, or else to Pechlarn on the Danube through the Erlafthal. Close to the junction is the hamlet of *Palfau*, with a poor roadside inn, where there is a choice between two roads leading to the Enns. That on the rt. hand follows the rt. bank of the Salza to its junction with that river, and enters the Ennsthal immediately below *Reifling* (§ 47, Rte. A). That is the shortest way for the traveller intending to descend the valley of the Enns; but, if bound for Hiefian, he should prefer the l.-hand road at Palfau, which is rather shorter, and decidedly more interesting. This follows for some miles the l. bank of the Salza, but on

reaching the Gamsbach torrent, which descends to NW. from a lateral glen, the road turns away from the Salza, and mounts SE. for some distance along the tributary stream, then turning to SW. till it attains the shoulder of the mountain that lies in the angle between the Enns and the Salza, commanding a fine view on the S. side. Descending the slope, the road reaches *Lainbach*, charmingly situated in an opening of the Ennsthal. Here the traveller joins the high-road leading from Steyer to *Hieflau* (§ 47, Rte. A). The road thence to Eisenerz is described in § 53, Rte. H.

[The village of *Gams*, on the Gamsbach, is an interesting spot to the geologist, for the sake of its fossiliferous bed of cretaceous age, apparently of the same period as the well-known deposits in the valley of Gosau. In the upper part of the glen, on the flanks of the *Brandenstein* (not to be confounded with the Brandstein nearer Eisenerz), is a fine ice-cavern, of the class that has attracted so much attention since the publication of Mr. Browne's well-known work on the ice-caves of France and Switzerland. It could doubtless be reached directly from Wildalpen.]

## ROUTE C.

## VIENNA TO BRUCK, BY ST. PÖLTEN AND MARIAZELL.

	Austrian miles	English miles
St. Pölten (by rail)	. 8	37½
Lilienfeld . . .	. 3	14
Turnitz . . .	. 2	9½
Annaberg . . .	. 2	9½
Mariazell . . .	. 3½	16½
Wegscheid . . .	. 2	9½
Seewiesen . . .	. 1½	8¼
Afenz . . .	. 2	9¼
Bruck an der Mur	. 2¾	12¾
	26¾	127

The ordinary way from Vienna to Mariazell, before the opening of the rly. over the Semmering, was that here indicated; but as the road from Mürzzugschlag is 17 m.—and that from Bruck 10 m.—shorter than the old road from St. Pölten, the great majority of travellers prefer either of those routes. The present road, however, passes through some fine country, and may well be chosen by a traveller already acquainted with the road from Mürzzugschlag. Instead of going from Vienna to Bruck through Mariazell, many now go to Mariazell by Bruck, and as the road between those places is taken by all travellers from Mariazell to Gratz and Lower Styria, it is much frequented, and is traversed daily by a carriage carrying the post, which employs 9½ hrs. to accomplish 39 m.!

Two quick trains go daily from Vienna by the Westbahn (the rly. leading to Salzburg, Munich, and Paris) in 1½ hr. to St. Pölten, while four omnibus trains employ from 2 to 2½ hrs.

*St. Pölten* (Inns: Löwe; Hirsch) is a good specimen of an Austrian provincial town. It stands on the verge of an ancient lake-basin filled up by the detritus brought down by the *Traisen*, along which lies the road to Mariazell. The road and the valley keep a direction nearly due S., and the hills gradually rise on either side as the former passes the opening of the lateral valley of the Gelse, through which a post-

road runs eastward, by Hainfeld and Altenmarkt, to Leobersdorf, near Wiener-Neustadt through a natural trough which seems to mark the northern boundary of the Alps of Lower Austria. The village of *Traisen* stands just above the junction of the Gelse, and a few miles farther S. is the post-station of

*Lilienfeld* (1,167'). Here stands one of the finest of the ancient Austrian abbeys, founded in 1202 by Leopold of Babenberg. The greater part of the church is ancient. The little town, locally called Markt, is  $\frac{1}{2}$  m. distant from the abbey. A few m. above Lilienfeld the valley forks. The main branch of the valley is that which ascends SE. to *Hohenberg*, and thence to *St. Ägid*; but the post-road follows the western branch to

*Türnitz*, a busy little place, above which the head of the valley is seen enclosed by mountains of moderate height. A rather long ascent leads to the summit of the *Annaberg* (3,043'), which is the name of the pass connecting the head waters of the Traisen with those of the Erlaf, and of the hamlet at the summit, where stands the post-house and a pilgrimage church. A slender torrent descends from Annaberg to join the Erlaf, and it would seem natural that the road should follow the course of the latter stream to Mariazell. But the Erlaf flows through so narrow a defile that it was found more advisable to cross two intermediate ridges before approaching its banks at Mitterbach above the defile. Between the *Joachimsberg* (2,719'), which is the first ridge crossed by the road, and the *Josephsberg* (3,136') which succeeds it, the traveller descends to the little village of *Wienerbrücke* with a country inn. Near at hand is the waterfall of the *Lassing*, considered the finest in Lower Austria. In three successive falls the torrent descends 412 ft., but the volume of water will not satisfy those accustomed to the grandeur of the greater cascades of the Alps. On descending from the Josephsberg the road reaches the Erlaf, and the boundary of Styria, at *Mitter-*

*bach*, near the Erlaf See (Rte. B), and then traverses the scarcely perceptible ridge that separates the lake from

*Mariazell*, described in the last Rte.

[There is a country road from the eastern branch of the Traisen valley, longer and more hilly than the last, which also leads to Mariazell. It passes by the N. and W. sides of the *Göller*, from which mountain the Styrian Salza takes its source. The road follows the course of the infant stream to Mariazell.]

The road from Mariazell to Bruck as far as Wegscheid has been incidentally noticed in the last Rte. At the Gusswerk it quits the valley of the Salza to ascend through the glen of the Aschbach. The way at first is SE., but after passing the point where the country road from Frein descends through a hollow in the hills on the l., the post-road turns S., and ascends to *Wegscheid* (2,750'). Here the road to *Mürzsteg*, described in the last Rte., ascends to SE., while that to Bruck bears to SSW. A few hundred yards beyond the post-station the track from *Weichselboden* over the *Kastenriegel* (Rte. E) falls into the high-road, which winds gently up-hill, passing above the mining village of *Knappendorf*, seen on the l. hand in the hollow at the head of the valley. A rather long continuous ascent leads to the plateau of the *Seeberg*, a little below the summit of which is *Brandhof* (3,663'), the alpine dwelling of the late Archduke John, now the property of his son, the Count of Meran. The plain building, intermediate in character between a cottage and a villa, has not much to attract attention save a hall with statues in sandstone, a small octagonal chapel, and a hunting saloon containing some memorials and trophies of the chase. The affectionate reverence felt for the late Archduke by the whole population of the mountain provinces of Austria, and which must be in some degree shared by every mountaineer, gives an interest to this spot which it would not otherwise command. Soon after passing it the traveller reaches the



summit of the Seeberg (4,099'), here forming the watershed between the Salza and the Mur. The pedestrian leaves the road, which winds downward by slopes to the rt., and follows a steep path that rejoins the road close to the village and post-station of *Seewiesen* (3,017'). This place, which stands near the head of the *Seethal*, also called *Seewiesenthal*, is finely situated, and might be head-quarters for many pleasant excursions; but the inn at the post, though tolerable, is not attractive. The most considerable excursion is the ascent of the Hochschwab noticed in Rte. E. Numerous paths lead through upland glens, and over the ridges dividing this from the adjoining valleys. The railway station at Mitterdorf on the Mürz (Rte. A) may be reached through an eastern branch of the valley, called *Stübmingthal*. Below Seewiesen are two small lakes which produce a fine effect when seen backed by the bold crags of the Hochschwab. On the S. side Seewiesen is separated from Aflenz, the next post-station, by a detached mountain, called on many maps *Windgrube*. The true name of the mountain is *Mitteralp* (5,868'), and the name *Windgrube* properly belongs to a singular hole or cleft of unknown depth that opens near the summit. It is remarked by the hunters that chamois, which abound in the neighbourhood, shun the approaches to this hollow, doubtless connected with internal fissures that penetrate the mountain. The road from Seewiesen makes a circuit round the E. side of the *Mitteralp*. Near Grasnitz the stream of the *Stübmingthal* joins the *Seebach*, and soon after the road reaches

*Aflenz* (2,498'), a neat little town with a fair inn (bei Karlon?). It has a very ancient church, part of which is said to date from 875. A short distance below Aflenz the *Seebach* merges its name in that of the *Thörlbach*, which torrent descends in a SE. direction from the W. side of the *Hochschwab* through a very picturesque glen. The streams meet at *Thörl* (1,990'). Extensive iron-works stand here in a very picturesque

position, in the jaws of a gorge where the rocks close together, and the ruins of *Schachenstein* stand on a height above. This was one of the castles built to protect the various approaches to *Mariazell* from hostile incursions. Near the road descending hence towards the Mürz is a bathing establishment called *Steinerhof*, in a pretty position said to offer tolerably comfortable rooms, and reasonable prices. About 9 m. from Aflenz the road descends into the valley of the Mürz opposite *Kapfenberg* (Rte. A). It is necessary to cross the river in order to pass through the town, and then return to the rt. bank in order to follow the old post-road from Vienna to

*Bruck an der Mur* (Rte. A).

#### ROUTE D.

EISENERZ TO BRUCK, BY THE FRAUENMAUERHÖHLE.

This is one of the most interesting walks to be made in the district here described. It has the peculiarity of leading the traveller from one fine valley to another, through the finest cavern of Styria, which has openings both on the E. and W. sides, so as to form a natural tunnel through the mountain. It is absolutely necessary to take a guide well acquainted with the cavern, and provided with torches. Kaspar Domminger and Josef Haid of

Eisenerz are recommended as guides. Their charge for visiting the cave is 2 fl., besides the price of the torches. Approaching from the Tragösthäl, the traveller must apply to a farmer named Bunger. He knows the cavern well, and is provided with lights. His charge is 5 fl. including torches. Franz Späth of Afenz also knows the way. The effect of this, as of all large caverns, is much enhanced by a few Bengal lights, which the traveller should bring with him. As the temperature is very low, and the cavern is traversed by currents of cold air, it is necessary to be provided with extra covering. About 3 hrs. are required for the ascent from Eisenerz to the western opening of the cave, and fully 7 hrs.' steady walking from the eastern opening to Bruck. As at least 1 hr. must be allowed for visiting the interior of the cavern, the day's walk is rather long, and those who wish to have time to enjoy the fine scenery of the Tragösthäl will break the journey at Pichel.

Turning to the l. from the road to Vordernberg (§ 53, Rte. H.), at Trofeng, the traveller, soon after leaving Eisenerz, enters the *Gsollgrund*, one of those short picturesque glens common among limestone mountains, whose comparatively broad and level floor is enclosed between steep slopes, surmounted by ranges of high and precipitous crags. A wood-cutter's track leads for some way through it, but, although much fine timber has been felled of late years, the pine forest still covers most of the surface. At the upper end, about 2 hrs. from Eisenerz, are the huts of the *Gsollalp* lying at the W. base of the *Frauenmauer*, a steep wall of rock (about 5,800 ft. in height), which bars across the head of the glen. The ridge on the N. side of the *Gsollgrund* is in truth the W. extremity of the Hochschwab range, which extends hence somewhat N. of E. to the *Brandstein* (6,542'). On the S. side of the *Gsollgrund* is a range of high crags, locally known as *Gsollmauer*, an outlier from the Hochthurm. The *Frauenmauer*

forms the connecting link between these ranges. The ascent from the Alp continually increases in steepness as the path, a mere goat-track, passes through the zone of *Krummholz*, or *Pinus mughus*, and mounts a slope of debris up to the base of the highest cliffs. Here three holes or openings in the face of the mountain are seen. The central one is the true entrance, 4,707 ft. above the sea. After admiring the fine view of the valley of Eisenerz, backed by the Kaiserschild and other more distant peaks, the traveller enters the cave. He presently turns to the l., and follows a passage that descends over and among huge loose blocks. This leads to the *Eiskammer* (ice-chamber), a true ice-cave, where all the phenomena that have of late attracted attention may be observed. It is necessary to return by the same passage, in order to resume the main path through the cavern. This leads through several lofty halls, whose dimensions cannot be appreciated without more powerful means of lighting than those provided by the guides. One of these is called the *Kirche*, another the *Hohe Kluft*. The latter is said to be from 150 to 190 ft. in height. The path leading through the cavern is nearly  $\frac{1}{2}$  m. in length; it ascends somewhat steeply, and in one place with the help of a ladder, so that on reaching the eastern entrance the traveller has attained a height of 5,119 ft. above the sea. The view over the head of the Tragösthäl, unfolded on issuing from the mouth of the cavern, is very striking in itself, and is enhanced by the abruptness of the transition.

The *Frauenmauerhöhle* appears to lie along the junction of the *Muschelkalk*, with an underlying limestone, also of triassic age; and to the nature of the superincumbent rock is doubtless to be attributed the almost complete absence of stalactites. The cavern was known in the seventeenth century, as is proved by various initials with the date 1605, found in the *Hohe Kluft*, and still visible. It was afterwards lost sight of, and only rediscovered in 1823. Some

persons who explored one of the numerous lateral passages several years ago, descended a long way till stopped by water, beyond which the continuation of the cavern was seen, and the noise of a waterfall heard at a lower level.

The *Tragösthäl* has already been spoken of as one of the finest valleys of this district. At its upper end it divides into three short glens, of which the longest is the *Jassing Graben*, into which the traveller now descends. A path, said to be difficult, but which must lead through very fine scenery, mounts from the *Jassing Graben*, somewhat E. of N., and crosses the ridge of the *Brandstein*, descending on the opposite side by the *Sieben Seen* to *Wildalpen*.

The *Jassing Graben* may also be reached from the *Gsollgrund* by a path over the *Neuwaldeck*, avoiding the *Frauenmauerhöhle*.

In descending the valley the traveller passes by the *Grünsee*, and leaves on the l. hand *Oberort* (2,485'), the highest hamlet of *Tragös*. It stands at the base of a group of craggy summits, nearly 6,000 ft. in height, at the N. end of a level basin, between 2 and 3 m. in length. At the S. end of this tract stands *Pichel* (2,468'), also called *Grossdorf*, the chief place in upper *Tragös*, with an old church, and a decent country inn (bei *Peintinger*). [From the *Grünsee* a path mounts about due W., crosses the ridge of the *Hoch Thurm*, and descends to *Vorderberg*.] The next village below *Pichel* is *Oberdorf* (2,155'), where the torrent, which has hitherto kept a direction but little E. of N., turns about due E. [Two paths here diverge from the valley; one leads SW. to *Trofajach* (§ 53, Rte. H); the other about due S. to the valley of the *Mür*, a little below *Leoben*.] At *St. Katharein* (2,451'?) the valley bends to the rt. towards SE., and a country road leads along the *Lamingback* (as the torrent is called in the lower part of the valley), and about 7 m. lower down enters the valley of the *Mürz*, 1 m. above *Bruck*.

## ROUTE E.

EISENERZ TO BRUCK. TOUR ON FOOT  
BY THE HOCHSCHWAB.

In the last Rte. a very direct and very interesting way from *Eisenerz* to *Bruck* has been pointed out. The mountaineer will, however, desire to choose a route which will bring him into closer acquaintance with the higher summits, and especially with the *Hochschwab*, which attracts him, not alone by its superior height, but by the bold crags which it presents on every side. Much of the finest scenery may be taken in a short tour of 2½ or 3 days from *Eisenerz* to *Bruck*. Combining this with the last Rte., it will be seen that a traveller pressed for time may complete the circuit in 4 days from *Bruck*, whither he will return, if favoured by weather, after enjoying a constant succession of fine scenery.

A practised mountaineer may usually find his own way in this district with the aid of occasional guidance from herdsmen, but in attempting to cross such a mountain as the *Hochschwab* he might encounter serious difficulties. The writer does not know of any good guide in the valley of the *Salza*, but many men are to be found who know well the ordinary paths. *Franz Späth* and *Schuster Lenes* of *Aflenz*, and *Peter*

Brunegger of Seewiesen are recommended as guides for the Hoch Schwab.

Though a very short and easy day's walk, the path from Eisenerz to Wildalpen over the Eisenerzer Höhe should on no account be omitted. The distance is commonly reckoned 7 hrs.; but 6½ hrs. are amply sufficient. A guide is not necessary to anyone used to find his way among mountains. In describing the road from Eisenerz to Hiefiau, reference was made to the *Leopoldsteiner See*, which is shut out from view from the road by a low intermediate ridge. This charming lake occupies the lower end of a glen that runs deep into the mass of the Brandstein. The entire glen has been converted into a preserve for game by the proprietor, Prince Lichtenstein, and it contains no habitations, except a gamekeeper's lodge at Seeau, above the lake, and a few herdsmen's huts. The ordinary way is to follow the Hiefiau road for about a mile before turning aside into the road that leads to Seeau, but it is shorter to follow a track that turns to the l. and winds gently up-hill, just as you leave the town of Eisenerz. After rounding the corner of the hill, where you lose sight of the town, you descend a few paces before reaching a little wayside oratory, and then follow a pleasant shaded track that still descends gently (in all about 200 ft.) until it joins the carriage-road leading to the keeper's lodge at Seeau (about 1,960'). This stands near the head of the flat that extends more than a mile above the present limits of the lake. The scenery here is not grand, but singularly charming. Nothing is wanting in colour or form, in the union of freshness and life with perfect quiet, that poets dream of, but do not find, in the valleys of Thessaly or Arcadia. From the Seeau the ascent commences by a very rough wheel-track (made, as it would seem, for conveyance of timber) up a partially wooded slope. There is a short cut, very rough and steep, and easy to miss, so that the lonely traveller does better to keep to the track, which winds far to the l., returning at

a much higher level. Whichever course be taken, the traveller, after ascending at least 1,600 ft., finally reaches the summit of a projecting promontory of rock, flat at the top, and forming a pleasant park-like plateau, with scattered clumps of trees. The track bears eastward, descending a few feet till it reaches the verge of the plateau, when it turns sharply to the l., and follows a sort of ledge along the extremely steep slope of the Zangenkopf. The rock scenery here rises to grandeur. The track, which, though quite safe, is in places guarded by a handrail, overlooks a deep cleft, beyond which rise tiers of limestone precipices, that enclose the head of the Leopoldstein glen, crowned by the summit of the Brandstein. The botanist, who may collect a great many rare plants throughout this walk, will be especially interested by seeing the very rare fern, *Asplenium fissum*, growing abundantly on the slopes of debris above the track. This mounts gently, nearly due N., to a gap that appears from below as if it were the summit of the pass, but is found to lead into an enclosed basin called *Erzboden*, where stand some herdsmen's huts. Unless it be to seek milk, or guidance in foggy weather, the traveller need not approach them, as the track leaves them to the rt. The final ascent is easy. About 200 ft. below the actual summit, a stunted sycamore tree is seen at an unusual elevation, and a few minutes after the traveller reaches the summit-level of the *Eisenerzer Höhe* (4,760'). In descending it is best to keep to the track; the ground is so rough and broken that time is lost in attempting short cuts. At a point where the path divides, the l. hand course must be taken by those going to Wildapen, as the rt. hand track leads to an alp. The general direction to be followed is henceforth nearly due N. The descent is for some way both steep and rough, but nowhere difficult. The path crosses to the rt. bank of a little torrent, and then along the ravine locally called Schreyer. The steep part of the way comes to an end at a farm, at

the upper end of an enclosed mountain basin, wherein stands the hamlet of *Klein-Wildalpen*. A gentle descent from the farm leads to the flat bottom of the basin, but Klein-Wildalpen is passed at a considerable distance to the l., while the traveller keeps to the E. side, till, after crossing the torrent, he falls into the good road leading from that place to the Salza. This passes through a narrow gorge, almost equal in beauty to any of the other scenes passed through on the way. The torrent, which has suddenly grown to importance, being fed by copious springs from the base of the mountains on either side, rushes along the rt. hand, and it is almost with regret that the traveller reaches its junction with another stream from the glen of the Sieben Seen, and, after crossing to the rt. bank of the united torrent, descends to the main road, which here runs at a considerable height above the Salza. A few minutes more take him to Zisler's comfortable inn (Rte. B).

The traveller who contents himself with making the tour of the Hochschwab without intending to reach the upper part of the mountain, cannot do better than keep to the road along the Salza as far as Weichselboden (see Rte. B), and follow the track thence to Wegscheid. This lies through a singularly wild glen called *Die Hölle*, a preserve for chamois formed by the late Archduke John, now owned by his son. A road, once passable for light carriages, but now cut up by mountain torrents, leads through the lower half of this glen, and then up a slope on the traveller's l. hand to a pass called *Kastenriegel* (3,556'), whence he descends through forest, and at last over meadows, through a little glen that opens into the Aschbachthal, a few hundred yards above *Wegscheid*, on the road from Mariazell to Bruck (Rte. C). This point is reached in 3 hrs. from Weichselboden; and it is a pleasant walk of 2½ hrs. more to Seewiesen. The writer passed in very bad weather, but it appeared to him that the finest scenery of the *Hölle* is in the uppermost

branch of the glen, which bears to the rt., where the ascent of the *Kastenriegel* is commenced. Seewiesen lies on the other side of the ridge, and doubtless the keepers are acquainted with a path across it which would be steep but much more interesting than the easy and circuitous course by the *Kastenriegel*.

The ascent of the *Hochschwab* (7,441') is, in various ways, an interesting excursion. Being the highest summit in the Alps east of the Hoch Thor, it fairly overlooks most of the surrounding ranges, and the view reaches northward to the valley of the Danube, and eastward beyond the frontier of Hungary. The botanist is rewarded by finding most of the rare plants of this region that are enumerated in § 53, Rte. I; and the mountaineer will find craggy heights on a grander scale than anywhere in the neighbouring Alps, unless it be in the *Johnsbachthal*. The usual course is to sleep at some herdsman's or gamekeeper's hut on the mountain. An active walker, who can accomplish a long excursion with few and short halts, may, however, take the summit on his way from the valley of the Salza, and descend on the other side to Seewiesen or Afenz within the day. For this purpose he should sleep at Weichselboden, and make the ascent from that place. The best way is by the *Hohe Ring* (5,283'), a singular circular hollow in the mountain (reached from the *Hölle* glen), where the sportsmen are posted for the *Treibjagd*, while numerous herds of chamois are driven by the keepers from the surrounding heights into the enclosure. Thence a rather steep path leads to the summit. There is an easier but less interesting track, practicable on horseback, which was made at the expense of the late Archduke John. The panorama includes all the best-known peaks of the Alps east of Tyrol, the *Dachstein*, the *Hoch Golling*, *Grossglockner*, *Terglou*, &c. The top of the mountain is a plateau of considerable extent, rifted by deep gashes that form as many ravines, and, in consequence, the valleys

surrounding the mountain are all concealed from the actual summit. About  $6\frac{1}{2}$  hrs. are allowed for the ascent from Weichselboden; but in this district the tourist is supposed to be a tardigrade animal. Starting from Wildalpen, the shortest way is by Gschöder (Rte. B), halfway to Weichselboden. The writer was there informed by a local guide that the way to the summit lies through the Antengraben. Schaubach asserts that the opening of that glen is passed on the l. hand, and that the way is by the Antenkahr. It is reckoned to be shorter by  $\frac{1}{2}$  hr. than the way from Weichselboden. A longer way, which involves passing a night on the mountain, is by the *Sieben Seen*. This is a group of tarns, lying at the head of the wild glen locally called Höllenmeister, which is passed on the l. hand as the traveller ascends from Wildalpen to the hamlet of Klein-Wildalpen. The head of that glen is enclosed by the crags of the ridge connecting the Brandstein with the Hochschwab. It is possible to follow the ridge to the summit of the latter mountain, but the distance is considerable, and the ground said to be very rough. It is also possible to descend from the ridge S. of the Sieben Seen either into the head of the Tragösthäl, or to that of the *Ilgenthal*. It is through the latter valley that the main branch of the Thörlbach descends to meet the Seebach at Thörl, below Aflenz (Rte. C). The chief place is *St. Ilgen*, with iron-works and quarries. In case of need, the traveller may doubtless find there tolerable night-quarters. The Hochschwab is accessible from an upper branch of the *Ilgenthal* called Traunwiesen. By one or other of the paths here enumerated the tour of the mountain is completed.

### ROUTE F.

#### Waidhofen on the Ips to Mariazell, the Oetscher.

No reliable information as to distances.

The valley of the *Ips*, also written *Ipps*, or *Ibbs*, deserves to be enumerated among the agreeable approaches to the Alps surrounding Mariazell. To the traveller who wishes to spend a few days amid pleasing scenery, in a valley little haunted by tourists, it will be no objection that the *Ips* is one of the most sinuous streams in the Alps, so that while the distance in a direct line from Waidhofen to its source at the foot of the Oetscher is not more than 19 miles, the course of the stream must cover quite three times that distance.

*Waidhofen* (Inns: Goldene Schiff, best; Ochs; Pflug; and other) is a thriving little town, with iron-works. The neighbourhood is interesting to geologists because of an *island* of serpentine rock which rises through the overlying secondary limestone—belonging to the so-called *Aptychus* formation. On the W. side of the town is a deposit of lignite, worked for fuel, abounding in fossils. Omnibuses run twice a day in  $1\frac{1}{2}$  hr. to Aschbach, a station on the line between Vienna and Linz. [Charge for a separate carriage to meet the express train, 4 fl. 50 kr.]

Those who wish to take the direct way to Mariazell go due E. by *Ipsitz* and *Gaming* (Rte. G), but the more agreeable way for the pedestrian follows the valley of the *Ips*. The scenery is described as extremely romantic, especially about *Opponitz* and *Hollenstein*. At the latter place, where there is a

decent inn, the Ips approaches near to the valley of the Enns, and a road crosses a low pass to *Weyer* (§ 47, Rte. A), which is only about 6 m. distant. A good carriage-road follows the l. bank of the Ips from Hollenstein to *St. Georgen*. [This latter place may be reached from *Waidhofen* in much less time than along the course of the river by a road that leads about due S. from *Ipsitz*.] Following the upward course of the Ips for some 3 miles, the road and the valley turn abruptly southward, and follow that direction as far as *Gössling*, where there is the best inn in the valley, kept by *Reichenpfader*. Here the frequented road from *Reifling* on the Enns, which crosses the *Mendling* pass (see Rte. C), enters the valley of the Ips, and ascends NE., first by the rt., then by the l. bank to *Lunz*. This place lies in a hollow enclosed by mountains, not high, but very bold and picturesque. A short glen containing four small lakes extends southward to the crags of the *Dürrenstein* (6,142'). At *Lunz* the pedestrian leaves the road, and follows the stream for several miles eastward; but on approaching the W. base of the *Oetscher* the valley again turns S., and a road leads along it to *Langau*, where there is a tolerable inn. From hence the road mounts to *Neuhaus*, at the head of the main branch of the Ips. There is there a large but uninviting inn, chiefly intended for the accommodation of pilgrims. A track leads thence across the ridge of the *Zeller Rain*, and past the *Erlaf See* to

*Mariazell* (Rte. B).

The ascent of the *Oetscher* (6,320') is best made from *Lakenhof*, lying in a little lateral glen whose torrent joins the Ips about a mile below *Langau*. The position of this mountain, which lies farther north, and more detached from the central range of the Eastern Alps, than any summit of nearly equal height, makes it admirably suited for a panoramic view, in which the low country towards the Danube is finely contrasted with the rugged summits of the *Dachstein*, *Johnsbach*, and Hoch-

schwab ranges. The view southward is not nearly so extensive as that from the *Hochschwab*, but here the spectator sees more of the surrounding valleys, and looks down upon several small lakes. Zealous lovers of distant views pass the night at a comfortless hut (*Ochsenhütte*); but, save milk (and sometimes butter), they find no provisions except what they may take with them. Commanding so extensive a view, and being so easily reached from *Vienna*, the *Oetscher* is a frequent resort of Austrian tourists. A guide-book (*Reisehandbuch*) to the mountain has been published by *Becker*, and the panorama has been engraved by *Herr Urlinger*, parish priest of *Scheibbs*. The shortest way from *Vienna* is that noticed in the next Rte. The *Flora* of the *Oetscher* is very interesting to botanists not familiar with this region, but by no means equals in variety that of the *Hochschwab*.

#### ROUTE G.

##### PECHLARN TO MARIAZELL, BY THE ERLAFTHAL.

About 28 m. to *Gaming*. Thence to *Mariazell*,  
6 to 7 hrs. walking.

This is the line of road usually chosen by Austrian tourists wishing to take the ascent of the *Oetscher* on their way to *Mariazell*. The scenery is not equal to that of the *Ips*; but this observation does not apply to the portion of the *Erlafthal* between *Kienberg* and *Mitter-*

bach, which, though little frequented, offers very fine scenery.

*Pechlarn*, the next rly. station beyond MÖlk, on the *West-bahn*, leading from Vienna to Linz, is a very ancient place, mentioned in the *Nibelungen Lied* as the home of Rüdiger, the noble-minded hero of the second part of that poem. It stands close to the junction of the Erlaf with the Danube. Post-horses are not found above *Scheibbs*, about 17 m. up the main valley. About 6 m. farther, at *Kienberg*, the Erlaf receives from the SSW. the slender torrent of the *Gamingbach*, and the carriage-road deserts the course of the greater stream to follow the banks of the latter to

*Gaming*, a very ancient town, with a fine Carthusian monastery dating from the 14th century, which was suppressed by Joseph II. To the regret of all lovers of art, the rich architecture of the edifice, which was handed over to the occupation of peasants, is in progress of degradation and decay. From *Gaming* a frequented road crosses the low ridge of the *Grubberg*, and descends to *Lanz* on the *Ips* (see last Rte.), only about 9 m. distant. In descending from the *Grubberg* another road turns off to the l., descends to the *Ips*, and reaches *Langau*, whence *Mariazell* may be reached by *Neuhaus*, as mentioned in last Rte. The pedestrian who intends to ascend the *Oetscher* on his way to *Mariazell* need not follow the road across the *Grubberg*, there being a much shorter path from *Gaming* to *Lakenhof* across the *Polzberg*.

The very interesting way from *Kienberg* to *Mariazell* along the valley of the Erlaf is practicable only on foot. The stream flows for several miles through a rocky defile under the E. and NE. declivity of the *Oetscher*. Foot-paths lead through it from one isolated farmhouse to another, with frequent ascents and descents which lengthen, but increase the picturesqueness of the way. It is counted 4 hrs.' walk from *Kienberg* to a point where a stream descends from the *Annaberg* (Rte. C) to join the Erlaf. If tempted by the *Lassing* waterfall

(Rte. C), the traveller will quit the banks of the stream to join the road from *Annaberg* to *Mariazell* at *Wienerbrücke*; but otherwise he will follow its banks to the upper end of the defile near to *Mitterbach*, where he finally joins the road about 4 m. from *Mariazell* (Rte. B), unless he make a slight detour to visit the *Erlafsee*. The botanist may find *Ranunculus anemonoides* of *Zahlbrückner* in lowland pastures in two or three places near the boundary between Austria and Styria, not far from *Mitterbach*.

## ROUTE H.

### PAYERBACH TO MARIAZELL, BY THE HÖLLENTHAL.

To the inhabitants of Vienna and its neighbourhood the small mountain district that extends beyond the Styrian frontier between *Mariazell* and *Wiener-Neustadt*, and terminates with the comparatively lofty summit of the *Schneeberg*, naturally assumes a degree of importance that it cannot possess in the eyes of foreigners. The native who can start by an early train, and return to the streets of the capital at night, after enjoying a day's walk in valleys of thoroughly alpine character, amid scenery that here and there approaches the verge of grandeur, may be forgiven if his thankfulness takes the form of exaggeration, and if in simple good faith



he believes the Höllenthal to resemble the valley of Lauterbrunnen, and calls Buchberg the Chamouni of Austria. The stranger who sees this range from a distance is apt to fall into a contrary error. As the mountains are of the plateau class, though showing very bold faces of rock in the interior valleys, he is likely to suppose the scenery to be tame and uninteresting. It is true that there is nothing here that need detain long a traveller wishing to visit only the most remarkable portions of the Eastern Alps; but one who by any motive is induced to spend some time at Reichenau, will find that from that centre he may make a great number of pleasant expeditions. It is true that the finer scenery is confined within rather narrow limits, and the pedestrian perhaps does well to adopt the gentle pace dear to the inhabitants, lest he should too soon find that he has left the most interesting part of his day's walk behind him. The best plan for an active walker, starting from Vienna and bound for Mariazell, is to go on the first day from Buchberg, or the Baumgartnerhütte, to Reichenau, crossing the Schneeberg (see next Rte.). On the second day he should visit the Höllenthal and the Nasswald, crossing the Nasskamp to Kapellen; and on the third he may reach Mariazell by the Todten Weib and the Freinsattel (Rte. B).

*Payerbach* (Inns: Mader's Gasthaus, clean and reasonable, civil people; two or three others of less note) is mentioned in Rte. A as the point where the railway descends from the Semmering to cross the Schwarzau torrent. Five trains daily run between this station and Vienna in about 3 hrs., besides the express, which takes  $1\frac{3}{4}$  hr. Omnibuses run from the station to

*Reichenau* (1,562'). A few years ago this was a quiet alpine village, prettily situated between ranges of hills that stretch upwards, on one side to the Schneeberg, on the other towards the Raxalps. The increasing resort of visitors during the summer has led to the construction of hotels, villas, and

lodging-houses, partly isolated, partly in the village. The children of the Imperial family pass the summer months in a pretty villa, and near it is the Hotel Waissnix, a first-class establishment, with first-class prices, very prettily situated, and surrounded by pleasure-grounds. In the village is Fischer's Gasthaus, a large building rather better fitted up, and dearer, than Mader's at Payerbach. The Schlosswirthshaus is plain but clean, as is Oberdorfer's inn at Edlach, some way out of the village, on the way towards Prein.

The pedestrian going from Payerbach to the Höllenthal, may take a track that turns to the rt. from the road soon after passing under the rly. viaduct, mount a knoll covered with fir trees, and follow a pretty path that passes behind the Hotel Waissnix. On reaching the Schwarzau he may best follow the l. bank of that stream, till, on approaching the Kohlbauer, he returns to join the road. Guides and porters abound at Reichenau, and even an experienced mountaineer, intending to ascend any of the higher summits, may find occasion for their assistance. Paths being numerous, it is often very difficult to choose between them. Some have been long abandoned, and only lead the stranger into difficulties. The upper portions of the mountains are of plateau character; it is often difficult to find the way, and quite impossible when clouds come on. Simon Tanzer, Johann Lanner, Ranner, and Johann Tarrer are recommended as guides. The botanist should give a preference to Lorenz Alfons. He lives at Prein, but is sometimes to be heard of at Reichenau. The tariff for guides and porters is found at the railway-station, and at all the hotels, so that it need not be given here. The ascent of the Schneeberg is noticed in the next Rte. That of the *Raxalp* is often made, especially by botanists, but the view is not equally extensive. The highest point—*Heukuppe* (6,575')—is on the S. side of the irregular broken mass of the mountain which divides the Schwarzau from the upper course of the

Mürz. The *Grünschacher*, whose highest summit is called *Jakobskogl* (5,797'), adjoins the Raxalp, on the NE. side, and may almost be considered a part of the same mountain. Both may be most conveniently approached from Prein, or from the road between that place and Reichenau; but the *Grünschacher* is also accessible from the *Kaiserbrunn* in the *Höllenthal* (see below). There are numerous *Sennhütten* on these mountains, as well as the *Schneeberg*, whereat strangers seek shelter, either with a view to reach the summit early in the morning, or benighted on their return to the valley. Few of them can offer anything besides hay to sleep upon, and milk and butter being sometimes added. The natives not uncommonly make unreasonable demands on strangers. The best night-quarters for the ascent of the Raxalp or *Grünschacher* are found at the *Lichtenstern Alp*. Here, at the huts of *Sonnleitner* and *Raxenbauer*, coffee, and, occasionally, meat and wine may be found. None of these huts have spring water; and the people depend on snow-water derived from clefts in the limestone rock.

A tolerably good road for light and narrow carriages leads from Reichenau through the *Höllenthal*, the distance to the *Singerin*, at the junction of the *Nassthal*, being 3 hrs.' moderate walking, not reckoning halts. About 40 min. above Reichenau, after passing on the l. hand the opening of the *Preinthal* (farther noticed below), the road reaches the large iron-works of *Hirschwang* (1,671'). Immediately above it the rocks close together on either side of the stream, where a large 'Holzrechen' is erected to arrest floating timber from the upper valley. This point, which is called *Kohlbauer*, is the opening of the *Höllenthal*. In a few minutes the traveller loses sight of the entrance, and finds himself enclosed between steep rocky slopes, which have unfortunately, in the lower part of the valley, been almost completely divested of timber. The scenery is very pleasing, and improves as the traveller advances;

but the descriptions given of it are misleading. It is true that on both sides of the stream the ranges extending from the *Schneeberg* above the l. bank, and from the Raxalp on the opposite side, show at intervals very fine crags; but as these rise alternately on either hand, the defile is nowhere confined between opposing walls of rock, and there is no part of the valley where a moderate mountaineer would find the least difficulty in mounting the slope on one side or the other. After  $1\frac{1}{2}$  hr.'s walk from Reichenau the traveller reaches the *Kaiserbrunnen*, a copious spring issuing from the base of the *Schneeberg*, whose celebrity is much increased by the rarity of spring water among the limestone strata of the surrounding mountains. It is intended to conduct the water of this and another spring near *Buchberg* to Vienna. Near the spring is an indifferent inn, and four or five other houses. A ravine called *Schlossalpengraben* descends from the *Schneeberg* to this place, and by that way a steep path mounts to the *Baumgartnerhütte* (see next Rte.). It is a direct way to the summit, but rough and steep, to be recommended only to mountaineers. On the opposite side of the valley a path mounts through the *Staudengraben* to the *Grünschacher*. The finest scenery of the valley is between the *Kaiserbrunnen* and the opening of the *Grösse Höllenthal*, a distance of 40 min. on foot, during which the road crosses the stream several (at least three) times. On crossing a streamlet of clear water that issues from a very narrow cleft on the SW. side of the valley, the traveller perceives that this gives access to a remarkable 'Kessel,' or caldron, enclosed on every side except the narrow opening, by very steep rocks. It may be about 2 m. in length, and  $\frac{1}{2}$  m. broad. After passing the streamlet, a path is seen to the l., with a finger-post directing the stranger to the *Grosse Höllenthal*. It is well worth while to follow this path for some distance. The enclosure is an Imperial preserve for chamois, and

with keen eyes the traveller can scarcely fail to see the animals on the rocky ledges above him. An extremely steep hunter's path, attractive to the mountaineer, but said to be dangerous after rain, owing to the fall of detached rocks, leads from the head of the caldron to the plateau of the Raxalp. About  $1\frac{1}{4}$  hr. above the opening of the Grosse Höllenthal, on the same side of the main valley, is the opening of a narrow glen or ravine which is not mentioned by German explorers of this district, but seems to offer striking scenery. 20 min. farther, or  $2\frac{1}{2}$  hrs. from Reichenau, is the little inn 'Beim Weinzeller.' The accommodation must be very limited, but it has a neat appearance, which is wanting in most of the mountain inns in the valley. Here the valley begins gradually to open. The road makes a circuit along the rt. bank of the Schwarzau, which might be cut off by the pedestrian if there were a continuous path on the opposite side. In  $\frac{1}{2}$  hr. more the traveller reaches the opening of the comparatively broad woodland glen of the Nassthal, at a point where the Höllenthal mounts nearly due N. Close to the junction, on a road that turns WSW. through the Nassthal, is the country inn known as 'Die Singerin.' It supplies necessaries, and good beer; but is not an attractive hostelry. Here tourists from Reichenau who intend returning to that place usually halt.

The most interesting way hence to Mariazell is through the *Nassthal*, the scenery of which is decidedly finer than that of the upper end of the Höllenthal. It is a comparatively short glen, whose torrent is formed by the union of several mountain rivulets at the base of the Schneevalp. After flowing ENE. for 6 or 7 miles, it joins the Schwarzau at the Singerin. The entire glen was one vast forest without inhabitants, when, in 1784, the ancestor of Count Hoyos, the proprietor, summoned hither an intelligent forester, named George Huebmer, from Gosau, in the Salzkammergut. By conducting

a stream of water from the upper basin of the Mürz along the slopes of the Nassthal, he provided an easy and inexpensive mode of transport, by which heavy logs are floated down to the Höllenthal, and thence carried by the Schwarzau to Wiener Neustadt. A canal from that place to Vienna completes the communication between this remote valley and the capital. The colony of workmen summoned by Huebmer from his native district are Protestants, and they have their own clergyman and place of worship at *Oberhof*, about  $1\frac{1}{4}$  hr. above the Singerin. The easiest, and perhaps the most picturesque, way from hence to the valley of the Mürz is by following the main stream of the Nass through a defile to a pass called *Nasskamp* (3,879'), between the Raxalp and the Schneevalp, whence a path leads down to *Kapellen* (Rte. B) in about 6 hrs. from the Singerin, or 9 hrs. from Reichenau, exclusive of halts. Another way is to ascend the Schneevalp, and descend thence to Neuberg, in the upper Mürzthal. For that purpose, it would be necessary to sleep at the Singerin, or at an inn (Engleitner's?) on the way from that place to Oberhof. The more direct way to Mariazell would be to follow the NW. branch of the Nassthal, by the N. side of the Schneevalp, to the head of the glen of the *Kalten Mürz*, and so to the hamlet of *Frein* (Rte. B), whence there is a choice of paths leading to Mariazell.

Keeping to the main valley of the Schwarzau, the traveller follows the road northward from the Singerin. After about 1 m. the more frequented way turns to the rt. and leads to Guttenstein (next Rte.). A less frequented track, practicable for light vehicles, is carried up the main valley to the village of *Schwarzau*, chiefly inhabited by woodcutters. Before reaching that village, a path turns aside to the l., and leads very directly, a little S. of W., to the hamlet of *Frein*. The writer has no particulars as to this path, but it appears to be undoubtedly the most direct course from Reichenau, or Buchberg, to Maria-

zell, which may thus be reached in one day from the Singerin, or from the better inn at Hôhbauer, mentioned in the next Rte. The Hôllenthal extends northward for several miles from Schwarzau, the last village being *Rohr* (2,028'). Paths lead thence in various directions over the hills to Guttenstein, Hainfeld, &c. At *Pichl*, about 5 m. below Rohr, another path turns westward, and leads over a low pass to *St. Aegid*, on the main branch of the Traisen, and a country road, which quits the rt. bank of the Schwarzau  $1\frac{1}{2}$  m. above Pichl, goes to *Hohenberg*, on the same stream. From *St. Aegid*, or *Hohenberg*, the traveller may either follow the course of the Traisen to *St. Pölten*, or turn southward and reach Mariazell by the head of the valley of the Salza (Rte. C).

It has been seen that the traveller who ascends through the Hôllenthal from Reichenau has a choice among many different paths for reaching Mariazell. There is another course deserves to be here pointed out, and the more so as it passes by a place which many persons may consider the most desirable head-quarters in this neighbourhood. This way lies through the *Preinthal*, the opening of which is passed on the l. hand as the traveller approaches the entrance to the Hôllenthal from Reichenau. A tolerable road leads to the village of *Prein*, but for the remainder of the way it is so rough as to be ill fitted except for walking or riding. There is a good country inn (Ecklin's) at the village of *Prein*, fully 2 hrs. from Reichenau, and higher by at least 1,200 ft. As already mentioned, this is the best starting-point for the ascent of the Raxalp and the Grün-schacher, and is the home of Lorenz Alfons, a guide who knows the stations for most of the rarer plants in this neighbourhood. Above the village, the track mounts to the summit of the ridge dividing this from the valley of the Mürz. The name *Gschaid* given to the pass (3,526'—or, according to Schultes, 3,300') is generic, being commonly applied in this district to the

point where a dividing ridge (or *watershed*), between contiguous valleys, is crossed. The easiest path to the Raxalp—called *Schlangensteig*—mounts from the summit of the pass.

The descent towards the Mürz, which lies through a short glen called *Raxgraben*, is more gentle than the ascent. Passing the hamlet of *Raxen*, Kapellen is reached in 3 hrs.' steady walking from *Prein*, or 5 hrs. from *Reichenau* (see Rte. B).

#### ROUTE 1.

#### WIENER NEUSTADT TO MARIAZELL. THE SCHNEEBERG.

It is a disputed point among tourists from Vienna whether the scenery of the Hôllenthal, noticed in last Rte., or that of the valley of Buchberg, on the NE. side of the Schneeberg, be the more attractive. It is easy in fine weather to combine a visit to both places on the way to Mariazell, by crossing the mountain that separates them. Those who wish to spare labour will prefer to make the circuit of the mountain by the course noticed below, while the traveller who does not like to quit a carriage-road may see something of the best scenery by the road which leads from Wiener Neustadt to the Hôllenthal through Guttenstein. Those who have already seen the Hôllenthal have a choice of

several other roads, all offering pleasing scenery, by which to reach Mariazell from Wiener Neustadt.

1. *By Buchberg.* There are three tolerably direct ways to Buchberg, of which the most frequented, and, on the whole, the most agreeable, is that by the road through the *Sierningthal*. The *Ternitz* station, on the rly. to Gloggnitz, is close to the opening of that pretty valley; but, as vehicles are not usually found there, those who do not prefer to walk stop at *Neunkirchen* (Rte. A). The distance from Neunkirchen is  $9\frac{1}{2}$  m., and about  $1\frac{1}{2}$  m. less from Ternitz. Charge for a carriage from Neunkirchen—5 fl.; from Buchberg to Ternitz—4 fl. The scenery of the valley is very pleasing, though on a small scale, especially at the defile of *Stixenstein*, overlooked by the ruins of a castle of that name. At Edenhof, where the *Rohrbachgraben* opens on the l. hand, a path mounts about due E. to Reichenau. At the hamlet of *Rohrbach*, on the way, two little inns have been opened for the accommodation of tourists. A little above Edenhof, the narrow glen of the Sierningthal opens into a broad green basin, enclosed between steep hills, except on the WSW. side, where the mass of the Schneeberg rises very boldly to a height of nearly 5,000 ft. above the valley. The population is distributed among many scattered hamlets, the principal of which, named from the noble beech trees that abound in the valley, is

*Buchberg* (Inns: Doppler's Gasthaus in the village is good; still better is that in the adjoining hamlet of Sierning, kept by the widow Salfund). There are many pretty short walks, of which that leading to the pavilion on the Romeikogl deserves mention for the sake of the view. Johann Gruben, Peter Tisch, and Jakob Jagelsberg are recommended as guides for longer excursions.

The ascent of the *Schneeberg* is most conveniently made from Buchberg, and may be taken on the way from that place, either to Reichenau, or to the

upper part of the Höllenthal. The mountain is essentially a plateau, lying between the nearly parallel valleys of the Schwarzau and the Sierning. The plateau, called Kuhschneeberg, reaches a height of about 5,400 ft., and towards its eastern verge it is bordered by a much higher ridge, collectively called Hochschneeberg. This includes the three highest summits—the N., the

*Kaiserstein* (6,740'), commanding the finest view over the valley of the Danube, in the middle the *Alpengipfel* (6,809') the highest point, and to the S. the *Waxriegel* (6,182'). The ascent of the Alpengipfel is counted as from 4 to 5 hrs. from Buchberg, exclusive of halts. There is one good spring on the way, called 'das kalte Wasser,' where it is usual to halt for breakfast or lunch, as towards the top it is often impossible to find water. Those who would reach the summit very early should sleep at the Baumgartnerhütte (5,281'), which lies but a short distance to the l. from the direct course to the Alpengipfel. It may be called an inn, as it offers several rough beds, coffee, wine, and occasionally meat. The Ochsenhütte, higher up by a few hundred feet, supplies but wretched accommodation. Returning from the summit to the Baumgartnerhütte, the traveller may thence descend to Reichenau, or else by a very steep path to the Kaiserbrunnen, in the Höllenthal. Those who wish to descend through the finest part of the latter valley to Reichenau should direct their steps WNW. from the summit of the Alpengipfel, over the plateau of the Kuhschneeberg, and descend thence to the inn of the *Höhbauer* (mentioned below), on the road from Guttenstein to the Höllenthal. The landlord of this inn has a *Hütte* on the plateau of the Kuhschneeberg, where travellers who ascend the mountain from the W. side find tolerable night-quarters. Travellers who wish to reach the Höllenthal from Buchberg without ascending the Schneeberg, or traversing the pass to Reichenau through the Rohrbachgraben, should follow the Sierningbach through the glen

of *Mamau*, as the upper part of the valley is locally called. Traversing a low pass in 2½ hrs. from Buchberg, they join the road through the *Klosterthal* from Guttenstein to the Höllenthal. On the way the traveller passes near the *Sebastiansbach*, a pretty waterfall, which will be more appreciated if seen at the beginning, rather than the end, of a tour in the Eastern Alps.

Besides the road to Buchberg by the Sierningthal, there is another carriage-road leading directly, about due W., from Wiener Neustadt, not quite so interesting in point of scenery, though the view on the way between Grünbach and Buchberg is extremely fine. An intermediate path goes from Neunkirchen to *Wirflach*, and thence by a wild cleft in the limestone rocks, along the *Schrattenbachgraben* to the ruined castle of *Schrattenstein*. It is a walk of 2½ hrs. from that place to Buchberg by the *Strengberg*.

2. *By Guttenstein*. A good road for light carriages goes as far as the Höllenthal, about 35 m. from Wiener Neustadt. The little town of Guttenstein, lying in a very picturesque valley, is a convenient stopping-place for a tourist exploring the northern outliers of the *Schneeberg* range. The interest of excursions among these valleys is much increased by the numerous ancient castles, some in ruins, some kept in habitable condition, that pierce through the newer strata of modern civilisation, and afford fixed points round which the vague memories of past ages have crystallised into many a strange form of myth and popular tradition. The varied fortunes of the earlier rulers of Austria, and in later days the vicissitudes of the Turkish wars, supply the staple material for many a page of legendary history. The *Piestingthal*, through which lies the way to Guttenstein, opens a few m. NW. of Wiener Neustadt, and the road lies across the plain for at least 6 m. to *Wöllersdorf*, a manufacturing village, a little above the opening of the valley. By an old watch-tower above the village called *Höllthurm*, is the entrance to a very ex-

tensive imperfectly known cavern, said to extend from hence to the castle of *Starhemberg*. The road passes in succession *Unter-Piesting* (Inn: Hirsch), overlooked by the castle just named, and *Ober-Piesting* (Inn: Zum grünen Baum). Above *Piesting* the valley is commonly called 'der kalte Gang.' From the hamlet of *Wopfing*, one of the most agreeable walks in this district crosses the ridge dividing this from the Buchberg valley. It is a good bridle-track, constructed at the cost of the Archduke Leopold to connect a shooting lodge belonging to him with the valleys on either side. The finest points of view are called respectively *Kleinkanzel* and *Grosskanzel*. The descent to Buchberg is steep and slippery in wet weather, and the distance about 5 hrs., exclusive of halts. Above *Wopfing*, the *Piestingthal* assumes a sterner character, though large factories recurring at intervals contrast with the wild aspect of two defiles through which the road passes in succession.

*Bernitz* (said to have a good country inn) is passed, and the rocks again close together on either side, but finally open out into the picturesque basin wherein stands

*Guttenstein* (Inns: Bär; Presoli), a pretty little town standing near the junction of three glens. Through the westernmost of these—the proper head of the *Piestingthal*—lies a very interesting way to *Rohr*, in the upper valley of the *Schwarzau* (Rte. H), passing through the remarkable defile of *Steinpiesting*, overlooked by a castle of the same name whose history abounds in romantic incidents, now the property of Count Hoyos. Another glen, the *Längapiestingthal*, opens due S. of Guttenstein, and by that way a path crosses the intermediate ridge at a point called 'am umgestürzten Kreuz' (4,223'), and descends to Buchberg, gaining on the way fine views of the *Schneeberg*. The road to the Höllenthal mounts SW. from Guttenstein, through the *Klosterthal*, a glen intermediate to the two other branches of the *Piesting-*

thal already mentioned. It is the longest branch of the valley, following for many miles a SSW. course, with a gentle upward inclination till, at its head, it turns due W., and mounts to the Gschaid (2,831'), or watershed, dividing the waters of the Piesting from those of the Schwarzau. On the way, in descending towards the latter stream the good inn of the Höhbauer (mentioned above) is passed by the roadside, and soon after the road reaches the banks of the Schwarzau, about  $1\frac{1}{2}$  m. above the Singerin. The various paths and roads leading thence to Mariazell are mentioned in Rte. H.

3. By *Altenmarkt* and *Hainfeld*. The road here noticed lies on the verge of the district described in this §, and it suffices to say that there is an agreeable route to Mariazell for carriage tourists through the *Triestingthal*, which opens near the *Leobersdorf* station, between Wiener-Neustadt and Baden (Rte. A). It passes by *Pottenstein* and *Altenmarkt* (Inn: Lamm). From the *Hocheck* (3,403'), above the latter town, a fine panoramic view of the neighbouring alps is gained with little trouble. The road mounts by *Kaumberg* (Inn: Goldene Kreuz) to the ridge dividing the waters of the Triesting from those of the Traisen (Rte. C). The distance thence to Lilienfeld in the main valley of the Traisen is about 16 m., passing on the way by Hainfeld and St. Veit.

Visitors who wish to explore thoroughly the valleys of the Schneeberg district should consult Dr. Weidmann's 'Alpengegenden Niederösterreichs und Obersteiermarks.'

## SECTION 55.

## VALLEY OF THE NORTHERN GURK.

IN describing the great central valley of the Styrian Alps which is drained by the Mur, it has been seen in § 53 that the range known as the Lesser Tauern extends continuously along the N. side of that river from the Radstädter Tauern nearly to Leoben, and that it is drained by comparatively short valleys that pour their waters directly into the Mur on the S. side, or towards the N. into the Enns. The region lying on the S. side of the Mur, between that river and the Drave, whose geological structure is much the same as that of the Lesser Tauern, as it is almost exclusively formed of crystalline and metamorphic palæozoic rocks, presents in its orography very different features. The mountain masses, whose mere outline suggests the belief that they have suffered extensive denudation and degradation, do not form a well-defined continuous range, and they are parted by two deep transverse valleys that extend from N. to S., connecting the nearly parallel valleys of the Mur and the Drave. Speaking of the western portion of the region in question, which is that here described, it will be seen that it is in great part drained by torrents whose general course is from W. to E. These torrents are finally united in a single stream which flows southward to the Drave through the low country E. of Klagenfurt. This stream is the Northern Gurk, so called to distinguish it from the Southern Gurk, which drains a

large portion of Southern Carniola, and joins the Save not far from Agram. If we look at the extensive, though not very elevated mountain region lying between the Lieserthal, which forms the western limit of the Styrian Alps, and the Lavantthal, we shall see that all the principal mountains are at least partially drained by the affluents of the Gurk, and it therefore seems convenient to designate the district in question, not now known by a single comprehensive name, as the Valley of the Northern Gurk. Its limits are fixed by the Mur and the Drave to the N. and S.; by the road from St. Michael in Lungau to Spittal on the W.; and on the E. side by the range dividing the Lavantthal from the Görttschitzthal.

While the geologist and the naturalist find many objects of interest in the extensive district thus defined, it cannot be said that the lover of nature, in her wilder and grander moods, has here equal sources of attraction. The forms of the mountains somewhat too forcibly recall the worn-down, and wellnigh utterly effaced, features of the aged mountain ranges of our own islands; and the prevalence of mining industry, while it adds largely to the wealth of the inhabitants, has made sad havoc among the forests that once covered a large part of the surface. With unimportant exceptions, it may be said, that in this district a moderate mountaineer may follow any direction he pleases, and meets no obstacles that may not be avoided by a merely trifling detour. It therefore seems out of place to attempt to describe paths in any detail, or to do more than point briefly the more interesting spots. To a naturalist, the best head-quarters will be found at Turrach, in the immediate neighbourhood of several of the highest summits. It would be unjust not to add that there are many spots in these valleys that offer very pleasing scenery; and it is only by comparison with the greater attractions of adjoining districts that the scenery of the mountains can be properly called uninteresting.

Local usage has given a variety of names to the mountain groups of this district, without assigning to them well-defined limits. Many of these have acquired a more definite standing in Alpine geography since they have been adopted by Sonklar, whose labours in connection with the orography of the Eastern Alps have been so often referred to in this work, and which, with trifling modifications, the writer usually adopts for his guidance. The following are the chief masses that deserve separate mention. On the W. side is the *Stang-Alpen Group*, whose most prominent summits are the Eisenhut (8,008') and the Königstuhl (7,648'). East of this group, and divided from it by the path from Stadl on the Mur to Glödnitz on the Gurk, is the group of the *Murauer Alps*. From a western ridge that bounds the Stadl Graben on the E. side, two parallel ridges extend eastward on either side of the Metnitzthal, while a third ridge runs NE. to the town of Murau. The Grebenzen (6,128') is generally considered the highest of this group; but numerous other points in the ridges above mentioned appear to the writer to attain a nearly equal height. The range extending southward from near Judenburg, between the Görttschitz and the Lavant, should perhaps be regarded as a single mass, but it is commonly divided into two groups. The northern is called *Seethaler Alps*, or Judenburg Alps, culminating in the Sirbitzkogel (7,863'), which is not inserted on most maps, while its place is usurped by the much lower Wenzelalp (7,023'). The southern, or Saualp Group, so called from its highest summit, the Sau-Alp, or Sau-Ofen, attains only 6,800 ft. Besides these there are several nearly isolated masses, separated from the Stang-Alpen Group by the Gurkthal, Kirchheimerthal, and Kanningthal, that attain a considerable elevation. The most considerable of these are the *Millstädter Alp* (6,845'), the *Wöllaur Nock* (7,019'), and the *Gerlitzten Alp* (6,247'). Another rather considerable ridge, separated from the



Murauer Alps by the Gurk, culminates in the *Schneebauer*.

Among the attractions of this district must be reckoned the lakes lying between Spittal and Klagenfurt. The longest of these—the Wörther See—can scarcely be reckoned as a mountain lake; but the Millstädter See and Ossiacher See are true Alpine lakes, not rivalling in beauty those of the Salzkammergut, but possessing a certain solemn grace that has a charm for serious and meditative dispositions.

Politically, the larger part of this district belongs to Carinthia. The boundary between that province and Styria does not exactly follow the watershed between the Mur and the Drave, though it does not widely depart from it. The NW. extremity of the district, forming part of Lungau, belongs to the Salzburg territory.

It seems convenient to describe here, under one heading, the railway from Villach to Marburg, although the eastern portion, from Unter-Drauburg to Marburg, more properly belongs to the next section.

ROUTE A.

VILLACH TO MARBURG, BY RAILWAY.—  
VALLEY OF THE DRAVE.

	Austrian miles	English miles
Velden . . . . .	2	9½
Krumpendorf . . . . .	2	9½
Klagenfurt . . . . .	1	4½
Grafenstein . . . . .	1½	7
Kühnsdorf . . . . .	2	9½
Bleiburg . . . . .	1½	7
Prevali . . . . .	2	9½
Unter-Drauburg . . . . .	1½	7
Saldenhofen . . . . .	1½	7
Wuchern-Mährenberg . . . . .	1	4½
St. Lorenzen . . . . .	2½	11½
Maria-Rast . . . . .	1½	7
Marburg . . . . .	2	9½
	22	103½

Three trains daily each way in from 5½ to 6¼ hours. Two of these are in correspondence with the trains from Villach, through the Pusterthal, to Franzensfeste.

*Villach* (Inns: Post, fairly good, but second-rate; Goldnes Lamm; and others of inferior note) is the second town of Carinthia (1,593 ft. above the sea), but the population is only about 3,500. For seven centuries it enjoyed virtual local independence, under the Bishops of Bamberg, and at the time when Venice was the emporium of the commerce of the East the position of the town, on the most frequented road between that city and Germany, made it a place of commercial importance. It is likely to regain some portion of its former importance, as the completion of the Rudolfsbahn railway, and that of the new line to Brixen, which unites the line of the Brenner with the other South Austrian railways, must make this one of the most important junction-stations in Germany. As was mentioned in § 53, the Rudolfsbahn will carry the traffic of the iron district of Upper Styria to Villach, and thence going SW. to Tarvis, will approach the Adriatic, either by the valley of the Tagliamento, or by that of the Isonzo. The line to Brixen follows the valley of the Drave and the Pusterthal (§ 51, Rte. A), and together with the line here described, connects the Western

Tyrol with the great railway between Vienna and Trieste.

Villach, said to stand on the site of the Roman station *Villa ad Aquas*, was already a place of some importance when the Emperor Henry II. granted it to the newly-created Bishopric of Bamberg. A mound near the town marks the site of a bloody battle, in which an invading force of Turks were defeated with great slaughter in 1492. The venerable parish church (*Pfarrkirche*) contains a large number of mediæval tombs of the Khevenhüller, Dietrichstein, Trautmannsdorf, and other old Carinthian families. Of interesting excursions in the neighbourhood, the Bleiberg and Dobratsch are noticed in § 62, Rte. A, and the Ossacher See in Rte. G. Travellers going to Klagenfurt, and not much pressed for time, should take the rly. only to *Velden*, at the W. end of the *Wörther See* (1,369'), and go by steamer from that station to Klagenfurt, provided the hours of starting can be made to agree together. At *Velden* there is a bathing establishment frequented in summer, when the lake, which is not fed by Alpine streams, maintains a temperature varying from 70° to 75° Fahr. The scenery of the lake, which lies between low hills, has not much interest except when seen from places on the N. shore, sufficiently high to bring the picturesque range of the Karawankas into the background. The high-road, as well as the railway, keep to the N. shore. At the small station of *Pörtschach* a little steamer ferries passengers across to *Maria-Wörth*. In this part of the broad valley, lying between the calcareous range of the Karawankas and the crystalline slates of the Styrian Alps, the Drave pursues a tortuous course among the tertiary hills on the south side of what appears to be the primitive direction of the main valley, which lies nearly in a straight line between Villach and Völkermarkt. The hilly district between the present course of the river and the lake is called *Sattnitz*. The hills are in great part

densely wooded, and numerous villages lie in pretty retired nooks. The best views of Sattnitz are gained from rising ground near the Krumpendorf Station. After passing the E. end of the lake, which is about 12 m. in length, the railway runs along low swampy ground, and before reaching Klagenfurt crosses the broad canal leading from that city to the lake, which gives passage to barges, and to the two steamers that ply thence to Velden.

[A traveller, not pressed for time, may take a very agreeable way from Villach to Klagenfurt, following for the most part the course of the Drave. From Föderaun, at the opening of the Gailthal (§ 62, Rte. A), a road leads due E. through a trough in the hilly country, and approaches the rt. bank of the Drave at St. Peter. The very picturesque portion of the Drave valley lying S. of Sattnitz is locally called *Rosenthal*. The road, which commands fine views of the adjoining mountains, follows the rt. bank of the river, till it joins the high-road from the Loibl Pass to Klagenfurt (§ 64, Rte. B). From *Windisch-Feistritz*, whence a path leads southward across the Karawankas range between the *Stou* (7,326') and the *Kutschna* (6,862'), the naturalist may well make a slight detour among the Sattnitz hills on the N. side of the river. The base of the hills is mica schist, overlaid with miocene deposits of considerable depth. To reach Klagenfurt the easiest way is by the Loibl road mentioned above.]

*Klagenfurt* (1,437'), the modern capital of Carinthia, is a flourishing town whose stately appearance is out of proportion to its moderate population, now about 15,000. Inns are extremely numerous. In the first class may be reckoned Moser's, small, but good *cuisine*; Europa, new and good; Kaiser von Oesterreich, large, rather old-fashioned. In the second class are ranked the Post; Stern; Sonne; Hirsch; and many others less frequented by strangers. At the Sandwirth is a large restaurant and garden, where the traveller finds good native cookery, often enlivened by music

in the evening. Cray-fish (Krebsen) grow to a great size here, and are much esteemed. Although the city claims a high antiquity, there are few buildings older than the 16th century. The streets are broad, with several large open squares, and the houses generally low; hence the town covers a wide space. The bastions were blown up by the French in 1809, and are now converted into public walks. The most conspicuous object in Klagenfurt is the tower of the church of St. Egidius, 299 ft. in height. It commands a fine panoramic view, best enjoyed at an early hour on a fine morning. Still more interesting, in the writer's opinion, is the evening view from the Kreuzberg, the well-planted hill on the NW. side of the town. Near the church is a café, frequented in the afternoon, and numerous walks lead in various directions. Beyond the range of the Karawankas, the higher summits of the Steiner Alps are seen to SE. and the peak of the Terglou to SW. The uncouth figures of a dragon and giant in the Neu Platz commemorate the destruction of the monster that, according to tradition, once inhabited the site of the town. The Landhaus, or place of meeting of the Estates of Carinthia, contains the coats of arms of the ancient families of the duchy. The palace of the Prince-Bishop of Gurk, whose residence is fixed here, contains a rich chapel, and a garden which is thrown open to the public. Members of the Alpine Club, contemplating excursions in the valleys of the Drave and Save, may safely venture to apply for advice and information to Herr Prettner, the obliging director of an extensive white-lead factory on the N. side of the town. Besides the railway now open, that leads in one direction to Marburg, and in the other to Villach, Klagenfurt is the terminus of the road from Bruck an der Mur by Friesach (Rte. B), and the road to Laibach over the Loibl Pass (§ 64, Rte. B). Of the shorter excursions from Klagenfurt the most interesting is that to the *Predigtstuhl*, about 6 m. SE. of the town. On the

way is the fine *schloss* of Ebenthal, with a park liberally thrown open to the public. The castle of Osterwitz and the Herzogstuhl are noticed in Rte. B.

The inhabitants of Klagenfurt all speak German more or less fluently, but the predominant language of this part of Carinthia is the Wendish (Germ. *Windisch*), dialect of Slavonic, resembling, but not identical with, the *Kraingerisch* dialect spoken throughout Carniola and the coast region of the Northern Adriatic. The stranger travelling, otherwise than by railway, through most parts of Carinthia is struck by many indications showing that the owners of the soil are, as a general rule, residents on their estates. In few parts of Europe out of England is there so much evidence of the local influence of wealthy and intelligent proprietors.

The river Glan, which flows in its much shorter course a sinuous channel nearly parallel to that of the Gurk, flows past Klagenfurt on the NE. side, and after receiving the stream that drains the Wörther See, falls into the Gurk about 7 m. from the town, near the Grafenstein station. The tract extending northward along the Glan, eastward towards the Gurk, and westward to the Wörther See, on one side of which stands Klagenfurt, is with much probability believed to form part of the area of an ancient lake-basin which has been filled up by the deposits of the Glan and the Gurk. The swampy portions of this district produce many marsh plants, amongst which the botanist will recognise some species of high northern latitudes, mixed with others characteristic of the warmer regions of Europe. The following may be here enumerated:—*Isnardia palustris*, *Senecio paludosus*, *Teucrium scordium*, *Euphorbia procera*, *Calla palustris*, *Hemerocallis flava*, *Rhynchospora alba*, and *R. fusca*, *Cladium mariscus*, *Eriophorum alpinum*, many *Carices*, and *Marsilea quadrifolia*.

The rly. from Klagenfurt passes the Gurk before reaching the *Grafenstein* station, and soon after crosses the Drave by a massive bridge, thence going due

E. to *Kühnsdorf*, the station for *Völkermarkt* (1,488'), a small town N. of the Drave, on an alluvial terrace at a considerable height above the river. A post-road goes thence over the hills to St. Andrä, in the Lavantthal (§ 56, Rte. B), while the old high-road to Marburg and Cilli keeps to the N. bank of the Drave, passing Lavamünd. The road from Kappel and Bad Vellach (§ 64, Rte. C) reaches the rly. at Kühnsdorf. Here the line of the rly. turns aside from the valley of the Drave, and after passing the pretty little town of *Bleiburg* winds among the hills at the NE. base of the *Petschen* (6,926'), and, without encountering serious engineering obstacles, reaches the important iron-works of *Prevali*. This place stands in a picturesque position in the valley of the *Missbach*. That stream originates in the broad mountain-valley that separates the E. end of the Karawankas range from the group of the Steiner Alps. After passing northward through a deep cleft in the Karawankas, some way E. of the *Petschen*, the torrent turns first E., then NE., and descends to join the Drave opposite to *Unter-Drauburg*. The rly. follows the course of the *Missbach* from *Prevali* to that place. From *Unter-Drauburg* to *Marburg* the valley of the Drave changes its aspect. The limestone ranges that hitherto bordered the rt. bank of the river now give place to a comparatively low flat-topped range formed of crystalline rock—the so-called *Bacher-Gebirge*—further noticed in § 64. On the N. side of the river is a lower range of tertiary hills, called *Posruck*, which is connected with a still lower range near *Marburg*, called *Windische Bühel*, whose strata abound in fossils of miocene age. The scenery of the populous and richly cultivated valley is pleasing, but does not offer many striking objects.

For some distance the rly. is carried along the declivity of the *Bacher* at a considerable height above the stream. *Saldenhofen* stands below the rly. on the rt. bank, and the next station—*Wuchern*—is opposite to the little town of *Mäh-*

*renberg*. *St. Lorenzen*, where there are iron-works and considerable saw-mills, lies in a glen descending from the *Bacher*, nearly 3 m. away from the station of the same name. E. of *St. Lorenzen* a projecting promontory of rock narrows the channel of the Drave, and makes the river perform a rapid bend to the N.; but after passing this obstacle and reaching *Maria-Rast* (933'), the broad valley extends unbroken to *Marburg*. Some of the best wines of Styria are grown on the surrounding slopes. The rly. describes a considerable curve before reaching the important junction-station of *Marburg*. (See § 56, Rte. A.)

## ROUTE B.

## KLAGENFURT TO BRUCK AN DER MUR.

	Austrian miles	English miles
St. Veit . . . . .	2½	11¾
Dürnfeld . . . . .	1½	7
Friesach . . . . .	2	9½
Neumarkt . . . . .	2	9½
Unzmarkt . . . . .	3	14
Bruck an der Mur . . . . .	11½	53¾
	22½	103½

Railway recently opened. The portion between *Unzmarkt* and *Bruck an der Mur* is described in § 53, Rte. A.

The road from *Klagenfurt* to the valley of the *Mur* was for a time superseded by the railway route *viâ* *Marburg*, but is again become the shortest way to *Vien-*  
*na*, since the opening of the new line. It runs NNE. over the level, and partly

marshy, tract on the E. side of the Glan, referred to in the last Rte. as forming part of an ancient lake-basin. The portion extending northward from Klagenfurt is called *Zollfeld* (perhaps originally *Saalfeld*). This plain has preserved many records of the Roman, German, and Slavonic rulers of this region, though but slight traces remain of the cities that are known to have stood here. About half-way to St. Veit, on a hill E. of the road, is the pilgrimage church of *Maria-Saal* (2,424'), whose two towers are conspicuous from afar. Here stood the most ancient Slavonic Christian church of this region. By the roadside, about as far from Klagenfurt as *Maria-Saal*, is the *Herzogstuhl*, a stone seat guarded by an iron railing. By a singular mediæval custom, which survived to the beginning of the 15th century, the Dukes of Carinthia, on their accession, here received the investiture of their sovereignty from the hands of a peasant, after first swearing to preserve the rights and liberties of their subjects. The letters *MASUETI VERI* preserved on the E. side of the monument were supposed to be a specimen of early Slavonic. It is now known that they are but the fragment of a Roman inscription, and the fact is not surprising, as Roman monumental stones and fragments of masonry have been extensively used for building in this neighbourhood. The spot where these have been found in greatest abundance is on the slope of the *Hehlenberg*. This was once completely covered by the remains of Roman buildings, occupying the site of the Keltic-Roman city of *Virunum*. On or near the same spot stood *Carenta*, the residence of the Dukes until the 11th century, when St. Veit became their capital. Various inscriptions, and the remains of temples, prove that the Mythraic sun-worship was extremely prevalent among the Roman colonists. A fine bronze statue of Antinous—now in the Gallery of Antiques at Vienna—was found here. A second stone seat

used in the investiture of the Dukes, and called *Fürstenstein*, has been removed to the museum in Klagenfurt.

Above *St. Donat* the valley of the Glan turns in a direction nearly contrary to its previous course, ascending WSW. towards the source of the stream near *Ossiach*. In the bend of the valley stands

*St. Veit* (1,592'), the ancient capital of Carinthia, which yielded to the increasing importance of Klagenfurt only in 1518. Markofer's is said to be the best inn. The old walls give a stately air to the little town. In the marketplace the fountain has a white marble basin, 31 ft. in width, which was dug up in the *Zollfeld*. An interesting excursion may be made from hence to *Ostertowitz*, the ancient rock-fortress of the *Khevenhüllers*, easily reached in a carriage in 1 hr. It is maintained in habitable condition by the present Count *Khevenhüller*, and is probably the best specimen in Europe of a mediæval stronghold still preserved in its original state. The castle stands on a steep rock, 930 ft. in height above the valley, and the sinuous track that mounts in long windings passes through 14 gateways, and over 3 drawbridges. The church and the armoury contain many memorials of a family whose exploits against the Turks are still fresh in the memories of their countrymen. Those who visit *Ostertowitz* from Klagenfurt need not go to *St. Veit*. The direct way turns aside from the post-road at *St. Donat*, 3 m. SE. of that place. The distance from Klagenfurt is about 12 m. For the road to *Villach* by the *Ossiacher See*, see Rte. G.

On leaving *St. Veit* the post-road mounts gently across a low ridge which here separates the valley of the Glan from that of the Gurk. The latter river is reached at the post-station of *Dürnfeld*. The road twice crosses the sinuous course of the Gurk before reaching the village of *Zwischenwassern* (1,988'), which lies at the junction of the Gurk and the *Metnitz*. There are here extensive iron-works, and a summer residence of the Prince-Bishop of

Gurk. At this point the Gurk, which originates in the high mountains of the Stang-Alpen group, after pursuing for nearly 30 m. a course to ENE., meets the Metnitz, whose course is at first also easterly, but which turns southward at Friesach. Around the junction of the two streams is an isolated patch of cretaceous limestone, that appears to have been deposited in an ancient depression of the surrounding palæozoic rocks. The hilly country E. of the Gurk is furrowed into short glens, wherein stand many mining villages and several ancient castles. At *Althofen* (2,328'), about 3 m. SE. of *Zwischenwassern*, Roman antiquities have been found. Near this place nummular deposits are seen overlying the above-mentioned cretaceous limestone. Keeping mainly to the rt. bank of the Metnitz, the road soon reaches the extremely picturesque little town of

*Friesach* (Inn: Post). Ramparts and towers, and ditches still filled with water, and five surrounding castles, now mostly fallen to ruin, speak of the turbulent times when this place, important, because it commanded the most frequented road to Italy, was the constant object of strife between iron-handed Archbishops of Salzburg, and rebellious counts, and the Kings of Bohemia and Hungary. It passed from the possession of the Hungarians to that of the House of Austria only under Maximilian, who was born not far off in the castle of Tanzenberg, near St. Veit. The churches are very curious, especially the *Pfarrkirche*, which has a romanesque nave and towers, with a choir in the later pointed style. Recent improvements (!) have destroyed several curious fragments of early art. The church and convent of the Dominicans also shows a singular combination of romanesque and gothic architecture. At *Friesach* the *Metnitzthal* (Rte. E) opens to the W., while the post-road is carried about due N., along the tributary stream of the *Olsga*. The frontier of Styria, which here lies far S. of the watershed between the Mur and the Gurk, is only about 2

m. north of the town. On the Styrian side stands the castle of *Dürenstein*, cradle of a once renowned family. The valley here becomes narrow, and the road mounts rather more steeply. On the rt. hand is passed the chalybeate spring of *Einöbbad* (2,341'). The *Olsga* descends in rapids and cataracts through the defile, till the valley opens, before reaching

*Neumarkt* (2,792'), a little walled town, the first rly. station in Styria (Inn: Post, middling). The road still ascends, for about 4 m., to the summit of the ridge, close to the hamlet of *Perchau*, which forms the watershed between the Mur and the Gurk. This is 3,274 ft. above the sea. This deep depression in the range of the Styrian Alps lies immediately W. of the summit of the *Wenzelalp* (7,023'), one of the highest summits of the *Seethaler Alps*. That range may be visited from *Neumarkt*, but is more often approached from *Obdach* (§ 56, Rte. B).

On the N. side of the pass the declivity is more gentle than towards the S. The little glen descending towards the Mur is called *Perchauerthal*. Through this the road goes to *Scheifling* on the Mur. The way leading thence by *Unzmarkt* (the next rly. station), and *Judenburg*, to *Bruck an der Mur* is described in § 53, Rte. A. The traveller going from *Neumarkt* to the upper part of the *Murthal* should not traverse the Pass of *Perchau*. A road mounts NW. to another pass, lying about 5 m. W. of *Perchau*, and descends on the opposite side to *Teufensbach* on the Mur, which is, by some miles, nearer to *Murau* (§ 53, Rte. A) than *Scheifling*.

## ROUTE C.

KLAGENFURT TO TAMSWEG BY TURRACH.  
THE EISENHUT.

	Austrian miles	English miles
Feldkirchen . . . . .	3 $\frac{5}{8}$	17
Gnesau . . . . .	1 $\frac{1}{2}$	8 $\frac{1}{2}$
Reichenau . . . . .	2 $\frac{3}{8}$	10
Turrach . . . . .	2	9 $\frac{1}{2}$
Predlitz . . . . .	2 $\frac{1}{2}$	11 $\frac{1}{4}$
Tamsweg . . . . .	—	—

Carriage-road. Practicable only for very light small vehicles between Reichenau and Turrach.

The road here noticed is the shortest way for a traveller going from Klagenfurt to the head of the valley of the Mur, and, taken in connection with the road over the Radstädter Tauern, is therefore the most direct way from that city to Salzburg; but, in its present condition, the road from Reichenau to Turrach is barely passable for light vehicles; and it is more agreeable, if not also more prudent, to perform fully half the distance between those places on foot.

The shortest way from Klagenfurt to Feldkirchen is by rly. *viâ* St. Veit; but many will prefer to go by carriage in about 3 $\frac{1}{2}$  hrs., passing *Moosburg*. The road to that place runs nearly at a level along a stream which falls into the Glan. The pedestrian may reach Moosburg in little more than 1 hr. by crossing the low ridge that separates it from the rly. station at Pörschach on the Wörther See (Rte. A). He may probably find at the village inn a vehicle to carry him to Feldkirchen. The road is hilly, and often affords the traveller fine views of the distant range of the Karawankas, as well as the less broken outline of the Styrian Alps, beyond the valley of the Gurk.

*Feldkirchen* (1,794') is a thriving country town, with an air of industry and comfort, whose importance is increased by the new rly. between Villach and St. Veit, connecting it with the valleys of the Drave and the Mur. Many places

with tenfold the population offer less accommodation to the stranger. Out of at least 30 inns, that of Nowak has the best rooms, and the traveller finds in addition civility and quiet; Rauter's supplies the best cookery; and the Post is a very fair country inn, sometimes rather noisy. About 2 m. from the town are the important iron-works of *Buchscheiden*. The situation of Feldkirchen is picturesque. It lies in a hollow surrounded by rather high hills, the drainage of which flows in opposite directions. The stream seen on the rt. hand in approaching the town by the Klagenfurt road is the chief branch of the Glan, which originates in the hills on the S. side of the Ossiacher See, and flows ENE. hence to St. Veit. The *Tiebelbach*, on the contrary, which passes by the town, descends through a broad valley to the Ossiacher See, about 5 m. distant (see Rte. G). At least 4 hrs. must be allowed for going in a country carriage from this place to Reichenau, but in descending, 3 $\frac{1}{4}$  hrs. suffice for a good horse. The road is so agreeable that the pedestrian will prefer to walk. The way from Feldkirchen to the Gurkthal lies near the source of Tiebelbach, but as that stream makes a wide circuit, the road mounts the hills NW. of the town, and in less than 4 m. reaches the pretty village of *Himmelsberg*, with a large neat-looking inn. The Tiebelbach, which is crossed here, issues from a little glen on the l., through which runs a country road to Treffen (Rte. G), while the road to Gnesau mounts through a hollow in the hills to the summit of the ridge which overlooks the valley of the Gurk. That river here falls rapidly towards the E. through a contracted channel, and the road, which turns sharply to the l. at the summit of the ridge, is carried nearly at a level along the slope of the hills, so that it finally approaches the bed of the Gurk at a point some 2 m. farther up, without any sensible descent. *Gnesau* (3,087') is a very small place with a poor inn. Though the scenery is not very striking, the upper valley of the Gurk assumes

something of an Alpine aspect that is not elsewhere found in this district. This is especially the case about  $5\frac{1}{2}$  m. beyond Gnesau, where the road and the valley fork beyond the hamlet of St. Margarethen. One road leading to Millstadt ascends due W. through a short glen to Klein-Kirchheim (Rte. F); while the way to Reichenau lies NNE. along the main stream of the Gurk. Following the road into the lower end of this branch of the valley, the pedestrian may make a short-cut, and avoid a piece of rough road, by crossing a stile on the rt. hand just before reaching a solitary white house (a road-side inn) standing in the middle of the valley. The path follows for some distance the l. bank of the stream, but crosses the first bridge, and the traveller should, without attempting further short-cuts, follow it back to the road, which is reached a short way below

*Reichenau* (3,474'), the last village on the Gurk, which is here formed by the junction of two torrents. The road to Turrach follows the northern branch of the stream, while the other branch, leading to St. Lorenzen, is further noticed below. Close to the little church of Reichenau is a country inn, more comfortable than could be expected in so remote a place. The obliging landlord has frequent opportunities for forwarding luggage, and thus leaving the pedestrian free to choose his own course over the mountains. For a short distance the road to Turrach follows the banks of the stream, and is quite easy; but before long it crosses to the l. bank, and commences an extremely steep ascent, which continues with little interruption all the way to the summit of the pass, a distance of 1 Austrian mile from Reichenau. The scenery is agreeable, but there is little distant view in any direction.

The *Turrach Pass* (5,825'?) is a few feet above the level of a comparatively large mountain-lake, lying on the top of the ridge that separates the Mur from the valley of the Gurk. There is a large house (now abandoned?) on the

E. side of the lake, opposite the road, and a very poor pot-house by the roadside, the resort of passing carters. In swampy ground near the banks of the *Turrach See* (5,791') the botanist will find *Comarum palustre*, *Swertia perennis*, *Juncus castaneus*, and other rare plants. The road on the N. side of the pass is less steep and better made than on the opposite declivity; but is narrow and rough, so that nervous persons will prefer to walk part of the way. Views of the *Königstuhl*, *Eisenhut*, and other surrounding mountains are gained on the way, and in  $3\frac{1}{2}$  hrs. on foot (2 hrs. ascending from Reichenau,  $1\frac{1}{2}$  hr. descending) the traveller reaches the great iron-works of *Turrach* (3,814'), belonging to Prince Schwarzenberg. It is a very complete establishment in which the Bessemer process for making steel, and other modern improvements, have been introduced. The whole is managed by a local director (Verweser), in whose house travellers of the better class are received. This falls within the definition of an inn, and it is managed (after a fashion) by the director's wife, who is good-natured, and supplies very good food. Tact and patience are, however, requisite for the traveller who would make this his head-quarters; the landlady is careful to make it understood that the house is not opened for profit; and as she shares the national belief that time is of no value, British impatience would be out of place.

Turrach is the most convenient starting-point for several excursions, which, however, offer more of interest to the naturalist than to the lover of Alpine scenery. The mountaineer scarcely requires a guide, but the botanist may be glad to take a man named Bartl Renner, who knows the neighbourhood well, and is acquainted with the habitats of several of the rarest plants. He is slow, and has an inconvenient taste for food, but in other respects is rather an agreeable companion. The excursion usually preferred is that to the summit of the *Eisenhut* (8,008'), the highest summit of the Styrian Alps S. of the



Mur. As it is the culminating point of the mass of mountain rising E. of Turrach, the ascent might be commenced directly from that place; but the preferable way in all respects is through the *Graseck Graben*. This is a short glen that opens to SE., about 1 m. above Turrach, and is surrounded by the highest summits of this district, which are ranged in a semicircle round its head. Turning round from S. to E. and then to N., these are seen in the following order:—Ochsenbrett, Kampwände, Leitersteig, Schwalbenkogel, and Eisenhut. Of these the first two alone are in the range dividing the Mur from the Gurk. The Schwalbenkogel is the highest point in the range dividing the valley of Turrach from the parallél valley of the Stadl Graben, and the Eisenhut lies in a ridge projecting from the Schwalbenkogel towards Turrach; so that the drainage from both sides of the mountain descends to the Turrach torrent. The circumstance that the frontier between Styria and Carinthia here trespasses on the N. side of the watershed, and passes over the summit of the Eisenhut, has led many writers to suppose erroneously that the summit lies in the dividing range between the Mur and the Drave.

A cart-track is carried through the lower part of the *Graseck Graben*, and not only leads to some hütten in the glen, but mounts above the rt. bank of the stream, and finally reaches the ridge between the Leitersteig and the Schwalbenkogel, very near the summit of the former mountain, at a height of fully 7,000 ft. It is carried thence eastward, along the broad mountain ridge towards Fladnitz, being used for the conveyance of cheese and other produce by the inhabitants of the *sennhütten* that are scattered at intervals along the range. The name *Leitersteig* properly applies to this track, but is also locally given to the adjoining summit E. of the Kampwände. The best way to the Eisenhut is to follow the track in question through the lower part of the *Graseck Graben*. Not long

after passing the torrent to its rt. bank the first group of hütten are reached. Here the traveller turns to the l., and begins to ascend the moderately steep slope of the mountain, which is in great part covered with forest, consisting of pine, larch, and Siberian fir (or *Pinus cembra*). Ascending nearly straight up, but bearing rather to the l. than to the rt., a cattle-track is found which leads directly to the ridge of the Eisenhut. On leaving behind the last *P. cembra*, the ascent continues by a stony slope, on which grow *Silene Pumilio* and many other attractive Alpine plants. It is impossible to miss the way, and the ascent terminates on reaching a summit, sometimes called Klein Eisenhut, with a stone man on the top. The highest point of the mountain is now soon attained, being separated from the first by a very slight depression. The view has been highly spoken of, and in clear weather it includes the E. end of the High Tauern range, and the whole of the Lesser Tauern; but it is somewhat limited by the circumstance that the nearer mountains, and especially the broad ridge of the Schwalbenkogel, approach very nearly to the same elevation.

The best way to return to Turrach is to follow the ridge SE. from the summit, and on reaching the lowest point between it and the Schwalbenkogel to descend into the head of a glen which joins the Turrach Graben about 1 hr. below the iron-works. Snow lies in many places at the head of this glen, and the rocks of the Eisenhut rise very finely on the l. The upper end is uninhabited, being a chamois preserve belonging to Prince Schwarzenberg. Below a little tarn called *Tiesnigg See*, or *Diessling See*, a path is found on the rt. bank of the stream. On reaching a *Jäger's* cottage there is a pleasant shortcut for returning to Turrach, found by crossing the stream, and mounting the ridge on the W. side of the glen by a tolerable path. At the top is a fenced pasture-field, where the path is lost. It is found again at a stile on the W.

side of the field, and then descends, all the way through forest, to the iron-works at Turrach, reached in about 2 hrs. from the Tiesnigg See. Some of the rarest plants in the following list are found on the steep rocks below the summit of the Klein Eisenhut, on the N. and NE. sides, others are seen plentifully along the ridge of the mountain:—*Aconitum tauricum*, *Cochlearia grœnlandica* (?), *Silene Pumilio*, *Alsine recurva*, *Arenaria biflora*, *Cerastium ovatum*, *Saxifraga cernua*, *Gaya simplex*, *Valeriana celtica*, *Aronicum glaciale*, *Phyteuma globulariaefolium*, *Campanula alpina*, *Eritrichium nanum*, *Androsace Wulfeniana*, *Aira subspicata*, *Sesteria tenella*, *Festuca pumila*, &c. Near the Tiesnigg See may be gathered *Cineraria alpestris*, *Swertia perennis*, *Juncus castaneus*, and other rarities. On the *Rothkogel*, W. of Turrach, may be gathered *Oxytropis biflora*, *Phaca oroboides*, and several other rare plants.

The *Königstuhl* (7,648'), which may be ascended in 4 hrs. from Turrach, or taken on the way from Gmünd (Rte. D), seems to the writer to be more favourably situated for a panoramic view than the loftier summit of the Eisenhut.

[Instead of following the road from Reichenau to Turrach, the pedestrian may take a rather longer way that will lead him near to, or over, some of the higher summits in the range enclosing the Graseck Graben. He may reach Turrach that way in 5 hrs., steady walking exclusive of halts; but if he would make a detour by the summit of the Eisenhut, he will do better to sleep at Reichenau, and give the greater part of the day to this agreeable walk. As already mentioned, one of the torrents that form the stream of the Gurk at Reichenau flows westward out of a glen in which lies the village of *St. Lorenzen*. Following that glen, which gradually bends round till it turns to NNW., a path leads to the ridge enclosing the Graseck Graben near the summit of the Leitersteig, and strikes the track, mentioned above, which leads thence to Turrach. A more interesting way lies

through a wild glen, locally called *Sgartenthal*. This opens on the rt. of the road leading from Reichenau to the Turrach Pass, but may be reached by a more direct and much easier path from Reichenau, not to be found without the aid of a local guide. The Sgartenthal, which has afforded to botanical visitors many rare plants, is closed at its head by the steep rocks of the *Kampwände*, a fine ridge, steep on both sides, which must surpass 7,700 ft. in height. There is no difficulty in ascending the rather steep slope which is on the rt. hand as the traveller faces the head of the glen, but he must beware of bearing too much to the rt. until he has attained the ridge connecting the *Kampwände* with the *Leitersteig*, and looks down into the basin of the Graseck Graben. He then keeps to the rt. along the rather steep and rough ridge of the *Leitersteig* till he has gained the track spoken of above. In clear weather he can have no difficulty in attaining the summit of the *Schwalbenkogel* or the *Eisenhut*, without descending sensibly below the level which he has here attained. The *Schwalbenkogel* approaches within a few ft. of the height of the *Eisenhut*. The way from Turrach to the valley of the Mur lies through the singular glen locally known as *Turrach Graben*, or *Predlitz Graben*. For nearly the entire distance it is an extremely deep, narrow, and sinuous defile. The road with difficulty follows the Turrach torrent, which is crossed within a few miles by 42 bridges. The rocks in some places actually overhang, and are usually so steep that little or no snow falls upon the road in winter—a circumstance which is a source of loss and inconvenience, owing to the difficulty of conveying the produce of the iron-works by sledge in winter to the valley of the Mur. At the opening of the glen stands *Predlitz* (2,848') on the Mur, connected by a bridge with the opposite bank, along which runs the road from Murau to Tamsweg, described in § 53, Rte. A.

## ROUTE D.

GMÜND TO FRIESACH BY TURRACH AND  
FLADNITZ.

Three easy days on foot.

The mountaineer who visits this region may take advantage of the comparatively uniform and unbroken character of the ridges to achieve—what is scarcely possible anywhere else in the Alps—a continuous walk along the main range for a distance not much under 50 miles in a straight line. It would, however, be expedient to descend to Turrach, both for the sake of accommodation for the night, and because the range enclosing the Graseck Graben (noticed in the last Rte.) is so steep and broken that much time would be consumed in attempting to follow its crest. The writer has no positive information as to some parts of the way here indicated, but he has seen the greater part of it, and feels assured that there are no difficulties that would give trouble to a practised mountaineer.

Starting from *Gmünd*, or *Kremsbruck*, in the Lieserthal (§ 52, Rte. E), at which places there are good inns, the traveller may go on the first day to Turrach over the summit of the *Königstuhl* (7,648'). The easiest way is from *Gmünd*, through the *Leoben Graben* which opens eastward about 5 m. above that place; but the summit may also be attained by the *Kremser Graben*, through which a track

ascends due E. from *Kremsbruck*. In the glen (called *Steinbach Graben*?) which descends from the *Königstuhl* towards Turrach the traveller may see a phenomenon which is more rare than might be expected in mining districts. It appears that, in the course of the last 200 years, the miners have so completely undermined a large part of the mountain that a bergfall on a large scale is inevitable. Within the last few years a previously narrow fissure has been so much enlarged that in 1864 it was 600 ft. long, in some places 30 ft. wide, and its depth unknown. The so-called *Knappenhaus*, or miner's house, which stood near has been removed to a distance, but nothing can be done to avert the impending catastrophe.

From Turrach the direct way to Friesach would lie through the Graseck Graben by the *Leitersteig* track (Rte. C), and then along the ridge enclosing the head of the *Stadl Graben*. This is a rather long valley which descends northward to Stadl on the Mur. Near its head it divides into two short glens. On the height of land above the easternmost glen is the little mountain village, or hamlet, of *Fladnitz*, at least 5,000 ft. above the sea, standing so near the summit of the ridge dividing it from the Gurkthal, that it is conspicuous from a great distance. There is a mountain inn (doubtless very rough) here. As it may be reached in about 6 hrs. from Turrach, or in 4 hrs. from the summit of the *Eisenhut*, there is abundant time to make a detour by that mountain on the way. The part of the main range surrounding the head of the *Stadl Graben* is often collectively called *Fladnitzer Alps*, from the name of this little village. Paths lead thence northward to Stadl, south-eastward to *Glödnitz* in the Gurkthal (Rte. C), and eastward into the head of the *Metnitzthal* (Rte. E). The latter would doubtless be the easiest way to Friesach (Rte. B), but the mountaineer, who loves breezy heights better than valley paths, will prefer to follow the crest of the ridge that extends nearly due E. of Fladnitz between the Gurk

and the Metnitz, and will not think the day ill spent that he devotes to the walk.

[Instead of commencing this walk from the valley of the Lieser, as above suggested, the starting-point may be from St. Michael in Lungau (§ 52, Rte. E). About 5 m. below that place a low pass is seen on the S. side of the Mur, over which a path leads to the *Thomathal* (§ 53, Rte. A), just at the point where the head of that valley turns abruptly to the S., and mounts in the direction of the Königstuhl. This upper portion of the Thomathal is locally known as *Bundschuhthal*. The mines formerly worked here have been abandoned, and it contains only a few sennhütten. The writer apprehends that Schaubach is in error when he asserts that a portion of the drainage of the Königstuhl descends through Bundschuh, and believes that it will be found a long day's work to take the summit of the Königstuhl on the way from St. Michael to Turrach; but there seems to be no difficulty in passing from the head of the Bundschuh glen by the S. side of the *Schilcherhöhe*, or taking that summit on the way. Although considerably lower than the Königstuhl, this perhaps commands the more interesting view.]

## ROUTE E.

## FRIESACH TO MURAU, OR STADL, IN THE MURTHAL.

The traveller going from Friesach to the upper part of the valley of the Mur has a choice between two paths, each of which is shorter than the road by Neumarkt and Teufenbach, noticed in Rte. B. Both of these follow the stream of the Metnitz into the *Metnitzthal*, which opens westward from Friesach.

1. *By Lasnitz*. 7 hrs. to Murau. A country road leads along the Metnitzthal as far as *Grades* (2,832'). *Metnitz* is about  $\frac{3}{4}$  hr. higher up in the valley; and from both villages tracks run northward, across the central ridge of the Murauer Alps, to *Lasnitz* (3,303'). The shorter and easier way is that from Grades. A road which passes by several forges descends from Lasnitz along the *Lasnitzbach* to the valley of the Mur, which is reached about 1 m. E. of *Murau* (§ 53, Rte. A). The walk may be varied by making a detour to the Abbey of St. Lambrecht. This is reached by mounting northward through a short glen that opens into the Metnitzthal about 3 m. below Grades. The path passes the ridge not far from the summit of the *Greibenzen* (6,128'), the highest summit of the Murauer Alps, which may be reached without much delay. Due N. from the pass stands the little town of *St. Lambrecht* (3,348'), with an ancient Benedictine Abbey, one of the stateliest buildings of the kind in Styria. The stream flows hence north-eastward to the Mur near Teufenbach (§ 53, Rte. A), through the *Taja Graben*, but a road runs westward over the low ridge that separates this from the Lasnitzbach. After joining the track from Grades, mentioned above, the road and the stream turn northward towards the Mur.

2. *By the Stadl Graben*. Beyond the fact that there is an easy path from the upper part of the Metnitzthal to the Stadl Graben, the writer has no information respecting this route. According

to the best maps, it leaves the l. bank of the Metnitz above 1½ hr. above the village of that name, and traverses the broad ridge, scarcely 5,000 in height, that divides that valley from the Stadl Graben. At *Stadl* (§ 53, Rte. A) the traveller joins the main road through the Murthal.

by following the carriage-road, which there abandons the banks of the river.

The *Millstätter See*, the most picturesque of the larger lakes of Carinthia, is about 8 m. in length, with an average breadth of more than 1 m., and is 1,904 ft. above the sea-level. It is divided from the Drave by a low ridge, nowhere rising to more than about 900 ft. above the lake. The carriage-way from Spittal follows the post-road to Gmünd (§ 52, Rte. E) for nearly 3 m., and then turns to the rt.; but there is a shorter foot-path passing much nearer to the W. end of the lake. While the low ridge on the S. side falls steeply towards the shore, the slopes on the opposite side are at first gentle and undulating, but they extend upwards to the comparatively lofty ridge of the *Millstätter Alp* (6,845'). Instead of following the road along the northern shore, the traveller will enjoy the scenery more fully by taking a boat, which, if not sooner, may be hired at the little market-town of *Millstadt*. Here, as on the shores of several other Alpine lakes, it is recorded that at the time of the great earthquake of Lisbon in 1755 the waters fell suddenly, and as suddenly rose again to their former level, that being the apparent result of a violent undulation propagated through the mass of the waters. At the ESE. end of the lake the Döbriach torrent flows into it from a deep hollow that divides the ridge of the Millstätter Alp from the lower range extending SE. towards Villach. The road leading to the Gurkthal follows the rt. bank of the Döbriach to *Radenthein* (2,423'), where three short valleys pour their streams into a common basin. Through the *Kanningthal* a track runs NNE.; and from the ridge at the head of that valley the traveller may bear to the l. into the head of the Leobengraben (Rte. D), or follow the previous direction, and descend to Turrach (Rte. C). Nearly opposite to the Kanningthal a road runs from Radenthein somewhat E. of S. through a broader and more level valley, on the SE. side of the Wöllaner Nock. The torrent flows from the Brenn See, a

ROUTE F.

SPITAL ON THE DRAVE TO FRIESACH, BY THE MILLSTÄDTER SEE, AND THE GURKTHAL.

	Austrian miles	English miles
Millstadt . . .	1½	7
Klein-Kirchheim . . .	3	14
Gnesan . . .	2½	10½
Weitensfeld . . .	4	18½
Gurk . . .	1½	6
Zwischenwassern . . .	2	9½
Friesach . . .	1	4½
	<hr/>	<hr/>
	15	70½

The distances are given approximately. The pedestrian may much shorten the way between Gnesau and Weitensfeld.

This is a very agreeable way for the traveller who, having reached Spittal by the upper valley of the Drave, wishes to go to the valley of the Mur by a cooler and quieter road than that of Villach and Klagenfurt. For the greater part of the way the road is fit only for light country carriages, and in the defile of the Gurk below Gnesau the scenery is far better enjoyed by a pedestrian than

small lake about 4 m. from Radenthein. Separated from this by no noticeable ridge is a larger and prettier lake—the *Afritz See* (2,433')—which sends its drainage SE. in a stream that soon joins the *Treffenbach* (Rte. G). By that way the traveller may descend to Villach, passing on his way by the village of *Afritz* (2,266'), and by the W. end of the *Ossiacher See*. The whole distance by that way from Spittal to Villach is only about 30 m., and it forms an agreeable variation from the main road through the valley of the *Drave* (§ 51, Rte. A).

The road from Radenthein to the *Gurkthal* ascends a little N. of E. through the *Klein-Kirchheimerthal* to the Baths of *Klein-Kirchheim*, which possess considerable local reputation in this part of Carinthia, and are much frequented in summer. From that place the traveller may make the ascent of the *Wöllaner Nock* (7,019'), the highest of the detached summits lying S. of the *Stangalpen* group. It must command a fine view. A short ascent, followed by a still slighter descent, leads from the baths to the valley of the *Gurk*, just at the point where that stream, after descending SSW. from *Reichenau* (Rte. C), turns eastward towards *Gnesau*. A few miles below the latter village commences the remarkable defile of the *Enge Gurk*, through the greater part of which the road altogether abandons the course of the river. The pedestrian may follow an agreeable foot-path along the l. bank, but he who travels in a country carriage must for some distance follow the road to *Himmelsberg* (Rte. C). At *Wiesenbach*, a short way below *Gnesau*, he leaves the valley, and winds, nearly at a level, along the slope above the rt. bank till he reaches the summit of the ridge where the road to *Himmelsberg* turns to the rt. A branch road follows the course of the *Gurk* valley along, or near to, the summit of the ridge, and finally descends to the stream, and crosses to the l. bank a short way above the castle of *Albeck*, which once commanded the passage of the defile.

At *Glödnitz* a glen opens on the N. side of the valley through which runs a rather frequented path to *Fladnitz* (Rte. D). By that way *Stadl* on the *Mur* is reached in 8 or 9 hrs. from *Glödnitz*. About 3 m. below *Glödnitz* is *Weitensfeld*, a small unimportant place. The scenery becomes more uniform and less interesting on the way thence to

*Gurk* (2,193'), a miniature market-town, the original see of one of the oldest bishopricks in Carinthia, interesting to the antiquary for its ancient cathedral—a regular basilica, with a remarkable crypt, supported by 100 slender columns. It contains the tomb (dated 1045) of the foundress *Emma*, wife of the last Count *Zeltschach*, lord of *Friesach*. On the murder of their two sons both parents retired to monastic houses. Roman remains have been found in the lower part of the valley between *Gurk* and *Zwischenwassern*. The road thence to *Friesach* is described in Rte. B.

At *Friesach*, which may be reached in 3¼ hrs. by the early train from *Villach*, the traveller finds the railway which will carry him in 6 hrs. to *Bruck an der Mur*.

## ROUTE G.

### VILLACH TO FELDKIRCHEN.

Besides the railway train, which goes in 1 hr., there are two circuitous but agreeable roads from *Villach* to *Feldkirchen*, and it is a pleasant, but rather a long, day's excursion to go one way and return the other. As the path by the

S. side of the Ossiacher See is more interesting than the road along the opposite shore, the best arrangement is to walk that way to Feldkirchen (about 20 m.), and return in a light carriage by the valley of the Treffenbach.

1. *By the Ossiacher See.* The old post-road to Klagenfurt is followed for nearly 3 m. from Villach to the hamlet of Seebach, beyond a bridge over the Treffenbach, which torrent, after receiving the outflow from the lake, here descends to join the Drave. The road turns N. from Seebach to the *Ossiacher See*, whose SW. shore is soon reached. It is nearly 7 m. long, with an uniform breadth of about 1 m., and just 1,600 ft. above the sea. Along the N. side rises the ridge of the *Gerlitzten Alp* (6,247'), far surpassing the comparatively low hills on the opposite side. The lake is well stocked with fish, and produces near its low shores such quantities of *Trapa natans*, that the eatable nuts supply an article of local traffic. Unless the traveller should find a boat, he will do well to prefer the path along the S. shore of the lake. On the way he passes the ancient Benedictine Abbey of *Ossiach*, suppressed by Joseph II., and now converted into a government establishment for breeding horses. Some portions of the building, and especially a chapel, are still well preserved. A curious mediæval story is connected with the fact that by a not uncommon effect of perspective the valley leading to the lake, when viewed from Feldkirch, appears to slope upwards. In the middle of the 11th century King Boleslas, of Poland, struck with remorse for the murder of the Bishop of Cracow, went as a pilgrim to Rome, seeking absolution and peace of conscience. He was told that although so great a sin might at last be forgiven, he could expect no rest on this side of the grave; it being added—in token of the hopelessness of his case—until he should find water running up hill. Nothing daunted, the penitent king wandered through many an Alpine valley, restlessly enquiring the direction of the streams. When at

Feldkirchen he was assured that the Tieselbach flows into the lake, he deemed his long search successful, and applied for admission as a lay-brother, or servitor, in the neighbouring abbey of Ossiach, which had been founded more than a century before. Only on his death-bed in 1079 he disclosed to the monks his true name and story. At the head of the lake the Tieselbach runs through a marshy tract, and the foot-path keeps to the SE. side of the stream for a distance of about 5 m., till it reaches Feldkirchen (Rte. C).

2. *By the Treffenbach.* About 26 m.(?). This way follows the carriage-road from Seebach, mentioned above, to a point close to the W. end of the Ossiach lake. Leaving to the rt. the road along the N. shore, it ascends gently to NW. along the base of the hills, above the l. bank of the *Treffenbach*, to the village of *Treffen* (1,734'). A little above that place the valley narrows, the ascent becomes rather more rapid, and the road passes to the rt. bank of the torrent. After ascending more than 7 m. from the lake, the valley forks at a point where it is overlooked by the remains of the ancient castle of *Buchholz*. Here the *Treffenbach* is formed by the union of two torrents; that on the l. hand, descending from NW., drains the *Afritz See*; and by that way lies the agreeable road to *Rädenthein* and *Millstadt*, mentioned in the last Rte. On the other hand, the *Ariach* torrent descends from a glen that opens nearly due E. from the junction. The road mounts that way through a depression between the ridge of the *Wöllaner Nock* and that of the *Gerlitzten Alp*. A low pass divides the head of the glen of the *Ariach* from that of the *Tieselbach*. Descending along the latter stream, the road joins that from Feldkirchen to the *Gurkthal* (Rte. C) a short way above *Himmelsberg*.

In connection with either of the above roads a traveller going from Villach to the valley of the *Mur*, may follow a pleasant road from Feldkirchen to *St. Veit* (Rte. B) by the valley of the *Glan*.

## ROUTE H.

## VÖLKERMARKT TO NEUMARKT, BY HÜTTENBERG.

About 36 miles. Road passable for small country carriages.

It is a rather singular circumstance that the broad opening in the range of the Styrian Alps, through which lies the road from Klagenfurt to the valley of the Mur (Rte. B), is traversed by another parallel valley. It will be recollected that the Olsga, which is the northernmost affluent of the Gurk, is formed by the junction of several mountain torrents near Neumarkt, and in its southward course is joined in succession by the more considerable streams of the Metnitz and the Gurk. Parallel to this, and separated only by a ridge of moderate height, is the *Görtschitz* torrent, whose sources are in the range of the Seethaler Alps, and which runs southward towards the Drave till it is joined by the Gurk, about 8 or 9 m. NW. of Völkermarkt. The road here mentioned is convenient for a traveller who enters the valley of the Drave from Kappel (§ 64, Rte. C), and who wishes to go directly to the upper part of the Murthal. The *Görtschitzthal* is a mining valley, containing, in the lower slopes of the Saualp range the richest deposits of iron-ore in Carinthia, surpassed in importance among the Austrian Alps only by those of Eisenerz. The ore is

chiefly sparry carbonate of iron, in whose crevices, as at Eisenerz, are found fine crystals of arragonite. A country road from Völkermarkt leads to *St. Johann*, a village on the l. bank of the *Görtschitz*, just above its junction with the Gurk. A road, much used for the conveyance of pig-iron from the smelting houses, leads northward, chiefly along the l. bank of the stream, for about 15 m. to

*Hüttenberg* (2,582'), the chief place in the valley, and centre of the iron district. It is characteristic of a mining population that the name *Ofen* is locally given to the prominent summits in the Saualp range, which divides this from the *Lavantthal* (§ 56, Rte. B). The highest summit of that range, the *Sau-Alp* (6,800'), or *Sau-Ofen*, is said to produce many rare minerals, and commands an extensive view over the valley of the Drave and the ranges of Southern Carinthia. It is most easily reached from *St. Paul*, a village on the road to Hüttenberg, about halfway between that place and *St. Johann*. The *Sirbitzkogel* (7,863'), the highest of the Seethaler Alps, may be reached from Hüttenberg, but more easily from *Reichenfels* or *Obdach* (see § 56, Rte. B). From Hüttenberg the road runs northward, along the main stream of the *Görtschitz*, to *Mühlen*. From that village one road continues to ascend nearly due N., and finally joins the post-road from *Friesach* to *Judenburg* at the summit of the *Perchauer Pass* (Rte. B). Another road goes NW. to *Neumarkt*, about 12 m. from Hüttenberg, whence the traveller bound for the Upper Valley of the Mur will follow the road to *Tenfenbach*.



## SECTION 56.

## LAVANTTHAL DISTRICT.

IN this Section we include a district which has less claims to be considered Alpine in character than any hitherto described in this work. Whether we regard the low elevation, or the easily accessible aspect of the mountains, or the absence of any but trifling accumulations of snow in sheltered rifts, the district here in question would be scarcely thought deserving of separate mention, were it not that, geologically, it undoubtedly forms a portion of those central ranges of crystalline rocks which have been here collectively styled the Styrian Alps. As it is not likely that it will ever attract much attention from English travellers, a brief notice of the chief roads through it, and of the important line of railway that forms its Eastern boundary, will suffice for most readers.

On the N. side this district is bounded by the Mur between Judenburg and Bruck; while its eastern limit is marked by the same river between Bruck and Marburg. To the S. its bounds are equally well defined by the course of the Drave between Völkermarkt and Marburg; and on the W. side by the crest of the mountains that extend northward from the latter place to Judenburg.

The mountains of this district fall into two ranges, which meet a few miles NE. of Reichenfels, at the N. end of the Lavantthal. The range extending NW. from that point, parallel to the Mur, generally designated *Glein Alps*, culminates in a summit W. of Uebelbach, which is locally known as Speikkogl (6,508'). That name being, however, commonly given in a great part of Styria and Carinthia to any high summit on which *Valeriana celtica* grows abundantly, it is necessary to distinguish this as the Gleinalpen-Speikkogl. The other range, which extends from N. to S. along the E. side of the Lavantthal, is collectively known as the Stainzer Alps. Its highest summit is the Koralp (7,010'). At the point where the two ranges meet is a group of rather high summits that rival, if they do not surpass, the others. The most conspicuous of these is the Rappelkogel (6,310'), SW. of the Stubalp Pass, and the Obdacher Speikkogl, rising E. of Obdach, which measures 6,625 ft., but, according to other authorities, 7,274 ft. The Lavantthal, which on the W. side is bounded by the loftier range of the Seethaler Alps, is, to a traveller, the most attractive valley in this part of the Alps. The scenery, though not on a grand scale, is charming. Some pleasant mountain walks are within easy reach, and very fair accommodation is found at all the larger places in the valley.

There is a little plant, insignificant in appearance, common in the Styrian Alps, but especially so on the mountains of this district, that can scarcely fail to attract the attention of the traveller, who constantly hears it spoken of by the mountain population. This is the *Valeriana celtica*, locally known as *Speik*, whose penetrating odour is familiar through the perfume called *patchouli*. The consumption is much diminished in Europe, but considerable quantities are still sent to the East through Trieste. It is here extremely common on the schistose ranges that attain to a height of from 6,000 to 7,000 ft. Elsewhere in

the Alps it is either rare, or altogether absent.

## ROUTE A.

## BRUCK TO MARBURG BY RAILWAY.

	Austrian miles	English miles
Mixnitz . . . . .	2	9½
Frohnleiten . . . . .	1½	7
Peggau . . . . .	1	4¾
Gradwein . . . . .	1	4¼
Gratz . . . . .	1½	7
Wildon . . . . .	3	14
Leibnitz . . . . .	1½	7
Ehrenhausen . . . . .	1	4¾
Marburg . . . . .	3	14
	15½	72¾

Part of the line of railway from Vienna to Trieste. Several of the smaller stations are omitted. The distances between the railway-stations, as given in the Company's bills, are usually exaggerated.

Reference was made in § 54 to the singular meeting of the Mur and the Mürz at Bruck. After flowing in exactly opposite directions to the point of junction, the united streams flow southward through a deep defile which traverses the eastern extremity of the Alpine zone of crystalline slates. For nearly all the way to Gratz the valley preserves the character of a broad defile with steep lateral walls, through which the Mur rolls its abounding waters in a sinuous course, which has doubtless much enlarged the original breadth of the valley. A contrast to the numerous old castles

that crown the eminences above the river is shown by a large modern castle, a few miles S. of Bruck, near the little station of *Pernegg*. A little farther on the traveller passes the opening of a lateral glen called *Breitenau*, through which a mountain path goes eastward to Birkfeld on the *Feistritz*. The *Breitenau* divides the ridge of the *Rennfeld* (5,322') from that of the *Hoch Lantsch* (5,683'), two of the highest summits of the district extending E. of the Mur. The summit of the latter mountain is remarkable for the number of rare plants here found at a very moderate elevation. Amongst others may be named *Delphinium elatum*, *Cardamine trifolia*, *Draba stellata*, *Peltaria alliacea*, *Potentilla elusiana*, *Saxifraga hieraciifolia*, *Primula integrifolia*, and *Orchis signifera*. The mountain is easily ascended from the following station of *Mixnitz*, which lies at its foot. Here the valley enters the zone of palæozoic rocks (Devonian limestone?) which extends along the S. side of the crystalline slates. In the mountain called *Röthelstein* (4,068'), rising SE. of *Mixnitz*, is a very remarkable cavern, long famous as the *Drachenhöhle*. The legends current among the natives rested on the fact that large quantities of bones of unknown origin were constantly extracted from the recesses of this extensive cave. It is 1,500 ft. above the village, and is said to be an hr.'s walk from the entrance to the farthest part yet explored, where very fine stalactites are found. Near the *Frohnleiten* station (1,340') is a large new castle of Prince Lobkowitz, who has another in the neighbouring glen of the *Gamsgraben*. Lovers of the picturesque will prefer the ruined towers of *Pfaunberg* and those of the castle of *Rabenstein*, whose lords died out in the 15th century. The valley here becomes so narrow that passage for the rly. was obtained only by constructing a great gallery, partly tunnel, partly arcade, over which the high-road is carried, while the trains run within. A short way beyond it is *Peggau* (1,267'). There is here a good inn (Hochhuber's). On

the opposite bank of the Mur is the opening of the glen of the Uebelbach, through which lies the way to Knittelfeld, noticed in Rte. F. Close to the junction of the Uebelbach with the Mur, on the rt. bank of the river, is the town of *Feistritz*, where iron, copper, and lead from the neighbouring mines are worked.

Here the rly., which has hitherto followed the l. bank, crosses to the opposite side of the Mur, and keeps to it for the remainder of the way. At the *Gradwein* station (1,208') a glen opens to the W., in which, about 2 m. distant, stands the Cistercian Monastery of *Rein*, with a large church containing several fine monuments. This lies in a small basin containing fossiliferous lacustrine deposits of miocene age. We are here near the verge of the extensive marine deposits belonging to the same geologic era, which extend hence through a great part of Lower Styria and the adjoining parts of Hungary. The valley does not fully open out until the rly. approaches

*Gratz* (Hotels: *Erzherzog Johann*, near the principal square, good; *Elephant*, of equal pretensions, but less well situated, being on the rt. bank of the Mur; in the next rank to these may be named the *Goldenes Ross*, on the rt. bank; *Stadt Trieste* in the *Jacominiplatz*, l. bank; *Goldene Krone*; &c.), the capital of Styria. Few towns in Europe have shown more rapid growth, and have been more embellished and improved within the last 25 years. The ground once occupied by ramparts and glacis has been covered with fine streets, and handsome planted walks, and several suburbs on both banks of the Mur have been incorporated with the town. The population now surpasses 75,000; and this may fairly claim to be the largest and finest city within the limits of the Alpine chain. Yet, as compared with less important places in Switzerland or Italy, this appears singularly behind the age. It is as completely a German provincial town, where provincial habits and usages reign supreme, as a large town in the east of England is purely

English. If you have not learned to devour three heavy meals at the German canonical hours, you will seek in vain at the best hotels for dinner at 5 or 6 o'clock, unless you secure the point by previous negotiation. You may often meet good-nature, and it may be real kindness, from the inhabitants, but if you ever expect anyone to act as though time were of the slightest value, you are doomed to certain disappointment. Gratz was at one time resorted to by strangers of limited income, who found here many of the comforts of life with a climate superior to that of most of the large towns of Germany. It is said that the advantage of relative cheapness has nearly disappeared, since the increase of population and rapid communication with the capital have gone far to equalize prices. The wines of Lower Styria and the adjoining parts of Hungary are good and cheap, and the beer of Gratz is in high repute, though on the spot they think proper to sell it as 'Wiener Bier.' The *Schlossberg*, once the site of a fortress, is now laid out with public walks; and, as it rises 400 ft. above the Mur, it commands an extensive view over the neighbouring country. The finest parts of the town are the chief square, or *Hauptwach Platz*, with the adjoining *Herren Gasse*, a stately street, with the ancient *Landhaus*, or place of meeting of the Estates of Styria, and some other handsome buildings. When the stranger has seen these, and the new streets and public walks on the E. and NE. side of the town, he will have obtained a sufficient impression of the whole. The naturalist will not fail to visit the *Johanneum*, an institution for the advancement of science and its practical applications, which owes its origin to the persevering exertions of the late Archduke John. It includes a school of science, with a staff of 20 professors, an excellent museum, with very rich mineralogical and geological collections, and a valuable herbarium, chiefly formed by Dr. Maly, the author of the '*Flora Styriaca*,' and finally, a large library, with a reading-room to

which access is readily obtained. On one side of the building is a botanical garden, tolerably well kept up. Its height above the sea is 1,140 ft. The rly. to Köttschach is noticed in Rte. C.

The favourite mountain excursion of the people of Gratz is the ascent of the *Schöckel* (4,714'). The summit is about 9 m. distant. As this is only a little E. of due N., it is nearer to the Peggau station than to Gratz, and may be equally well reached from that place. The ordinary way is by a road leading NE. across the range of hills that divide the Mur from the upper valley of the *Raab*. At a place called *Radegund*, near the chief source of that river, the road is quitted, and the remainder of the way is performed on foot or on horseback. The view includes the eastern portion of the Styrian Alps, and extends far over the adjoining portion of Hungary. The botanist may find some local species, but the mountain is not nearly so rich in rare plants as the Hohe Lantsch, mentioned above.

There is a good restaurant at the Gratz railway-station, which is rather distant from the centre of the town, in a new suburb on the rt. bank of the Mur.

Resuming his journey by the railway, the traveller follows the level country on the W. side of the Mur for about 12 m., till the hills again close in towards the river, and the stream descends more swiftly to the *Wildon* station (935'). Here the *Kainach*, which drains the SE. side of the range of the Glein Alps (Rte. C), joins the Mur. The castle of Ober-Wildon, on a rock above the river, is rendered illustrious by having served for several years as the observatory of Tycho Brahe. By *Weitendorf*, on the N. side of the *Kainach*, about 4 m. distant, there is an outbreak of basalt through the overlying tertiary rocks. A few miles S. of Wildon the traveller may see to the W. the opening of the valley through which the Lasnitz bears down the drainage of the Stainzer Alps (Rte. E). Instead of flowing westward to join the Mur, it turns S. parallel to

that river, and joins the Sulm, which follows the same course. Between these streams and the Mur is an extensive alluvial plain, extending about 8 m. to the junction of the waters, some way S. of the *Leibnitz* station (857'). In the angle between the Sulm and the Mur stood the Roman city *Flavium Solvense*. Numerous coins and other antiquities have been found there, most of which are seen in the Museum of the Johanneum in Gratz. A large number of Roman inscriptions have been built into the walls of a Schloss called Seckau 1½ m. from Leibnitz. It belongs to the Bishop of Seckau, whose see has been removed to Gratz. After crossing the Sulm by a massive bridge the rly. reaches the

*Ehrenhausen* station (819'). Here we reach the base of the range of low hills that divide the Mur from the Drave; but the rly. follows the former stream to SE. for a few miles to the *Spielfeld* station, where there is a fine *Schloss* belonging to Count Attems. [Vehicles ply from hence to *Radkersburg* on the Mur, the frontier town of Styria, only about 1½ m. from the border of Hungary. Other conveyances lead to *Gleichenberg*, a place now much frequented in summer for the sake of its mineral waters. There is one spring supplying chalybeate water and another which resembles that of Selters in Nassau, often used at table in Gratz and elsewhere. The place is said to offer excellent accommodation, and to be prettily situated, at the head of a valley in the hills N. of the Mur, about 18 m. from the little town of Mureck, or 25 m. from Spielfeld. It is overlooked by a castle on the top of a rock 1,958 ft. above the sea, erected as a barrier against the Turks when their frontier, now that of Hungary, was only 5 or 6 m. distant.] Between Spielfeld and Marburg the railway, in traversing the range of hills called *Windische Bühel*, goes through very pretty, picturesque country, of which little is seen from the rly. carriage. The summit level is traversed in a tunnel, about 3 furlongs in

length, and to this succeeds a great viaduct of about equal length, carried by 64 arches across the valley of the Pösnitz. The rly. then cuts through the E. end of the Pösruck range (mentioned in § 55, Rte. A), and presently reaches *Marburg* (885'), the junction station for the rly. to Villach (§ 55, Rte. A). There is a pretty good restaurant at the station. The town is much increased of late years, and has now fully 11,000 inhabitants. Its position in the midst of a rich wine district, connected by railway with Vienna, Trieste, and Klagenfurt, and with Hungary by the navigable stream of the Drave, produces a considerable amount of local traffic. Near the town is a large factory for making and repairing the rolling stock of the South Austrian Railway Company. The town has little to attract the attention of a stranger. The best inns are Stadt Wien, and Stadt Merau—the latter near the rly. station.

and the most agreeable way for a traveller approaching the upper valley of the Mur from Lower Styria. Though the road along the Drave is picturesque, most travellers will take the rly. as far as *Unter-Drauburg* (§ 55, Rte. A). At that place the rly. quits the valley of the Drave, and the traveller will do well to engage a carriage thence to Wolfsberg, as there are no post-horses on the way. The old post-road to Klagenfurt is followed as far as *Lavamünd* (1,248'), standing at the junction of the Lavant with the Drave. Here the Klagenfurt road is left to follow the banks of the Drave, while a branch road follows the rt. bank of the Lavant into the *Lavantthal*. The Alpine traveller who hears the scenery of this valley vaunted as the most beautiful in Carinthia must dismiss from his mind the impressions that such language is apt to convey. Although the mountains on either side attain a height of more than 5,000 ft. above the valley, the elements of wildness and grandeur are here altogether wanting. The soft and wavy outlines of the lower slopes, clothed with the richest vegetation, the frequent recurrence of neat villages and scattered houses, and the gentle declivity of the higher ranges that form the background, make up scenery whose beauty is more fully appreciated by the Latin than the Teutonic races. The geologist will find much to interest him in this very ancient valley, whose existence apparently dates from the cretaceous period. During the miocene period it appears to have been first a freshwater lake, and afterwards a bay, in which the characteristic marine fossils of that age were deposited. The superficial deposits, occupying the greater part of the centre of the valley, are alluvial, or diluvial, deposits of modern origin. The course of the Lavant ascends for several miles towards the NW. till the valley turns northward on approaching St. Andrä. On the way the road passes *St. Paul* (1,314'). On rising ground near that little town is the ancient Benedictine Abbey from which it takes its name. It was founded

ROUTE B.

MARBURG TO JUDENBURG, BY THE LAVANTHAL.

	Austrian miles	English miles
Unter-Drauburg (by railway)	8½	40
Lavamünd (by road)	1¼	6
St. Andrä . . . . .	2¾	12¼
Wolfsberg . . . . .	1¼	5½
St. Leonhard . . . . .	2¾	12¼
Obdach . . . . .	2	9¾
Judenburg . . . . .	2¾	11¼
	<hr/> 20½	<hr/> 96½

Post-road between Wolfsberg and Judenburg.

The road through the Lavantthal, here described, is at once the most direct

in the 11th century, and contains many ancient MSS. and other objects of antiquity. The fine church is the resting-place of many of the early princes of the house of Habsburg.

*St. Andrä* (1,491'), a charmingly situated little town, was for many centuries the seat of the Bishops of Lavant, whose residence has lately been transferred to Marburg. The Koralp is full in view, and may be ascended from hence as well as from Wolfsberg (Rte. E). At St. Andrä the Lavamünd road joins the post-road from Klagenfurt to the Lavantthal. This passes by *Völkermarkt* (3½ Aust. m. from Klagenfurt), and goes thence to *Griffen*, remarkable for ruins of vast extent, whose origin is imperfectly known. A very picturesque road leads thence through the hills to St. Andrä, distant 3¾ Aust. m. from Völkermarkt. Amid luxuriant meadows, orchards, and cornfields, the road from St. Andrä runs due N. to

*Wolfsberg* (1,510'), the chief place in the Lavantthal, with several inns. The best is Pfundtner's, by the bridge; Schellander's is also recommended. Above the town, overlooking the track leading to the Koralp (Rte. E), is one of the finest modern castles in Austria, built, at a cost of two millions of florins, by Count Henkel, a Prussian gentleman, owner of the great iron-works of Zeltweg on the Mur. Although the architecture leaves room for criticism, the general effect is excellent. In the grounds, which are beautiful, there is a mausoleum of the wife of the Count, with a good statue by Kiss, of Berlin. A diligence plies from Wolfsberg to Völkermarkt, a distance of 4½ Aust. m., and a rougher vehicle goes twice a week to Köflach (Rte. D). A small open cart, starting in the evening, carries the letters, and two or three passengers, to Obdach and Judenburg. The upper part of the Lavantthal is so pleasing that the pedestrian may prefer to walk as far as Reichenfels. He has a choice of two ways for going hence to St. Leonhard. The more agreeable, and rather the shorter, mounts a little E. of

due N. through a glen leading to *Preblau*, whose mineral waters resemble those of Gleichenberg, but the accommodation is much rougher. As at that place there are two springs, one chalybeate, the other slightly saline, and charged with carbonic acid gas, like that of Selters. Mixed with wine it is a pleasant drink. Crossing a low pass, the track descends northward from Preblau to St. Leonhard. The botanist will prefer to follow the post-road from Wolfsberg to that place, as he may find by the way two of the rarest gems of the flora of this region—*Saxifraga* (or *Zahlbrucknera*) *paradoxa* and *Mehringia diversifolia*.

Above Wolfsberg the main valley is narrowed between rather steep wooded slopes, and the course of the stream is sinuous. Rather more than half way a torrent is crossed, and beyond the bridge, at the hamlet of *Twimberg*, a branch road mounts eastward towards the Pack (Rte. D). About 3 m. farther the valley opens out, and the road runs nearly at a level till it approaches

*St. Leonhard* (2,388'), a semi-fossil little town, whose stillness contrasts with the bustle of Wolfsberg. It has a very fair inn (Schellander's). Over the town, on the E. slope of the valley, conspicuous from a distance, a fine Gothic church stands on a terrace sustained by massive ramparts. It has some fine stained glass, and deserves a visit. Above St. Leonhard the road ascends more rapidly to *Reichenfels* (2,702'), the last place in the main valley. The Lavant here descends to SE. from the Sirbitzkogel, and on the opposite side another torrent flows into the valley through the Prethal. The frontier of Styria is passed immediately beyond Reichenfels, but the watershed, and summit level reached by the road, is about 2 m. farther. This is called *Obdacher Sattel* (3,174'). A short but rapid descent leads thence to

*Obdach* (2,802'), a little market town, with a very fair inn, nearly opposite the post. This is the most convenient place for making the ascent of the *Sirbitz-*

*kogel* (7,863'), and the *Obdacher Speikkogel* (6,625'). The former, which is the highest of the Seethaler Alps, is easily reached by following the ridge that ascends westward from the Obdacher Sattel. A number of small tarns lie at a considerable height, not very far below the summit. One of these, called *Lavantsee* (6,111'), is the chief source of the Lavant. Most of the others pour their torrents to the Mur. The steeper, W. side, of the mountain sends its drainage to the Gurk through the Olsga (§ 55, Rte. B). The Seethaler Alps, called in botanical books Judenburg Alps, are rich in Alpine plants not commonly seen on the comparatively low ranges S. of the Mur. On the E. side of Obdach is the group of mountains whose highest summit is locally called *Speikkogel*, like the *Koralp*, *Saualp*, and most of the higher mountains of this district, and is here distinguished as *Obdacher Speikkogel*. Both this and the *Sirbitzkogel* may be quite as easily reached from *Reichenfels*, but the accommodation at *Obdach* seems better.

The road from *Obdach* is at first very agreeable. It descends along the *Granitzenbach* to *Weisskirchen* (2,325'), passing on the way by the ruins of the once famous castle of *Eppenstein*, perhaps the most ancient in *Styria*. At *Weisskirchen* the road turns westward across a level tract (a terrace of diluvium), and in about 4 m. reaches *Judenburg* (described in § 53, Rte. A). Before entering that place it is necessary to descend a steep slope in order to cross a deep *Graben*, excavated in the diluvium by an insignificant mountain torrent on the E. side of the town.

ROUTE C.

GRATZ TO JUDENBURG, BY KÖFLACH.

	Austrian miles	English miles
Strassgang (by railway)	1	4 $\frac{3}{4}$
Liboch . . . . .	1	4 $\frac{3}{4}$
Krottendorf . . . . .	1 $\frac{1}{2}$	7
Voitsberg . . . . .	1	4 $\frac{3}{4}$
Köflach . . . . .	1	4 $\frac{3}{4}$
Weisskirchen (by road)	5	23 $\frac{1}{2}$
Judenburg . . . . .	$\frac{7}{8}$	4
	<hr style="width: 100%; border: 0.5px solid black;"/>	<hr style="width: 100%; border: 0.5px solid black;"/>
	11 $\frac{3}{8}$	53 $\frac{1}{2}$

The completion of a branch railway from *Köflach* has greatly facilitated access to both the mountain ranges of this district, but especially to the so-called *Glein Alps*, which lie between *Köflach* and the upper valley of the *Mur*. *Köflach* lies near the head of the valley of the *Kainach*, which falls into the *Mur* at *Wildon* (Rte. A). The chief object of constructing the branch railway was to give an easier outlet to the bituminous coal, which is extracted in considerable quantities near the head of the valley. The passenger traffic is very limited, being apparently almost confined to the people of the villages by the way. Two trains daily each way amply suffice for the present requirements. Although this is a very direct way from *Gratz* to *Judenburg*, and the upper part of the *Murthal*, it involves the passage of a relatively high ridge, more than 5,000 ft. above the sea. On that account, passengers from *Lower Styria* prefer to go by the *Lavantthal* (last Rte.), and those starting from *Gratz* usually make the detour by *Bruck*.

As *Gratz* is separated from the *Kainachthal* by a range of considerable hills, the rly. is at first carried SW. for nearly 8 m., passing the SE. end of that range, and enters the valley only about 1 $\frac{1}{2}$  m. before reaching *Liboch*.

From that, or the preceding station of Premstetten, it is an easy walk of about 2 m. to *Dobelbad* (1,086'). There are here two warm mineral springs, and a neatly fitted-up bathing establishment, which is a frequent resort of pleasure parties from Gratz. Before reaching *Liboch* the rly. turns to NW., and maintains that direction to the terminus at *Köflach*. The scenery is pleasing, and the trains go at a pace that allows travellers to see much of the country. To the W. the rolling ranges of forest-clad hills rise in successive undulations, and are backed by the wavy outline of the Stanizer Alps. The church of St. Johann is conspicuous on a hill to the rt. before reaching the *Krottendorf* station, near to the pretty little town of *Ligist*, lying in a recess W. of the road. Above *Krottendorf* the hills close on either side of the valley, and they do not open out again till we approach

*Voitsberg* (1,260'), a very ancient little town, the chief place in the *Kainachthal*. A short way above *Voitsberg* the valley divides, and the main branch mounts NNW. to the village of *Kainach* (1,835'). The extreme head of the valley leads to the main range of the Glein Alps, a short way SW. of the *Gleinalpen-Speikkogel* (Rte. F), which may be ascended from *Kainach*. The rly. is carried through the NW. branch of the valley to *Köflach*, standing about 3 m. above the junction. (No information as to inns on this road.) About 2 m. above *Köflach* the stream that flows by that place is formed by the junctions of the torrents from two mountain glens, called respectively *Sallathal*, and *Gradenthal*. The former is that followed by the road to *Weisskirchen*; but the traveller, not pressed for time, will do well to make an excursion to the head of the *Gradenthal*, which offers some of the boldest scenery in this district. It is enclosed between high crags of limestone (probably of Devonian age), which abounds in caverns. The most interesting of these, though rather difficult of access, is that called *Haidnische Kirche*. It is entered through

a natural arch of rock, standing detached from the mountain, and commanding a view which is especially striking when the traveller returns to the light of day from the interior of the cavern.

The road follows a sinuous course, with a general direction to WNW., in ascending through the *Sallathal*. The highest village is *Salla* (2,818'), where there is a glass-house, one of several in this neighbourhood. Here the road enters on the crystalline slates that constitute the main ridge of the Glein Alps. The summit of the *Stubalp Pass* (5,130') is not much below the general level of the ridge, in which there is no prominent elevation excepting the *Rappelkogel* (6,310'), which rises 4 or 5 m. SW. of the pass. This commands a very wide view, especially on the SE. side, where it extends to the plains of Hungary. A short way below the pass, on the NW. side, is a sort of *Tauernhaus*, or mountain inn (beim *Stübler*). In descending, the road keeps along a ridge that divides two glens—the *Lobming Graben*, on the rt., and on the l. the *Feistritzthal*, with the village of *Feistritz*, one of many places in Styria and Carinthia bearing that name. The plain is reached a short way from

*Weisskirchen*, whence the road to *Judenburg* is noticed in the last Rte.



## ROUTE D.

## GRATZ TO WOLFSBERG, BY KÖFLACH.

	Austrian miles	English miles
Köflach (by railway) . . .	5½	26
Wolfsberg (by road) . . .	6	28½
	11½	54½

Stellwagen twice a week from Köflach to Wolfsberg, carrying only 4 passengers.

This is an easy and agreeable way for a traveller going from Gratz to the valley of the Drave, who wishes to take the Lavanthtal on his way. The pedestrian need not go so far as Köflach, as the road from that place turns SSW., and mounts rather steeply to *Edelschrott* (2,696'), while that place is reached in not much more time by a foot-path that ascends nearly due E. from *Voitsberg*. The road after passing *Edelschrott* follows a very sinuous course, winding above the l. bank of the *Teigitschbach*, and finally descending to cross that torrent. A long ascent then leads to the lowest pass in the range of the Stainzer Alps, known as *Die Pack* (3,870'). The stellwagen travels very slowly, and employs from 8 to 9 hrs. to reach Wolfsberg. The summit is a broad undulating ridge, not commanding any remarkable view, but the scenery in descending through the *Twimberg Graben* is pleasing, if not very striking. The post-road through the Lavanthtal is joined at *Twimberg*, nearly 7 m. above Wolfsberg (Rte. B). The pedestrian, without very much lengthening his day's walk, might follow the ridge of the Stainzer Alps southward from the summit of the *Pack*, ascend the *Handalp* (6,066'), one of the most conspicuous summits N. of the Koralp, and descend to the Lavanthtal through a glen that opens at *St. Gertraud*, about 3 m. NE. of Wolfsberg.

## ROUTE E.

## GRATZ TO WOLFSBERG, BY SCHWANBERG AND THE KORALP.

	Austrian miles	English miles
Liboch (by railway) . . .	2	9½
Stainz (by road) . . .	1½	8½
Landsberg . . .	1½	8½
Schwanberg . . .	1	4½
Koralp (on foot) . . .	2½	11½
Wolfsberg . . .	2	9½
	11	52

This is the way which will be preferred by most pedestrians going from Gratz to the Lavanthtal, and especially by the botanist; but it cannot be accomplished in less than two days. A public conveyance, very slow, meets the morning train at the Liboch station, and takes passengers thence to Stainz. Between that place and Schwanberg the road is for the most part so rough that no time is saved by taking a country carriage. Where time is an object an active walker may accomplish the journey to Wolfsberg in a long summer's day, starting by the early train from Gratz to Leibnitz (Rte. A), and taking a carriage from that place to Schwanberg (about 19 m.), he may reach Wolfsberg on the same evening. The usual estimate allows 6 hrs. for reaching the summit of Koralp from Schwanberg, and 3½ hrs. for the descent to Wolfsberg; but 8 hrs., exclusive of halts, will be amply sufficient for a moderately good walker. The course followed from Liboch to Schwanberg lies SSW. across the course of the streams that drain the flanks of the Stainzer Alps.

It is therefore necessary to traverse a number of intervening ridges, but these are so low that they do no more than give agreeable variety to the walk. On the way from Liboch to Stainz, the botanist will observe *Cirsium anglicum* in the meadows. The larger villages of this district—styled *markten* (market-towns)—are clean and well built, and the best inns, which are clean and comfortable in appearance, are commonly kept by the local butcher (Fleischhauer) and the brewer, so that a traveller is likely to find either good meat or good beer, if not both. *Stainz* is a pretty place, surrounded by orchards. Following the road to Landsberg the traveller leaves on the rt. hand the hamlet of *Gams*; but the botanist will turn aside from his direct course, and enter a little glen—drained by a streamlet that passes below the hamlet—locally called *Gamsgraben*. Here, under overhanging rocks, in damp places, he will find two very rare plants—*Saxifraga paradoxa*, and *Mehringia diversifolia*, in greater abundance than in the Lavantthal. The walk from Gams to Landsberg, chiefly by foot-paths, is very agreeable; but the scenery of this district is to the Alpine traveller somewhat of the baby-house order, reminding him rather of some parts of England than of the regions where Nature has attained her full growth.

*Landsberg*—sometimes called for distinction *Deutsch Landsberg*—is on the *Lasnitz*, a stream that, after uniting several mountain torrents, ultimately joins the Sulm. Near at hand is a picturesque castle standing on a rocky ridge, but abandoned to decay, belonging to Prince Lichtenstein. The brewer and the butcher confront each other in the main street with rival inns, both attractive in appearance. The ascent of the Koralp may be made from this place by a circuitous, but apparently attractive, way, passing by Trahütten, St. Maria, and a summit N. of the Koralp, perversely called Bärenthal. The road from Landsberg to Schwanberg is better than that to Stainz, and a little

time may be saved by taking a carriage. On the way is passed *Holleneck*, another castle of Prince Lichtenstein, sometimes inhabited in summer. It is said to contain interesting objects of art and antiquity. The largest village, or *markt*, of this neighbourhood is

*Schwanberg* (1,907'), on the *Sulm*, which here issues from a narrow glen descending from the Koralp, and flows through more open country, to Leibnitz, there turning southward to follow for some distance a course parallel to the Mur (see Rte. A). Grasser's inn at Schwanberg is very fair, but it is said there is better accommodation at another house (bei Ködel?).

The ascent of the *Koralp* (7,010') is commonly made from Schwanberg; and the portion of the range adjoining that summit is often collectively called *Schwanberger Alps*. It must be recollected that here, as well as at Wolfsberg, the mountain is scarcely known by any other name than Speikkogel. After following for a short distance the glen of the Sulm, where there are large saw-mills, the track, which is practicable for rough carts, begins to ascend the slope above the rt. bank of the stream. It soon turns quite away, and finally gains a ridge on which stands the pilgrimage church of St. Anna (3,268'). Thenceforward the way lies along the ridge of the mountain which divides the waters flowing to the Sulm from those that descend to the Drave, near Saldenhofen, through the Feistrizbach. As the ridge is broad and ill-defined, and there are many paths, a guide is required by a stranger who would take the most direct course. But those who seek refreshment by the way will be tempted to diverge somewhat from the direct course, and follow the cart-track to *Ochsenwald*. This is a small group of houses (about 4,500 ft. above the sea) that seems to have grown up about a steam saw-mill that has converted into planks a great part of the forest that once clothed the flanks of the Koralp. There is here a rough little mountain inn, not bad of its kind, where a few beds are

available for travellers who would reach the summit early. It stands on the SE. slope of the mountain, overlooking a glen whose torrent is a tributary of the Feistritzbach. Coffee, wine, beer, eggs, and sometimes meat, are forthcoming here. From this point no one used to mountain walking need take a guide in fine weather. After ascending some way NW. by a rough slope beyond the saw-mill, the traveller enters a broad combe, or hollow, in the mountain, drained by a slender rivulet. But for the absence of heather, the scene will much remind him of the Grampian Hills in Scotland. The most direct course is, after ascending some way along the stream, to mount the slope above its rt. bank and gain the summit of the ridge which leads to the top of the mountain. This is formed of three humps, lying nearly from E. to W., of which the westernmost is the highest. The view is of course very extensive, but perhaps the most interesting portion is the Lower Lavanththal, laid out like a rich garden along the base of the mountain, dotted with many small towns and villages. Wolfsberg is concealed from view, but St. Andrä, which is rather nearer, is full in sight. Beyond the Lavanththal is the range of the Saualp, and farther N. the loftier Seethaler Alps, the only near mountains that overtop the spectator. *Campanula alpina* and several other local species are abundant, but the flora is less rich and varied than on most of the higher Styrian mountains. Those who wish to reach the top at sunrise, sleep at the Bärenhütte, only 1 hr. distant, lying some way N. of the course followed in ascending from Ochsenwald. But 2 hrs. are quite enough for the ascent from the latter place, where the accommodation is much better. Many of those who ascend from Wolfsberg sleep at the Hipfhütte, supplying clean but rough quarters. The ascent thence takes 1½ hr.

In descending to Wolfsberg the course at first lies westward, but on reaching a track this bears gradually to the rt.,

and before long the traveller finds himself overlooking a glen that descends NW. to join the Lavanththal near St. Gertraud, above Wolfsberg. Thenceforward the way lies constantly along, or near to, the summit of the ridge dividing this glen from the main valley. Whenever there is a choice of paths, select that which keeps nearest to the ridge. It is a very pleasant walk, sometimes through forest, sometimes over open ground, sometimes overlooking the Lavanththal to the l., at others gaining views of the glen above mentioned, and the mountains beyond it. Finally, by a judicious short-cut, the way may be shortened, and a road is reached that passes by the S. side of Count Henkel's stately castle, noticed in Rte. B.

## ROUTE F.

PEGGAU TO KNITTELFELD, OR ST. MICHAEL, BY UEBELBACH.

The traveller going from Gratz to the Ennsthal, or to the upper valley of the Mur, may take a direct course from the Peggau station (Rte. A) across the range of the Glein Alps, and, without a great detour, gain a fine view by the way from the highest point of that range. From *Feistritz*, opposite Peggau, a road mounts along the N. side of the Uebelbach torrent to the little industrial town of

*Uebelbach* (1,936'). The traveller may save his legs, though no time, by taking a carriage as far as that place. Above the town the valley forks. The main branch of the Uebelbach descends through a rather long straight glen, lying due W. A path leads that way to the ridge at its head, where there is a chapel and a little mountain inn, counted 4 hrs. from Uebelbach. From the summit of the *Gleinalp Pass* the path descends in the same direction, nearly due W. along the *Gleimbach*, and finally enters the Murthal at St. Margarethen, about 3 m. below *Knittelfeld* (§ 53, Rte. A). In clear weather the traveller will not fail to reach the summit of the *Gleinalpen-Speikkogel* (6,508'), which lies N. of the Gleinalp inn, and may be

reached in less than 1 hr. Being much nearer to the fine summits of the Johnsbacher Alps, and the range of the Lesser Tauern, the mountain view here is decidedly preferable to that from the Koralp, noticed in the last Rte.

Another track goes from Uebelbach along the WNW. branch of the valley, crosses the main ridge at a point some miles NE. of the Speikkogel, and descends to *St. Michael*, where the road from Lietzen on the Enns (§ 53, Rte. E) enters the Murthal. An active walker might ascend from Uebelbach to the Gleinalp inn, mentioned above, thence reach the top of the Speikkogel, and follow the ridge NE. from the summit till he reaches the path by which he could descend to St. Michael.





CARNIC ALPS

## CHAPTER XVII.

## THE SOUTH-EASTERN ALPS.

## SECTION 62.

## CARNIC ALPS.

Route A — Sillian to Villach, by the Gailthal. Ascent of the Dobratsch . . . . .	538
Route B — Villach to Venice . . . . .	538
Route C — Venzone to Pieve di Cadore . . . . .	543
Route D — Venzone to the Gailthal, by the Canal di Gorto. Ascent of the Paralba . . . . .	545
Route E — Lienz to Tolmezzo, by Kötschach and Monte Croce . . . . .	548
Route F — Lienz to Maria Lukau. Ascent of the Kreuzkofel . . . . .	551
Route G — Mountain roads between Villach and Greifenburg . . . . .	553
Route H — Pontebba to Hermagor, by Tröppelach . . . . .	554
Route I — Longarone to Sacile . . . . .	555

## SECTION 63.

## TERGLOU DISTRICT.

Route A — Villach to Trieste, by the Predil Pass . . . . .	559
Route B — Caporetto to Udine . . . . .	563

Route C — Villach to Laybach, by the Valley of the Save . . . . .	564
Route D — Laybach to Tarvis, by Veldes. Ascent of the Terglou . . . . .	567
Route E — Flitsch to Wurzen or Moistrana . . . . .	572
Route F — Flitsch to Resiutta . . . . .	574
Route G — Laybach to Gorizia, by Idria or Adelsberg . . . . .	578

## SECTION 64.

## KARAWANKAS AND SULZBACHER ALPS.

Route A — Marburg to Trieste, by railway . . . . .	583
Route B — Laybach to Klagenfurt, by the Loibl Pass. Ascent of the Stou . . . . .	589
Route C — Krainburg to Kühnsdorf, by Bad Vellach. Ascent of the Ovir . . . . .	591
Route D — Cilli to Sulzbach, by the Sannthal. Passes leading to Sulzbach . . . . .	594
Route E — Cilli to Unter-Drauburg . . . . .	600
Route F — Cilli to Kappel, by Schwarzenbach . . . . .	601

In the preceding chapters of this volume we have described the central crystalline ranges of the Eastern Alps, the broad calcareous zone that includes the Bavarian highlands and the Alps of Lower Austria, Northern Salzburg, and part of Upper Styria, and, finally, in the last chapter, the region which, from the predominance of one particular rock, may be called, *par excellence*, that of the Dolomite Alps. There remains yet an extensive region lying between the Valley of the Drave and the Adriatic, rich in

natural attractions, and sufficiently easy of access, but as yet little frequented by travellers. It includes mountain ranges that have common relations, both geographical and geological, but which have been so profoundly separated by the chances of war and politics, that they have never been known by a common designation. In default of a recognised name, they are here spoken of collectively as the South-Eastern Alps.

These include three principal ranges, which, with some outlying groups, are



described in as many different sections. The westernmost of these has been known to geographers since its valleys were frequented Roman highways as the chain of the Carnic Alps. Almost continuous with this, between the valleys of the Drave and the Save, extends a range, nearly equally lofty, divided by local usage rather than upon solid scientific grounds into the groups of the Karawankas and the Sulzbacher Alps.

South of the nearly continuous line that marks the axis of the Carnic and Karawankas chains rises the group of the Julian Alps, in many respects the most remarkable of this region. These are often spoken of by those ignorant of the geography of this region as if they formed a *chain* dividing the valley of the Save from the coast of the Adriatic; but this is true only in so far as the chief sources of the Save lie in the inner valleys of these Alps. From the time that the river issues from the interior valleys, and unites its various branches in the broad basin N. of Laibach, it is separated from the Adriatic merely by a comparatively low zone of cretaceous rocks, having no connection, orographic or geologic, with the Julian Alps, and the traveller going from Laibach to Friuli makes a complete circuit of the E. and S. sides of these Alps without traversing any defined ridge; nay more—so strange is the structure of the country—without being able to trace a watershed between the river and the not distant sea-coast.

The work of Messrs. Gilbert and Churchill, so often referred to in the last chapter, has made several of the finest parts of this region known to many English readers; and it is to be expected that an increasing number of travellers will gradually find their way to a country rich in novelty and beauty, and offering better accommodation than is generally found in remote places elsewhere in Europe. Some are discouraged by learning that the ordinary dialect is Slavonic, and this is true excepting in Friuli; but a large part of the population possesses also both German and Italian, and the

cases are rare in which one or other of these languages is not spoken in inns, even in out-of-the-way places. The dialect of Friuli (locally called *Furlan*) is not easy, even for Italians, and in some places a stranger may have a little difficulty in making himself understood.

## SECTION 62.

## CARNIC ALPS.

CONFUSION is not uncommonly created in the minds of those not familiar with the region here described, by the resemblance between the modern name of the province of Carniola, mainly consisting of the basin of the Upper Save, and that of the ancient *Carnia*, which included the mountain region drained by the Tilaventus, now known as the Tagliamento. Although the name *Friuli* has in modern times to a great extent supplanted the older designation—including the mountain valleys along with the low country between the mouth of the Livenza and that of the Isonzo—the name *Carnia* is still in common use in the country, and seems to have preserved pretty nearly its ancient boundaries. The designation *Carnic Alps* may perhaps in strictness be limited to the range which on the N. side divides the basin of the Tagliamento from the Gailthal; but orographically it extends both to W. and E. a little beyond those limits.

At the W. end it terminates in the ridge between the Sextenthal and the Drave, that subsides into the valley in the hill whereon stood the Roman city of Aguntum (§ 61. Rte. H); and to the E. it extends to the low ridge N. of Tarvis, where it is divided by the Gailitzbach from the W. end of the Karawankas.

It will be observed that while the Carnic range is drained on the S. side by valleys that converge towards the Tagliamento, which ultimately flows southward towards the Adriatic, on the N. side it forms one bounding wall of a long and straight valley, whose waters flow nearly due E. to join those of the Drave. It may be questioned, indeed, whether this valley—the Gailthal—be not orographically the main branch of the Drave valley. On its northern side it is separated from the Drave by a range nearly equal in height to that of the Carnic Alps, but far less regular in construction, and very different in geological formation. The Carnic range consists mainly of more or less crystalline, and partly metamorphic rocks, referred to the carboniferous series, and only a few of the higher peaks are composed of triassic dolomite. The northern range, which we shall call the *Gailthal Range*, includes at least three groups, which are divided by deep passes. At the W. end, between the Upper Gailthal and Lienz, is the *Kreuzkofel Group*, culminating in the *Kreuzkofel* (8,979'). Eastward of this is a central group, composed like the last almost exclusively of dolomite, whose highest summit is the *Reisskofel* (7,749'). The eastern group is subdivided into many ridges divided by short glens, most of which are parallel to the bounding valleys of the Gail and the Drave. The highest summits of this group are the *Staffberg* (7,275') and the *Dobratsch* (7,067').

In the Carnic range the *Paralba* (8,820') was long reckoned as the highest summit, although it falls far short of a group of peaks SW. of Mauthen, to which, until lately, little attention has been given by travellers. The writer has long been aware that the group in

question considerably surpassed the *Paralba*; but having encountered unfavourable weather in this district in 1854 and 1857, he did not certainly know the position of its highest point. This is the *Kellerwand*, or *Kellerspitz*, a mass rising with extreme steepness above the head of the *Valentinothal* (Rte. D). This was first climbed in 1868 by Dr. P. Grohmann. The height is probably little less than 9,500 ft.

Besides the outliers from the main ridge that diverge southward towards the basin of the Tagliamento, there is a considerable mountain mass, best known as the *Premaggiore Group*, divided from the main chain by the Canal di Socchieve, through which flows the uppermost branch of the Tagliamento. The highest summit of this group is probably the *Monte Cridola* (8,475'); but the *Premaggiore* (8,127') is more generally known. More conspicuous than either, as it is the highest mountain that rises immediately above the plain of Friuli, is the *Monte Cavallo* (7,377').

The extensive district including the mountain ranges and groups here enumerated, is bounded on the N. by the Drave, and on the E. by the road from Villach by Tarvis and Pontebba which thenceforward follows the Fella and the Tagliamento till they enter the plain of Friuli. The southern boundary is marked by the low country between the Tagliamento and the Livenza, and on the E. side it is divided from the region described in the last chapter by the upper valley of the Piave and the road from Capo di Ponte to Conegliano.

Good accommodation is found at *Kötschach* and *Hermagor* in the Gailthal, at *Bleiberg*, at *Tarvis*, and at *Pontebba*, and very fair country inns at many other places in this district; but the spot which will most attract the mountaineer is the inn at *Auf der Plecken*, a few hundred feet below the pass of *Monte Croce* (Rte. E). Near to the highest summits and the only glacier of this region, this place offers comfortable quarters and enjoyable scenery, tempting to a prolonged stay. The botanist

visiting the valleys of Friuli should procure a catalogue of the flora of that province, by Professor G. A. Pirona, of Udine, containing very complete information as to the vegetable wealth of this remarkably interesting region. He will bear in mind that the geographical term Carnia means the mountain region drained by the Tagliamento, lying W. of its affluent the Fella.

trough, though inclined in opposite directions. Although it is possible to take a light carriage from Sillian to Kötschach, time is lost by so doing, as moderate walkers will go faster than the vehicle, especially between Maria Lukau and Kötschach. In whatever way the journey be made, it will be found a very long and hard day's work to reach the last-named place from *Sillian* (3,611'), further noticed in § 51, Rte. A. About 2 m. below that place, and a little below the junction of the Kartitschbach with the Drave, the latter stream is crossed, and the rough track begins to ascend a wooded hill. By a short cut *St. Oswald* may be left on one side. On the opposite side of the valley is seen the pilgrimage church of *Hollbruck* (4,451'). Sexten (§ 61, Rte. H) may be reached from thence over the top of the *Helmspitz* (7,975'), which commands a remarkable view.

Passing *St. Leonhard* (4,646'), the chief place in Kartitsch, the track rises to the nearly level plateau that forms the watershed between the short Kartitschthal and the long valley of the Gail. The scenery here is pleasing, though not particularly striking, but the dolomite peaks of the northern range soon begin to attract attention. The track keeps throughout to the l. side of the valley (going from Sillian), and the road passes somewhat higher up than the lowest point of the watershed. This is called *Kartitscher Joch* (5,363'), and is also locally called Tauern. The Tyrolese boundary extends several miles down the *Lessachthal*, which is the local name for the upper part of the Gailthal above Kötschach. It is an easy and agreeable walk from the summit-level to

*Ober Tilliach* (4,893'). The inn (a large house conspicuous in approaching the village from the E. side) seems fairly good for a place so rarely visited by strangers, save pilgrims who take this way to Maria Lukau. The road as far as that place is in tolerable order, and an active walker will perform the distance in 2½ hrs. or less. Several excursions may be made from Tilliach, of

ROUTE A.

SILLIAN TO VILLACH, BY THE GAILTHAL.  
ASCENT OF THE DOBRATSCH.

	Hours' walking	English miles
Tilliach . . . . .	4	12
Maria Lukau . . . . .	3	9
Kötschach . . . . .	6 (?)	18 (?)
Hermagor . . . . .	8	24
Arnoldstein . . . . .	7	21
Villach . . . . .	3	9½
	31	93½

Road between Sillian and Kötschach barely passable for a light, strong, and narrow vehicle. Tolerable road from Kötschach to Villach.

The *Gailthal* (*Vallis Julia*, and *Vallis Gilia*, of ancient geographers) has been already referred to in this work (§ 51, Rte. A), as the traveller descending along the Drave from its source at the Toblacher Feld passes the opening of the short and steep *Kartitschthal*, through which the head of the Gailthal is reached from the W. side. It is obvious by mere inspection of a map that the Gailthal and Kartitschthal lie in a single long

which the most interesting is said to be the ascent of the *Denderhöhe* (7,800'), which rises N. of the village. All the prominent summits of the Kreuzkofel range enjoy very fine views of the High Tauern Alps to the N., and the Carnic Alps in the opposite direction. Unlike its rivals, which are mostly difficult of access, this summit is easily reached in 3 hrs. from the village.

The road descends from Ober Tilliach, and after passing two or three hamlets, and a larger place called *St. Jenwein* (4,159'), or *Unter Tilliach*, reaches the frontier between Tyrol and Carinthia. At one time this probably agreed with the limit between the Slavonic population of the lower valley and their German-speaking neighbours; but German seems at present to prevail throughout the Lessachthal, and the Wendish tongue predominates only after passing Köttschach. The dialect about Tilliach is somewhat peculiar, and is said by Schaubach to resemble that of Silesia. Less than 2 m. beyond the border of Carinthia the traveller reaches *Maria Lukau* (3,754'), a straggling village, with a large church, which enjoys local celebrity throughout Carinthia as a place of pilgrimage. Close by is a convent, erected in the 17th century by Cardinal Widmann. There are at least two good inns here. Guggenburger's is probably the best; but the writer, happening to stop at another house (kept by Benz?), found very fair accommodation, good food, and low charges. On the S. side of the valley a short glen runs up towards the main range of the Carnic Alps.

The road from Maria Lukau to Köttschach is, as the writer believes, the most remarkable, or, if the reader pleases, the most infamous of its kind in Europe. If called a road, and said to be traversed by carriages, it must be recollected that the vehicle used is little more than a strong basket on wheels, of course without springs, and so light that it may be dragged over almost any obstacle. At Maria Lukau the Gail begins to excavate in the friable deposits

that fill the bottom of the valley a ravine which extends hence very nearly to Köttschach. As the mountains of the Kreuzkofel range rise directly from the valley, each of the torrents and lesser streamlets that furrow their sides pursues its own separate course towards the Gail, and each, on reaching the bed of the main valley, has excavated a separate ravine, locally called *Graben*, often of considerable depth. When it is said that 72 such *graben* have to be crossed between Maria Lukau and Köttschach, each involving a detour of from 3 or 4 min. to  $\frac{1}{4}$  hr., that the road in these *graben* is seldom more than 6 inches wider than the vehicle, and is liable to be carried away with every fall of rain, it will be imagined that it is a more serious undertaking to travel this way in a carriage than to accomplish an ordinary glacier pass. The writer has given the distance as usually reckoned; and he thinks it possible that an active walker may accomplish it in 6 hrs., though certainly not with ease. In his own case the vehicle took very nearly 10 hrs. ascending from Köttschach, of which nearly 1 hr. was given to a halt at Liesing; and the road was not in unusually bad order.

The first village passed is *Lorenzen* (3,612'), the most central situation for mountain excursions in this part of the valley, as two paths lead northward to Lienz (Rte. F), while on the opposite side of the Gail the track mounts to the Hochalpbpass (Rte. D), leading either to Forno Avoltri or to Comelico, through Val Visdende. (No information as to inns at Lorenzen.) The next place of any note is *Liesing* (3,405'), with an uninviting inn, 434 ft. above the level of the Gail. In this part of the Lessachthal the type of the population appears to be physically low, and cretinism is not rare. Although the scenery is generally pleasing, its attractions are not in proportion to the difficulties and endless delays of this extraordinary road; and it is with genuine satisfaction that the traveller achieves the final descent that leads him down to the level

of the Gail, where the valley opens out a little above Kötschach. In all maps, without distinction, the place indicated as the local capital of this part of the valley is *Mauthen* (Rte. E), a comparatively deserted village on the S. side of the Gail, while the entire vitality of the neighbouring district is centred at

*Kötschach* (2,264'), though it can scarcely, in ordinary language, be called a village. In a very pretty part of the valley, richly planted with deciduous trees, a number of large, comfortable, and clean-looking houses are scattered about with no regard to symmetry. Most of these stand apart, each with its garden and orchard. Here the traveller finds a thoroughly good country inn (beim Kürschner), and it is said that equally good quarters may be had at the Post. The somewhat frequented road to Lienz, and the track to Auf der Plecken (Rte. E), converge to this point, and many pleasant walks may be found in the neighbourhood. From many places hereabouts, and from at least two points on the road, the summit of the Kellerwand is seen far overtopping the nearer mountains.

Throughout the long reach of the valley between Kötschach and Hermagor the scenery is everywhere pleasing, though nowhere very striking. Numerous small villages and hamlets are seen on either side of the Gail, mostly standing on piles of debris poured into the main valley from lateral ravines. Near Kötschach the most conspicuous summit is the Pollinick (7,631'), further noticed in Rte. E. The chief village passed on the way is *Reissach*, with a tolerable inn. A little way N. of the village is the *Reissacher Bad*, a small establishment for mineral baths, standing at the S. base of the sharp dolomitic peak of the *Reisskofel* (7,749'), whose summit, once considered inaccessible, may be reached, with little difficulty, in 3 hrs. Walten Hans is a good guide.

About 16 m. from Kötschach the road crosses to the rt. bank of the Gail, passes *Tröppelach*, where the track from Pontebba (Rte. H) descends into

the main valley, and *Watschig* (Mayer's inn, tolerable), which stands at the foot of one of the spurs of the Gartnerkofel. Before long the road recrosses the river, and turns somewhat aside from its l. bank to reach

*Hermagor* (1,914'), the chief place in the lower Gailthal. At the inn (zum Mohren) the traveller finds good quarters and civil treatment, tempting him to make this place his head-quarters for a few days. The situation is very agreeable, just at the opening of the Gitschthal, a pretty lateral glen, through which runs the road to Weissbriach and Greifenburg, noticed in Rte. G. Hermagor is well known to botanists on account of a remarkable plant discovered in the last century on the neighbouring mountain S. of the Gailthal by the eminent botanist Wulfen, and named from him *Wulfenia Carinthiaca*. Being a large plant, with conspicuous purple flowers, it is not easily overlooked, and it is therefore highly probable that it is absolutely confined to the three localities now known, all very near together, and being, in fact, spurs from a single mass of mountain rising S. of Hermagor, which culminates in the *Gartnerkogel* (about 7,200'). Of these localities the Kühwegalp is nearest to Hermagor, and is reached in about 3 hrs.; the Watschacheralp is nearer to Watschig, while the Auernickkogel overlooks the Nosfeld Pass (Rte. H). Although this interesting plant has no European congener, two closely allied species have been found in the highlands of south western Asia. It is confined to the upper portion of the zone of coniferous trees, between about 5,200 and 6,000 ft., but in the three places named above it is so abundant as to usurp almost exclusive possession of the soil.

At Hermagor the torrent from the Gitschthal, after flowing ESE. from Weissbriach, turns abruptly due S. to join the Gail; but in the eastern prolongation of the axis of the Gitschthal is a deep trough, divided from the Gail by a pineclad ridge several miles in length. In this hollow lies the pretty

*Presecker See.* The pedestrian may follow the rt. bank of the Gail below Hermagor; but the carriage-road, taking a somewhat circuitous course, quits the river and runs through the depression above mentioned, passing the Presecker See, and returning to the l. bank only about 13 m. lower down the main valley. In this part of the Gailthal the two conspicuous mountains are the Dobratsch to the E., and the Gartnerkogel a little S. of due W.

Soon after passing Emersdorf, the traveller reaches a point where he has a choice between several different roads to Villach. For the pedestrian, the shortest way is to follow the l. bank of the Gail to *Föderaun*, a hamlet on the high-road about 4 m. from that town. Travelling in a carriage, the usual way is to cross the Gail by a wooden bridge leading to *Feistritz*, and then follow a rough road that goes for some way along the rt. bank of the river, till it turns southward to *Arnoldstein*, the post-station on the way between Villach and Tarvis (Rte. B). At Föderaun the Gailthal opens out into the broad valley that divides the Karawankas from the Styrian Alps. The miocene deposits that overlie the older strata in this broad trough are in their turn covered over by masses of diluvium and glacial drift, that in some places form undulating hills of considerable elevation. The Gail turns NW., and follows a sinuous course to join the Drave about 2 m. below Villach (§ 55, Rte. A).

A road frequently followed from Hermagor to Villach, shorter but more hilly than that just mentioned, passes by a depression along the N. side of the Dobratsch. About 4 m. beyond the Presecker See the traveller leaves the road to Emersdorf, and begins to ascend gently about due E. Almost immediately a branch road mounts northward towards a pass leading to Paternion, but the way to Villach lies eastward to *Tratten* (2,504'), a village standing on a terrace at a considerable height above the floor of the Gailthal. The way lies ESE. along this terrace,

till the road reaches a gap at the W. end of the range of the Dobratsch, turns sharply to the N., and begins a rather steep, but not long, ascent leading to *Kreuth*, a small village with a neat-looking inn, about 3,000 ft. above the sea. This stands at the W. end of the trough that divides the Dobratsch from the Erzberg. Some 3 or 4 m. farther is

*Bleiberg* (2,930'), a large, well-built village, with many comfortable houses, and a good inn. It derives its name from the important lead-mines in the adjacent *Erzberg* (5,295'), rising immediately N. of the village. The road to Villach runs eastward by *Heiligengeist* (2,899') to Obervellach, a village on the Drave 3 m. above Villach. The scenery of the *Bleibergthal*, as the short valley is called that descends eastward towards the Drave, is not very picturesque, the valley being sadly shorn of timber, and the slopes somewhat uniform in aspect; but Bleiberg is the most convenient starting-point for the ascent of the Dobratsch, which commands the most interesting and instructive panoramic view in this part of the Alps; and there is probably no other place in the Eastern Alps where the geologist can acquire so full an insight into the order of succession of the sedimentary strata authenticated by the secure evidence of fossil remains. By application to one or other of the gentlemen engaged in the direction of the mines, the geologist will probably secure a guide conversant with the most interesting and instructive spots in the neighbourhood.

The *Dobratsch* (7,067'), better known among the German population of this district as the *Villacher Alp*, forms the eastern extremity of the range dividing the Gailthal from the valley of the Drave. As is apparent from the foregoing pages, it is a nearly isolated mass. The Gail encompasses it on the S. and E. sides, while it is divided from the ranges on the W. and N. by the depression through which the road above described goes from the Gailthal to Bleiberg and Villach. Rising as a great promontory between the Kara-

wankas and the Styrian Alps, extremely steep on the S. side towards the Gailthal, but sloping with a gentler declivity on the N. side towards Bleiberg, and eastward towards Villach, the mountain is conspicuous throughout a great part of Lower Carinthia, and at an early date the piety of the two races who divide the adjoining territory converted it into a place of pilgrimage. The Wendish church, built by a native of the Gailthal, stands a short way below the actual summit, which belongs to the Villach people, and is crowned by a German pilgrimage church. A small but solid house, containing three rooms, the key of which is kept at Bleiberg, supplies, when not overcrowded, good shelter for the night for travellers who would enjoy the evening and morning view. Of the two ways leading to the summit from Bleiberg, the longer, but by far easier course, is by the 'Scharte.' A cart-track mounts more than half the way to the summit, and ladies may avail themselves of the light wicker carts of the country, well stuffed with hay. It would be possible to ride to within a short distance of the top, but it is not always easy to secure a trustworthy animal. The shorter way from Bleiberg is by a zigzag path—known as the Lahner—which mounts most of the way over slopes of debris. On attaining a height of about 5,300 ft. the view of the snowy range of the High Tauern begins to open beyond the lower intermediate ridges, and every step adds to the widening circle in the distant horizon. Having deposited his encumbrances at the house of refuge, only 103 ft. below the summit, the traveller hurries to the church, and slowly makes its circuit as he surveys the wonderful panorama that in favourable weather is here spread out before him. Though lakes are not wanting, for the Wörther and Ossiacher Lakes are both in view, the Rigi panorama surpasses this in the exquisite combinations of land and water for which it is famous, but, for the extent of the mountain ranges visible from a single point, this

surpasses any view attainable from a point equally easy of access. In the crystalline central ranges of Tyrol, Salzburg, and Styria, nearly all the chief summits from the Hochgall and Rödtspitz to the Koralp—a distance of over 160 m.—are included in the view. On the S. side the eye embraces a zone of nearly equal extent, from the Marmolata to the higher peaks of the Sulzbacher Alps. As the mountain rises nearly due N. of the valley of Tarvis, where the Carnic and Karawankas chains subside to insignificant dimensions, the fine peaks of the Julian Alps are here seen to the utmost advantage, rising far above the intermediate ridges. The beauty of the view is much enhanced by the contrast afforded by the rich valleys of the Gail and Drave, and the fruitful undulating plain of Lower Carinthia that stretches eastward more than 40 m. from the foot of the mountain. Both churches stand only a few feet from the verge of the precipice, which marks, as with a scar, the scene of one of the greatest bergfalls recorded in the Alps. A violent earthquake shock, on Jan. 25, 1348 (not 1345, as stated in most guide-books), caused a huge mass to detach itself from the very summit of the mountain. The swift ruin fell into the lower Gailthal, overwhelming a space of several square miles. Ten villages (according to the local chronicles), seven hamlets, and three castles, were destroyed within a few minutes, and the course of the Gail being arrested, a lake was formed that has been slowly drained in the course of succeeding centuries. It is an easy, but not a very short, walk from the summit to Villach, descending to the Bleibergthal at Heiligengeist. If bound for Hermagor, the traveller may descend NW. to Kreuth, where he may usually count on obtaining a vehicle. It is possible to descend directly into the Gailthal by the formidably steep S. face of the mountain, but a good guide and a steady head are required by those who take that course. When

the sun beats upon the bare rocks the heat is very trying, especially in the lower part of the descent.

It would exceed the limits of this work to enter into any details in regard to the geological structure of the Dobratsch, and its relations to the ranges on either side. The scientific traveller will doubtless study the memoirs of Lipold, Peters, and other Austrian geologists who have carefully examined this district; but he should be aware that, owing to the comparative abundance of fossils, Bleiberg is a peculiarly favourable position for studying those members of the carboniferous series now known to geologists as the Gailthal beds, and their relations to the overlying trias. One of the best localities for the Gailthal fossils is the ravine of the Nötsch Graben, near Bleiberg. The summit of the Dobratsch is formed of the Dachstein limestone, referred by geologists to the Rhætic series, or Infra-lias of Stoppani.

## ROUTE B.

## VILLACH TO VENICE.

	Austrian miles	English miles
Arnoldstein (post-road)	2	9½
Tarvis . . . . .	2	9½
Pontebba . . . . .	3	14
Resiutta . . . . .	3	14
Venzene . . . . .	2½	11½
Collalto . . . . .	3	14
Udine . . . . .	2½	11½
	18	84½
	Kilometres	
Pordenone (railway)	49	30½
Sacile . . . . .	13	8
Conegliano . . . . .	15	9½
Treviso . . . . .	29	18
Mestre . . . . .	18	11½
Venice . . . . .	8	5
	132	82

In posting, 2½ Austrian miles are charged from Villach to Arnoldstein.

Before the introduction of railways, the line of road here described formed part of the most direct and easiest way from Vienna to Venice, and many persons in the latter city, and elsewhere in Italy, now suppose that important economic results would be attained by the construction of a line to connect Villach, the future terminus of the Rudolfsbahn railway, with Udine. In spite of some engineering difficulties which have long delayed the progress of the works, it is believed that the new line from Villach to Trieste by the Predil (see § 63, Rte. A) is far advanced towards completion. The possible advantages to Italy of reducing the distance by railway between Venice and Villach by 15 or 16 m. are so slight and so problematical, that it is in the highest degree unlikely that a competing line will ever be seriously undertaken. Such as they may be, the benefits of the proposed Pontebba line may be hereafter secured by a comparatively easy and cheap branch line from Udine to Caporetto (§ 63, Rte. B).

It has been seen in the last Rte. that on escaping from the valley through which it descends from the Tyrolese



frontier, the Gail turns NW. along the S. base of the Dobratsch to join the Drave near Villach. The highway which connects Villach with the valleys of the Isonzo and the Tagliamento is carried nearly at a level, passing near the *Villacher Warmbad*, a neat bathing establishment, with mineral waters resembling those of Pfeffers. The road keeps at some distance from the l. bank of the Gail till it crosses that stream at Föderaun, and then ascends gently in a SW. direction, gradually receding from the Gail, but approaching its affluent the *Gailitz*. The course of this stream, hereafter followed by the high-road, is of geographical interest. Originating in the deep and level valley of Saifnitz, where it is separated by no perceptible ridge from one of the chief affluents of the Tagliamento, it runs a little N. of E. through a depression that marks the boundary between the Carnic Alps and the Karawankas, and, after receiving the drainage of several valleys of the Julian Alps, pursues its course nearly parallel to the Gail, till it turns to join that stream near Föderaun, shortly before both are merged in the Drave. The valley below Tarvis is often called *Gailitzthal*; but the hybrid name *Canalethal* is more frequently given collectively to the single valley that includes the course of the Gailitz and the head-waters of the Fella as far down as Pontebba.

At the lower end of the Gailitzthal, and before the road to Tarvis approaches that stream, an important post-road turns aside to the l. at the hamlet of Tschnu, and crosses the western extremity of the Karawankas range to the valley of the Save. See the road to Laibach, § 63, Rte. C. The road to Italy turns due E., and follows the Gailitz to the picturesque village of *Arnoldstein*, the first post-station. From the castle, originally a monastery, the crags of the Dobratsch are well seen above the low ridge, the last easternmost spur of the Carnic Alps, that divides the Gailitz from the Gail. Standing here, the prior of Arnoldstein was an eye-witness

of the terrific bergfall of 1348, described in the last Rte. Following the stream amid pleasing scenery, the road mounts gently WSW. from Arnoldstein to

*Tarvis* (2,453'), now connected by railway with Laybach. It is divided by the Gailitz into two villages. The larger (called *Unter Tarvis*), on the S. side of the stream, has a dirty and comfortable inn. The road leading to the valley of the Isonzo goes that way, while *Ober Tarvis*, with a good country inn (bei *Gelbfuss*) lies beside the *Pontebba* road. If we look on the valley of the Gailitz as a breach in the continuity of the main range of the Eastern Alps, and consider the Julian Alps as a detached group lying S. of that main range, it will not be matter of surprise that Tarvis is connected by easy roads, involving no notable ascent, with the valley of the Save as well as with the Tagliamento. Besides these and the road from Villach, a fourth road runs southward to the *Predil Pass*, and so reaches the valley of the Isonzo, which cuts so deeply into the mass of the Julian Alps. These facts show the vast importance of Tarvis as a strategic position, and explain the obstinacy with which the approaches to it have been at various times defended.

A merely trifling ascent of little more than 200 ft. leads eastward from *Ober Tarvis* to the watershed, 2,682 ft. above the sea, between the Gailitz and the Fella, by the village of *Saifnitz*. Here the traveller may make an interesting excursion to one of the most celebrated mountain pilgrimage shrines of the Austrian dominions. From a distance his attention has been directed to a church and a group of five or six large white houses, that crown a conical summit on the S. side of the *Canalethal*. This is the *Luschari Berg*, more commonly known as the *Heilige Berg*, 5,855 ft. in height. The church on the summit is visited annually by about 20,000 pilgrims; but in 1860, the 500th anniversary of its foundation, the number rose to 102,000. There is a very rough inn at the top, which can accommodate forty travel-

lers; and, except at times when it is overcrowded by pilgrims, the traveller may be tempted by the view at sunrise from the summit. There are steep paths leading to the top from Kaltwasser, near Raibl, and from *Wolfsbach*, in the Seisarathal, on the W. side of the summit; but the easiest way is from Saifnitz, or from a point on the road between that place and Tarvis, where the carved figure of an angel serves as a sign-post. A moderate walker will reach the summit from Saifnitz in  $2\frac{1}{2}$  hrs. Horses (charge 3 fl. each) are found at Saifnitz, and delicate persons may go in a *trag-sessel* or *chaise-à-porteur*, with four bearers, at 2 fl. each. The descent may be accomplished in  $\frac{1}{2}$  hr. by a sledge, such as is commonly used for carrying down hay. The pace fast and the jolting severe; but the guides, who expect 1 fl. each—a sledge serving for one person only—are skilful, and accidents are unknown. Ladies should be careful to tie up their dresses, so that there should be no risk of catching in any object on the way.

The distant view from the Luschari Berg is limited by higher mountains, but extends westward to the Ant-lao, and even to the Marmolata. Of the main group E. of the Isonzo the most conspicuous is the Mangart (§ 63. Rte. D). Merely the highest peak of the Terglou is seen to the l. of that mountain. Far more striking, however, is the grand rock scenery near at hand. Between the Canal di Raccolana (§ 63. Rte. F) on the S. and the road from Tarvis to Pontebba to the N. rise a group of limestone peaks which display to great perfection the characteristic scenery of this region. It is pierced by several minor valleys, but the readiest access to the base of the main peaks is by the glen of *Seisara*, which opens on the high road below the village of *Wolfsbach*. The stream which issues from it is the chief source of the Fella. It appears that there is no difficulty in taking a light carriage as far as the upper end of this glen. For some 9 miles the course is due S., but the uppermost end turns

eastward and leads to a pass by which the traveller may reach the Lake of Raibl. This lies between two of the highest mountains of the district—that to the rt., here known as the *Balitzza*, and that to the l. hand, called *Wischberg* by the German population on the N. side. It seems probable that the former is the summit, which as seen from the S. side presents a commanding peak of obelisk form, known in the Raccolana valley as *Jof di Montasio*, or *Muntusch*, and probably not less than 9,000 ft. in height.

W. of Saifnitz the high-road enters the defile of *Talavai*, where stands the village of *Malborghetto* (2,258'). A small fort guarding this pass into Carinthia was held against the French in 1809, with the same heroic obstinacy, and the same ill-success, that marked the more famous defence of the Predil fort; and a similar memorial was here erected by the Emperor Ferdinand. Descending almost imperceptibly, the western end of the so-called Canalethal is reached at the frontier between Carinthia and Venetia, where stand the twin villages of *Pontafel* and *Pontebba*. *Pontafel* is altogether a German village, with a good inn at the Post, with some slight admixture of Wendish population, who call the place *Mabtabl*. The *Pontebba* torrent here descends from WNW. to join the Fella, and the wooden bridge that spans it divides two nations. *Pontebba*, on the W. side of the bridge, is exclusively Italian in character and language. Here the Fella turns abruptly to the S., and the valley of that stream is called *Val di Ferro* as far as its junction with the *Tagliamento* above *Venzona*. For a considerable distance the valley is enclosed between rocky heights nearly bare of vegetation, but adorned by many species interesting to the botanist. Through a short lateral glen, called *Canal di Dogna*, a view is gained of the beautiful peak of the *Jof di Montasio*. At *Chiusa*, a few miles lower down, the more considerable *Canal di Raccolana* (§ 63, Rte. F) opens east-

ward, parallel to the last, and a glimpse is gained of its grand and wild scenery. Descending from that valley, the writer once unexpectedly found very comfortable quarters in a large white house, without a sign, by the road-side at Chiusa. Below that place the Val di Ferro gradually bends to the rt., till the course of the stream is nearly due W. as it approaches

*Resiutta*, at the opening of the picturesque Canal della Resia. This is the post-station, and the first village on the road below Pontebba. Very fair quarters and good beer are found in a large inn, which is also a brewery. Here the Fella, whose direction continues easterly for some distance, begins to assume the characteristic aspect of the rivers of Friuli, rolling through a wide channel, sometimes nearly 1 m. in breadth, paved with rounded blocks of white limestone, dazzling to the eye, and glowing in the blaze of a summer sun. Resuming its southward course, the torrent, about 8 m. from Resiutta, joins the Tagliamento opposite Portis, and soon after reaches

*Venzone*, a small town, in a rather picturesque position in the broad valley of the Tagliamento. About 3 m. farther is the village of *Ospidaletto*. Here the hills on either side of the valley begin to subside towards the plain of Friuli. A little beyond the village the road forks. One branch runs SSW. along the Tagliamento, passing *Osope* and *San Daniele*, and carrying the traveller to the rly. station of Codroipo, about 33 m. from Venzone. The road to Udine, which is nearer by fully 7 m., winds round the base of a hill that rises on the E. side of the valley. Here the traveller will do well to make a slight detour, in order to visit the interesting old town of *Gemona*, which crowns the summit of the hill, a SW. spur from the neighbouring *Monte Chiampo* (5,625'). A very curious church in Romanesque style, with a huge figure of St. Christopher on the *façade*, is well worth a visit. The botanist will find here many very rare plants. *Athamanta rupestris* is abundant on old walls; while *Alyssum gemonense*

and *Medicago Pironæ* are seen on the stony slope by the side of the road to Udine. At the base of the hill this joins the high-road from Venzone, and runs somewhat E. of S. across undulating country till it subsides into the plain near Udine.

Professor G. A. Pirona has shown that the low hills that partly enclose the opening of the valley of the Tagliamento are the moraines of a great glacier that once descended through that valley from the range of the Carnic Alps. The writer, fully admitting that fact, is disposed to believe that, since the period of their abandonment by the retiring glacier, they have undergone marine action. The traveller viewing the plain of Friuli from a commanding height, or traversing its surface, cannot fail to be struck by the vast breadth of stony surface left uncovered by the streams that flow from the mountains to the sea. The bed of the Tagliamento is in many places more than 3 m. in width; and less considerable streams, such as the Meduna, Zelline, and Torre, often show nearly as wide a surface of shingle. It is (as the writer is convinced) an error to suppose that the water-worn rounded blocks, often of large size, covering this wide space are mainly brought down by the existing torrents. The entire plain of Friuli is formed of a similar deposit, overlaid by a stratum of sand and vegetable earth, usually of slight thickness. The torrents have done no more than peel off the thin coating that conceals the bed of shingle spread out over what was once the bottom of a shallow sea.

*Udine* (Inns: Europa; Croce di Malta; Stella) is a city of the plain, one of the most interesting of the former dependencies of the Venetian republic, and appropriately named the Venice of *terra ferma*. It does not fall within the scope of this work to describe the objects of interest to which the traveller may well devote the greater part of a day. The chief sights are the Duomo, a fine Byzantine building, partly spoiled by modern restorations; the Palazzo della Città,

thoroughly Venetian in character; the Campanile; the old walls; and the castle, built on a lofty green mound, erected, as tradition tells, by Attila, in order that he might view from it the burning of Aquileja. It commands a wide prospect over the plain, and the nearer ranges of the Friuli mountains. In the valleys and the rural districts of Friuli the people speak the *Furlan* dialect, very different from those of the other provinces of Northern Italy, and imperfectly understood even by their Venetian neighbours. In Udine, and the chief places of the plain, the Venetian dialect, far nearer to the classical Italian, is generally understood, and is spoken by many of the inhabitants.

For the convenience of travellers, a short notice is here given of the rly. from Udine to Venice, a portion of the great line connecting Venice with Trieste and Vienna.

For fully 30 m. from Udine the rly. runs at a dead level across the plain, without passing any place of interest to the stranger. The luxuriant vegetation of the mulberry and vine allows but occasional glimpses of the mountain ranges to the N. Between the stations of *Codroipo* and *Casarsa* the rly. crosses the Tagliamento by a bridge and embankment  $\frac{3}{4}$  m. in length.

*Pordenone* (Inn: Posta, well spoken of) is a thriving town. The painter, who took his name from this his native place, has left here nothing but a St. Christopher in the parish church. Passing on the l. hand the castle of Porcia, the rly. next reaches

*Sacile* (good inn at the Post), a walled town, with an air of former importance. The Monte Cavallo (Rte. I), which is the highest mountain rising immediately above the plain of Venetia, is a fine object. The town stands on the *Livenza*, which, after being joined by the *Zellina* and the *Meduna*, falls into the Adriatic at Caorle. The next place of any importance is

*Conegliano* (noticed in § 61, Rte. A). Here the rly. turns nearly due S. Passing below the hill on which stands the

fine castle of San Salvatore, the Piave is crossed by a massive bridge, and the train hurries across the plain country to

*Treviso* (Inns: *Aquila d' Oro*, good; *Quattro Corone*; *Stella*; and others), an ancient city, the *Tarrisium* of the Romans, containing many fine paintings of the Venetian school, especially the 'Entombment of Christ,' by Giorgione, in the Monte di Pietà, said to be the last work of that great painter. The town is traversed by the *Sile*, famous for the purity of its water. A good road runs from the city to Bassano, by *Castelfranco*, about 32 m., and so to Trent by the *Val Sugana*; and another is carried to Fette, about 35 m. distant. Both these roads cross the *Via Postumia*, the ancient Roman way connecting Aquileja with Verona and Milan. Following a straight course across the plain, the rly. goes from Treviso to *Mestre*, the junction station for the Udine and Trieste line with that leading from Milan by Verona and Padua. Here travellers formerly took boat for Venice. Soon after clearing the station, where there is usually a delay of at least 15 min., salt-marsh plants in the ditches by the wayside show the traveller that he is approaching the lagoon. On the l. hand he sees the low earthworks of the insignificant-looking fort of *Malghera*, held for many months in 1849 by the Venetian volunteers against the whole force of the Austrian besieging army. Here commences the causeway, nearly 3 m. in length, that now serves to link the city of the lagoons with *terra firma*. The station is reached, and the traveller enters

*VENICE*. He engages a gondola to reach his hotel, and if not much pressed for time, will desire the gondolier to follow the windings of the Grand Canal, instead of cutting across its loops by the shorter way, which they generally prefer. The hotels of Venice are very numerous. The first object with strangers is to be near the Piazza di San Marco, and all those here enumerated comply with that condition. Scarcely less important is it to be on the Grand

Canal, whether for sunshine in winter or sea-breeze in summer. All those mentioned below are on the Grand Canal when the position is not otherwise specified. In the first class are Europa, very good, excellent position; Nuova Yorck, new and good; Albergo Reale Danieli, on the Riva dei Schiavoni, facing south, the most expensive, rooms handsome, cookery and attendance not first-rate; Albergo Barbessi, accommodation scarcely corresponding to the price; Albergo Vittoria, near the Opera House, excellent rooms, prices lower than those hitherto named, position not so good. In the second rank, but frequented by the better class of travellers, are the Città di Monaco, good position, rooms rather small; Pensione Svizzera, small rooms, well situated, landlord very obliging and attentive; Luna, extremely convenient position, but little or no view, close to the Piazza. Among what may be called third-rate houses (none of them on the Grand Canal) the best are said to be Albergo Nazionale, near church of San Moisè; Albergo San Marco; and Albergo Bellevue, both looking on the Piazza di San Marco; Vapore, near the Merceria; Italia, near San Moisè; and Leone d'Oro. From July till December the traveller should insist on having a mosquito-net to each bed.

## ROUTE C.

## VENZONE TO PIEVE DI CADORE.

Although the drainage of the Carnic Alps is on one side carried southward through short valleys that run transversely to the general direction of that range, there is a manifest tendency to reproduce ridges parallel to the main range on the southern as well as on the northern side. We have seen in the last Rte. that the head of the valley of the Fella and the three tributary valleys which join it on the E. side are all parallel to the central range. The same direction is shown in the main valley of the Tagliamento. That river is formed by the union of three considerable Alpine torrents of about equal volume; but that which is considered the chief source, and which retains the name Tagliamento, originates in the range bounding the upper Piave, a few miles from Pieve di Cadore, and flows thence nearly due E. to its junction with the Fella a little above Venzone. This long and deep valley divides the mountain ridges collectively styled by the Sonklar the Premaggiore Group, from the main mass of the Carnic Alps.

The road along the upper valley of the Tagliamento keeps to the N. side of the river, and in order to reach it from Venzone it is necessary to follow the post-road towards Resiutta (last Rte.) for fully four m., till a long embankment is reached that stretches across the shingly bed of the Fella, a little above the meeting of the two streams. In the fork between them rises the *Monte Amariana* (6,123'), commonly called Mte. Mariana. At its base is the village of *Amaro*, traversed by the road; and about 5 m. farther, or 12 m. from Venzone, the traveller reaches *Tolmezzo* (1,070'), and finds tolerable accommodation in a large inn (*Leone Bianco*). A very slow diligence plies daily between *Tolmezzo* and *Udine*. It takes fully 7 hrs. including a short halt at *Gemona*.

It is known that the average rainfall

of Upper Friuli is the greatest in Europe, and observations made for ten years at Tolmezzo give the greatest results yet obtained in the temperate zone. In one year the rainfall amounted to 141 inches, or about six times the average of the E. of England, and the average for ten years was 75 inches. As it happens that these exceptional conditions prevail in a district where the destruction of the forests has been carried farther than elsewhere in N. Italy, and where the rocks offer but slight resistance to the action of violent currents, it is not surprising that there is no part of the Alps in which the geologist can study the erosive action of water on so great a scale as here, or where he should be more on his guard against hasty generalisations from an exceptional state of facts. Each minor torrent pours down vast masses of debris torn from the flanks of the minor valleys and ravines, and it seems as if the slender portion of soil still available for cultivation could not very long resist the destructive powers of nature aided by man's improvidence.

Beyond Tolmezzo the road crosses the considerable torrent of the *But*, which, after issuing from Val di S. Pietro (Rte. E), receives a tributary from the Canal d' Incarojo, and descends to join the Tagliamento. The luxuriant vegetation of such plots of ground as are available for cultivation in the bottom of the valley forms a fine contrast with the bare grey ridges that enclose it. *Villa* (1,195'), sometimes called for distinction *Villa d' Invillino*, is picturesquely situated, with a church on a high rock overlooking the valley. This place, where there is an inn (*Leone*), stands at the opening of the Canal di Gorto, through which the *Degano*, or N. branch of the Tagliamento, descends from the highest summits of the Carnic Alps. A new, but rough, road mounts through the main valley, which is henceforward called *Canal di Socchieve*. On the S. side rises the *Monte Verzegnis* (6,280'), and the ridge connecting it with the *Premaggiore*. At the village of

*Socchieve*, five or six m. above *Villa*, the *Lumiei* torrent descends from NW. to join the Tagliamento, and the road here abandons the latter and ascends along the tributary stream to

*Ampezzo* (1,867'), the chief place in Canal di Socchieve, with an inn (*Colomba*). Tertiary deposits, apparently of miocene age, extend westward along the floor of the valley from the neighbourhood of Tolmezzo to Ampezzo. The road returns from Ampezzo to the main valley by the N. side of an isolated mountain that rises in the fork between the *Lumiei* and the Tagliamento. Several hamlets and small villages are passed, chief of which are *Forni di Sotto* (2,499') and *Forni di Sopra* (3,264'). The head of the valley shows some fine scenery. On the S. side rises the *Premaggiore* (8,127'), and to the N. the *Clapsavon* (8,074'). The ascent from *Forni di Sopra* (Inn; very fair) to the *Mauria Pass* (4,191') is very gentle. It lies on the ENE. side of the *Monte Cridola* (8,474'), also written *Gridola*, the highest summit of the so-called *Premaggiore* group. The new road descends rather rapidly from the summit to the bridge over the *Piave* below *Lorenzago* (§ 61, Rte. D), which is only 2,393 ft. above the sea, and then ascends just 500 ft. to join the high-road from *Pieve di Cadore* to *Comelico* at that village.

The pedestrian going from Ampezzo to Auronzo may take a more direct, but rather more laborious way, by *Sauris*. There are two mountain villages of that name—*Sauris di Sopra* (4,443'), and *Sauris di Sotto* (3,957'), both inhabited by German colonists, who at some remote period settled in the upper part of the valley of the *Lumiei*. That torrent descends to Ampezzo through a gorge so narrow as to be completely impassable, and a considerable detour is necessary in order to reach its upper basin. The ordinary path is by a ridge some way SW. of the gorge. This is called *Monte Pura* (4,731'). From the summit the path descends to cross the *Lumiei*, and then passes in succession through

these secluded German villages. An easy pass leads to Laggio, in the valley of the Piave, a short way below the Tre Ponti, where the road turns off to Auronzo (see § 61, Rte. D).

Mr. Tuckett has made a fine pass from Forni di Sopra to Vallesella and Pieve di Cadore. Ascending by a track through Val Ghiaf, he reached the summit, on the S. side of Monte Cridola, in 3 hrs., descended in 2 hrs. to Vallesella, and reached La Pieve in 1 hr. more.

The ordinary course for travellers who wish to see something of the fine scenery of this district is to follow the Canal di Gorto to Forno Avoltri (next Rte.), and then cross the pass leading to Sappada and Auronzo by the new road (§ 61, Rte. D).

#### ROUTE D.

##### VENZONE TO THE GAILTHAL, BY THE CANAL DI GORTO. ASCENT OF THE PARALBA.

The highest part of the range of the Carnic Alps is that lying between the Paralba and the Kollinkofel. The first-named peak lies a little S. of the crest of the chain, and is the highest point of a mass that separates the head waters of the Piave from those of the Tagliamento. Following the main range eastward the chief summits are the *Cresta Verde* and the *Monte Volaya*, or *Wolaverspitz*. The drainage of the E. side of the Paralba and that of both the other peaks flows southward to form the Degano, or northern branch of the Tagliamento, which flows through the Canal di Gorto, and joins the main branch of the same river close to Villa (see last Rte.). E. of the Monte Volaya is the great mass, until lately neglected by travellers, which is collectively known on the side of Friuli as Monte Coglians, and on the Carinthian side as Kollinkofel. The highest summit of

this mass, not yet determined by observation, is the Kellerwand. On the S. side this is drained by a torrent which joins the Degano about halfway between Rigolato and Forno Avoltri. It will be inferred that several of the most interesting expeditions for a mountaineer in this district may be best undertaken from the upper end of the Canal di Gorto; and if the accommodation at Forno Avoltri were more inviting, it would probably become a frequent resort of travellers. The road from Venzone to Villa (17 or 18 m. distant) is described in the last Rte. Above that village the road is rough, and in places steep; but the writer is informed that it has been slightly improved of late years. Several small villages are scattered through the valley, some by the roadside, others perched on the rocky eminences on either side. The chief places are *Ovaro* (1,685'), and *Comeglians* (1,775'), both with small and poor inns. *Rigolato* (2,437'), which is laid down on maps with conspicuous letters, is a small and poor place, with an inn kept by Luigi Zanier, in a picturesque part of the valley, where the lower slopes are well clothed with beech forest. The village stands more than 100 ft. above the bed of the Degano, which is crossed in ascending to the head of the valley. The course, which has lain but little W. of due N. since Villa, now bend to WNW. Before long the little lateral glen, further mentioned below, that runs up to the Wolaver Joch and the S. base of the Kellerwand, is passed on the rt. Turning eastward from that glen a path leads to Timau (Rte. E), through one of the depressions parallel to the main chain, characteristic of the orography of this district. It lies between the range of the *Monte Cogliano* on the N. side, and that of *Monte Crostis* (7,384'). In ascending the main valley from Rigolato the traveller passes round the E. and N. sides of a high summit called *Monte Tuglia*, which is conspicuous in all the views in this neighbourhood. Although the distance seems slight on the map, nearly 2½ hrs.

are required for the ascent from Rigolato to

*Forno Avoltri* (2,882'), the highest village in the Canal di Gorto. It has become a busy place since a Venetian company have carried on active mining operations in the neighbouring glen of the *Avanza*. The lead ore, rich in silver, is chiefly extracted from shafts lying high up on the mountain above the *Avanza* torrent. The opening of the highest shaft is 6,254 ft. above the sea. The inn (*Cavallo Bianco?*), formerly very rough, is said to be improved. The scenery of the upper end of the valley above Forno Avoltri is extremely fine. The *Paralba* to NW., and the *Monte Volaya* to NE., are the dominant peaks, for (unless the writer be much mistaken) the *Monte Coglians* is not visible from the neighbourhood of the village. Starting from Forno Avoltri the traveller has a choice among at least four different paths for reaching the *Gailthal*. These are here briefly noticed.

1. *By the Giogo Veranis* (7,521') or *Hochalbellpass*. About 6½ hrs. to *Loenzen*. It has been already said that the *Paralba* rises a little S. of the ridge that forms the southern boundary of the *Gailthal*. It is united to that ridge by a short isthmus, or neck of land, that divides the head of *Val Visdende* (belonging to *Comelico*) from that of the *Canal di Gorto*. As the main ridge N. of the *Paralba* sinks to a level several hundred feet lower than in the adjoining part of the range, and as it is easy of access on every side, it forms a convenient pass between the three valleys that meet at the summit. The valley on the N. side descending towards the *Gailthal* is called *Frohnthal*, and through this a good track was made some years ago for the purpose of conveying timber from the *Lessachthal* to the summit of the pass. In spring, when the mountains were still covered with snow, the logs were launched down the slopes at the head of *Val Visdende*, and forwarded to *Venice* by the stream of the *Piave*. The ridge whence diverge

the paths leading to the three valleys here named is called *Giogo Veranis* in *Friuli*, and *Hochalbellpass* in the *Lessachthal*. The path from Forno Avoltri is steeper and rougher than those through the *Frohnthal* and *Val Visdende*, but quite free from difficulty. On reaching the summit the traveller sees towering above him on the S. the fine peak of the *Paralba* (9,097'), or *Hochweisstein*. The ridge is formed of semi-crystalline metamorphic rock (probably of carboniferous age?), over which the dolomitic peak of the mountain rises in a steep pyramidal block, more massive and simple in outline than usual in that formation. If desirous of enjoying one of the finest Alpine views in this region the traveller will not fail to make the ascent, which, though steep, is easily accomplished in less than 1 hr. by a moderate climber with a steady head. A lower eastern peak is first reached; the higher, or western, summit is attained by a short descent, and a final scramble up nearly bare rocks, which produce several rare plants characteristic of the dolomite region. The view is extremely interesting. It includes the chief summits of the *High Tauern*, the *Cadore Dolomites*, the stern rulers of the *Julian Alps*, and the deep valleys of *Friuli* glowing in the southern sunshine. On the ridge of the *Giogo Veranis* several plants scarcely ever seen associated are found growing together—*e.g.* the three Alpine species of *Sesleria*—*S. disticha*, *S. sphaerocephala*, and *S. tenella*. [Making the ascent from Forno Avoltri many years ago, without a local guide, the writer took a somewhat circuitous course, which may be recommended to the botanist, and to such travellers as approach the peak from *Sappada* (§ 61, *Rte. D*). Ascending through *Val Sessis*, a short glen that runs southward from the base of the mountain to *Cima di Sappada*, he found that the escalade of the southern face of the mountain would involve a long and difficult climb, with but a doubtful result; and he resolved to attempt the peak from the opposite



side. Near a point above the highest *casere*, where a slender spring trickles from the rock, a few specimens of *Lomatogonium carinthiacum* were found, in the only Italian habitat for that species. It is said that *Gentiana nana* has also been found on this side of the mountain. A cattle-track leads from the highest *alp* of Sessis to the Giogo Veranis, passing over a projecting shoulder of the Paralba at a height of 7,678 ft., and thence along the E. side of the main peak. This path should be followed. Attempting to keep higher up, the writer encountered some awkward places, and lost time.]

The descent through the Frohnthal from the Hochalpbass, as it is called on the N. side, is perfectly easy. The head of that glen is enclosed by some bold rocky ranges, but the scenery lower down is rather tame. The Gail is reached at a point immediately below *Lorenzen* (Rte. A), and a sharp ascent leads to that village.

2. *By Val Visdende, and the Barmbot Pass* (6,869'). 8 or 9 hrs. to Tilliach. In connection with the ascent of the Paralba reference has been made above, and in § 61, Rte. D, to *Val Visdende*, a very picturesque Alpine glen, that descends from the Giogo Veranis to the head of the valley of the Piave by the NW. and W. sides of the Paralba. It offers an extremely agreeable way to San Stefano in Comelico, either from the head of Val di Gorto, or from Lorenzen in the Lessachthal. The valley opens into that of the Piave nearly halfway in the descent from Sappada to San Stefano. There is an easy and agreeable way through a NW. branch of Val Visdende, for a traveller wishing to go from Forno Avoltri, or Sappada, to Tilliach at the head of the Gailthal. The easiest way from Forno Avoltri is by the new road over the Sappada pass to the opening of Val Visdende, and then to follow the track northward. On reaching the point where the main branch of Val Visdende bends to NE., and mounts towards the Giogo Veranis, a path turns off to NNW., passing on the

E. side of the *Sasso Lungherino*. This is one of the most singular dolomitic mountains of this neighbourhood. From the summit of the Paralba, Dr. v. Mojsisovics counted 21 pinnacles, apparently arranged in single file along the ridge of the mountain. The *Barmbot Pass* appears to be easy of access on both sides. Starting from Forno Avoltri, an active walker might reach it by the Giogo Veranis, and the upper part of Val Visdende.

[A traveller going from San Stefano to Tilliach may also avail himself of the Barmbot Pass, but there is a more direct, though higher and steeper, pass by the *Rossek* (7,736'), which is approached through a lateral glen that joins the main valley of the Padola near S. Stefano.]

3. *By the Wolaver Joch* (6,563'). About 8 hrs. to Kötschach, or 6½ hrs. (?) to Kornath. Reference has already been made to a short glen that opens into Canal di Gorto, between Rigolato and Forno Avoltri. By that way a very interesting excursion may be made to Kötschach, passing close under the peak of the Kellerwand. The hamlet of *Collina* (4,173'), in the glen above-mentioned, may be reached in 1½ hr. from Forno Avoltri, passing by a small place called Sigiletto. From Collina, a path ascends nearly due N. to the *Wolaver Joch*, a comparatively low pass, lying in the centre of the wildest and most impressive scenery of this part of the Alps. Close to the summit is a small lake, called *Wolaver See*. Westward rise the grey, rugged crags of *Monte Volaya* (German *Wolaver-Spitz*), and in the opposite direction the still bolder mass of the Kellerwand. From the Wolaver Joch, the direct way to the Gailthal is through a glen (*Wolaverthal*), that runs northward and joins the main valley nearly opposite the poor hamlet of *Kornath*. Few will take that way, as there is a far more interesting course, leading much more directly to good quarters—either at Kötschach, or Auf der Plecken.

At a somewhat higher level than the *Wolaver Joch*, is a pass connecting the

Wolaverthal with the Valentinothal. The *Valentino Thörl* (6,981') lies immediately under the rocks of the Kellerwand, and from the top, but better still from a summit (called by a local guide *Judenkopf*), rising N. of the pass and fully 1,000 ft. higher, the mountaineer may study the face of the Kellerwand with a view to the ascent. The rocks are formidably steep, but there are ledges sloping upwards at a high angle that do not seem absolutely hopeless. Since a much safer way has been found by Dr. Grohmann there seems no object in attempting a perilous climb. A paper by that persevering and successful mountaineer in the 1st vol. of the *Zeitschrift* of the German Alpine Club gives full information as to this group. Peter Salcher of Lukau is the best guide; next ranks Josef Moser of Kötschach. The Schlosser of Mauthen, who is better known, appears less active and enterprising.

The traveller unused to see glaciers in the southern chain of the Alps, except at great elevations, will be surprised to find a perfectly regular, though small, glacier filling the hollow at the N. base of the Kellerwand, at a level which can scarcely exceed 6,000 ft. The easiest way from the *Valentino Thörl* is over this glacier, whose existence is doubtless due to the extreme steepness and height of the rocks of the Kellerwand, which completely screen it from the sun's rays except for a short period in each day. The descent through the *Valentinothal* is perfectly easy. If bound for Kötschach, the track near the bed of the torrent is followed till it joins the road from Auf der Plecken (next Rte.); but if the comfortable mountain inn at the latter place be the traveller's aim, he ascends a short way by a wood-cutter's path above the rt. bank of the valley, and then follows a very easy and pleasant track through the forest, nearly at a level, till he finds himself in the green basin overlooking the inn, at a height of some 200 ft. above it.

### ROUTE E.

#### LIENZ TO TOLMEZZO, BY KÖTSCHACH AND MONTE CROCE.

Post-road to Oberdrauburg, 11½ m. Country-road to Kötschach, 7 m. Rough track to Auf der Plecken, 8 m. Bridle-path to Paluzza, 10 m. Road to Tolmezzo, 9½ m.—In all, 46½ m.

In the preceding Rtes. several mountain roads and paths that cross the main range of the Carnic Alps have been described, most of them little known, and practicable only on foot. We now have to describe one of the most ancient lines of Alpine road, already frequented, and well known to Roman geographers and travellers, before the Christian era. Being mainly designed to connect the important Noric city of Leontium (Lienz) with Aquileja, it fell into comparative disuse after the destruction of both those cities. The road from Villach to Venice by Pontebba became for many centuries the main artery for traffic through the Eastern Alps; yet a certain amount of intercourse continued to exist over the pass of Monte Croce, until the completion of the Ampezzo road opened an easier and securer route from the upper valley of the Drave to the Venetian Provinces. Since that period, the way between Kötschach and Tolmezzo has served merely for local intercourse, with the

occasional addition of a German or English tourist. The way here described is that followed by the Roman road, and the nature of the ground has prevented any but slight deviations from the original line.

From Lienz to Oberdrauburg the way lies along the post-road through the valley of the Drave, described in § 51, Rte. A. From Oberdrauburg a tolerably good road turns southward, and mounts a richly-wooded slope to the low pass which divides the western portion of the Gailthal range (Kreuzkofel Group) from the central portion, or Reisskofel Group. An ascent of little more than 1,000 ft. leads to the summit of the pass—called *Gailberg* (3,210'), or sometimes *Kötschachpass*. On the W. side of the pass rises the *Jauken* (7,300'), a mountain containing a mine of lead and zinc. The first view of the Gailthal is pleasing, but not very striking, as the road descends SE., and none of the higher peaks are in view.

On reaching *Kötschach* (Rte. A), the traveller, if unwilling to walk, must engage one of the light narrow vehicles of the country for the ascent to *Auf der Plecken*. The distance is called 3 hrs., and the charge is 3 fl. Crossing the Gail the rough road passes the deserted-looking village of *Mauthen*, which derives its name from the toll formerly levied here by the Counts of Görz for merchants crossing the pass from Friuli. The lower end of the Valentinthal, through which the track now ascends, is densely wooded, and but little is seen of the surrounding mountains till the road quits the main branch of the valley, which mounts towards the Valentin Thörl, described in the last Rte. By a rough and steep slope, partly cleared of timber, the road mounts, and before long finally issues from the forest a short way from the mountain inn of

*Auf der Plecken* (3,976'), also called *Plecknerhaus*, charmingly situated in the midst of a basin of the greenest Alpine pasture, girdled with forest that stretches up to the base of the sur-

rounding crags. The basin is open to the N., on the side facing the Gailthal, and partly so on the S. side, where the ridge forming the pass is only about 360 ft. above the level of the building. This was originally a hospice, but has passed into private hands, and is now the most comfortable and agreeable mountain inn in this part of the Alps. There are two or three well-furnished bed-rooms, and the food is generally very good, allowing for the remoteness of the place. The most prominent, though by no means the highest, mountain near at hand is the *Pollinick* (7,631'), rising as a promontory on the E. side of the glen leading to *Mauthen*, and much nearer to the Gailthal than the peaks lying in the main range. The summit, reached in 3 hrs., affords a fine view, and produces a good many interesting plants.

A more laborious, but more interesting, expedition than the ascent of the *Pollinick* is that of the *Kollinkofel* (8,500'). As mentioned in the last Rte. that name is generally given to the entire of the great mass of mountain lying between the Monte Croce Pass and the Wolaver Joch, walling in the Valentinthal on the S. side. On the Friuli side the same mass is known as *Monte Cogliano*. Messrs. Mojsisovics and Grohmann, who have carefully explored this part of the chain, agree in giving the name *Kellerwand*, or *Keller Spitzen*, to the highest part of the mass, rising immediately above the small glacier at the head of the Valentinthal. They would reserve the name *Kollinkofel* for the eastern peak, while they give the name *Monte Cogliano* to what appears to be a secondary summit of the *Kellerwand*, but little detached from the highest peak. In regard to the distinction between the *Kellerwand* and the *Kollinkofel* the writer is quite disposed to acquiesce in the proposed nomenclature; but as he is unable to find any justification in local usage for the proposed application of the name *Monte Cogliano*, he feels bound to adhere to the usage of the natives, and

to consider *Monte Cogliano* as the Furlan name for the entire mass. The Kollinkofel may be ascended without difficulty from Auf der Plecken. The way is by the Monte Croce Pass, and thence to the Ober Kollin Alp, which may be reached in less than 1 hr. Thence a steep but not difficult climb leads to the ridge, which is followed westward till in 2 hrs. steady progress the summit is reached. The eastern peak of the Kellerwand (Monte Cogliano of Grohmann) was climbed by that active mountaineer in 1865 from the hamlet of Colline on the Friuli side, passing by the Morerett Alp. The ascent is not considered by him difficult, and the view very fine; the height (by barometer) is 9,222 ft. The ascent of the *Kellerwand* is a far more difficult exploit, first achieved by Dr. Grohmann, with Peter Salcher and Josef Moser, in 1868. From a bivouac about 1 hr. beyond the Ober Kollin Alp they attained with little trouble a small glacier—Kollinkees—lying on a shelf on the N. side of the peak, and a very stiff scramble over rocks, treacherous in places, took them to the top. Clouds having come on it was impossible to compare (by a level) the height with that of the neighbouring peaks.

The traveller who does not intend following the Rte. to the Canal di Gorto by the Wolaver Joch, should not fail to make an excursion from Auf der Plecken to the Glacier of the Valentinothal, and the adjoining pass of the Valentino Thörl, overlooking the head of the Wolaverthal. The head of the Valentinothal, running parallel to the Gailthal, is separated from it by a ridge whose lower eastern end is called *Mauthner Alp*, while the western end culminates in a summit which was called *Judenkopf* by a local guide, but which appears to be the *Remondenkopf* of Mojsisovics. It appears to be somewhat higher than the Pollinick. The flora of the sub alpine and Alpine region about Auf der Plecken includes many rare species, in addition to others common to the Carnic Chain. Of these

may be named *Dianthus barbatus*, *Trifolium noricum*, *Saussurea discolor*, and *Allium Victoriale*. A gentle ascent over stony pastures leads in about 20 min. from the inn to the summit of the

*Monte Croce Pass* (4,337'), called by some German writers *Plecknerpass*. It is traversed by a track which is passable for narrow frames on wheels, used to convey planks to Paluzza and Tolmezzo. As the distance to the former place does not exceed 10 m., nearly all the way down hill, some ladies will not fear to walk. It would not be easy to find a horse or mule used to carry a lady. From the summit the Roman road turned to the rt. Two portions of road, one of which appears to have been substituted for the other (older) track, may be traced for some distance. In several places the large blocks with which it was paved retain the deep ruts made by the ancient wheels. Messrs. Gilbert and Churchill have given copies of two Roman inscriptions seen near the summit, and of a third still existing near the village of Timau. The modern track bears to the l., or eastward from the summit of the pass, passing along some steep faces of rock, and then descending in zigzags. The first village, lying at the head of the *Val di S. Pietro*, is *Timau*. This, along with two or three neighbouring hamlets, is inhabited by people speaking a strange German dialect, supposed to have settled here at a very remote period; but it does not appear that their dialect has been examined by any competent traveller. Some way farther is *Paluzza* (1,987'), the chief place in the Val di S. Pietro. A path runs eastward from hence by the N. side of *Monte Terzadia* (6,427') to the upper part of the *Canal d'Incarojo*, a considerable valley running deep into the range of the Carnic Alps. On the S. side of the same mountain the torrent from that valley joins the *But*, which drains the Val di S. Pietro, close to the village of *Zuglio*, supposed to be the Julium Carnicum of the Romans. About 4

m. farther the road from Paluzza reaches Tolmezzo (Rte. C).

#### ROUTE F.

##### LIENZ TO MARIA LUKAU. ASCENT OF THE KREUZKOFEL.

Allusion has been frequently made in the foregoing Rtes. to the fine group of dolomite peaks that rises between Lienz and the Lessachthal, which, from the name of its highest summit, is known as the Kreuzkofel Group. Though of limited extent, for its greatest breadth scarcely attains 9 m., it includes some fine scenery, and affords scope for many excursions of much interest to the geologist and the botanist. The few travellers who have visited this district have usually made the good hotel at Lienz (§ 51, Rte. A) their base of operations; but it is equally easy to combine therewith a visit to Maria Lukau in the Lessachthal (Rte. A), where the mountaineer finds very fair quarters. Those who wish for detailed information as to the mountains of this group should refer to the work by Mr. F. Keil mentioned in the Introduction to this volume.

The glens that penetrate this mountain mass are numerous, short, and sinuous, so that it is difficult to dispense with the aid of a local guide, of whom several are to be found in the

villages near Lienz. Anton Kreuzer of Lavant, Gregor Lukasser of Leisach, and the Galizenschmied (i.e. the blacksmith of Galizen) are recommended as guides. The most interesting course, in almost every respect, is that by the Kerschbaumeralp. The way to it is by the glen of the *Galizenbach*, which falls into the Drave about 2 m. above Lienz, being approached by the first bridge over that stream that is found after passing the hamlet of *Leisach*. A moderately steep path mounts amid very pleasing scenery, and leads the traveller in 3 hrs. from Lienz to the *Hütte* of the *Kerschbaumeralp* (5,799'). This lies in an upland basin surrounded by most of the highest summits of this group. Looking a little W. of N. through the opening of the glen, the peak of the *Hochschober* (§ 51, Rte. E) is full in view. To the rt. is seen a ridge diverging northward from the *Simonskopf* (8,707'), which divides the basin of the Kerschbaumeralp from the *Laserzerthal*. The pass connecting them is the *Laserzhörl* (7,376'). Turning southward to view the main ridge dividing the Drave from the Gail, the depression seen W. of the *Simonskopf* is the *Zochen Pass* (7,394'), leading to Lorenzen and Maria Lukau. W. of this is a steep and sharp ridge extending through the *Weithalspitz* (8,197'), and the *Eisenschuss* (8,711') to the *Birnbachlücke* (about 7,600'), a depression in the ridge immediately preceding its highest summit, the *Kreuzkofel* (8,979') also locally called *Unholde*. From this summit a ridge projects northward towards the Drave, which culminates in the *Spitzkofel* (8,903'), perhaps the boldest in form of all this group, and that which produces the most striking effect in the view from Lienz. The easiest way for the ascent of the Kreuzkofel is to mount from the Kerschbaumeralp to the *Birnbachlücke*, then to follow the main ridge westward, chiefly by its S. slope, till a point is reached nearly due S. of the highest point, which is attained by a moderately steep scramble. By a rather more

arduous climb the summit may be reached directly from Lienz. The path to the Kerschbaumeralp is left at the point where it crosses the *Hallebach* torrent, and the traveller ascends along the latter till he reaches the *Kühbodenthörl* (7,843') at the N. base of the Kreuzkofel. This peak is admirably placed for a panoramic view, in which the interest of the distant outline is enhanced by that of the immediately surrounding objects. The Spitzkofel may also be attained from the head of the Hallebach glen; it commands a remarkably fine view of the Drave valley. Both these expeditions are fit only for sure-footed climbers. In cold weather, and when starting before daylight, the mountaineer may here encounter an unexpected difficulty which occurs here and there in the dolomite Alps. The slopes of dolomitic sand and fine debris that descend at a high angle through clefts in the mountain, and often present the only way for reaching the upper ridges, are sometimes frozen so hard that the foot makes no impression on the surface. In such places crampons (*fuss-eisen*) are sometimes very useful; but in a sharp frost even these are nearly useless. In this way a place may be difficult, and even dangerous, an hour before sunrise, that becomes perfectly easy a couple of hours later.

The Kerschbaumeralp is a well-known station for rare plants, most of which may be found in ascending to the Birnbachlücke. The following may be noted among the rarer species:—*Ranunculus Seguieri*, *R. parnassifolius*, and *R. hybridus*, *Papaver pyrenaicum*, *Cherleria imbricata*, *Ononis rotundifolia*, *Saxifraga Burseriana*, and *S. crustata*, *Valeriana supina*, *Leontodon Taraxaci*, *Androsace Hausmanniana*, *Primula longiflora*, *Salix Jacquiniiana*, and *Festuca pumila*.

[The traveller, not intending to cross the range into the Gailthal, may, with a good guide, make an interesting tour on his way back to Lienz, by crossing the *Laserzhörl*, and going thence by

the *Lavanteralp* to the Baumgarten (or Pangarten) Alp. By a detour of about 2½ hrs., he may then ascend the *Hochstadt* (8,774'), easy of access, and commanding an admirable view. Descending thence to the Pircheralp, he follows a beaten track to *Pirchach* in the Drauthal, opposite *Nörsach* (§ 51, Route A), the last Tyrolese village on the high-road below Lienz. He may there halt at a good country inn, or procure a vehicle to return to Lienz.]

The way from the Kerschbaumeralp to the Gailthal is by the *Zochen Pass* (7,394'). The ascent is easy, but the descent on the S. side, through one of the many *graben* that furrow the slopes towards the Lessachthal, is steep and rather rough. The botanist who may reach the Birnbachlücke (mentioned above), and intends to descend on the S. side, may accomplish that operation without returning to the Kerschbaumeralp. But the way is very steep, and it would not be advisable to go alone, over ground where the rope may be of essential service. He will join the path from the Zochen in the Graben above-mentioned, which opens into the Gailthal close to Lorenzen. If bound for *Maria Lukau* (Rte. A), he will take an upper path round the brow of the hill, and thus save a considerable detour.

A much easier and shorter, but less interesting, way from Lienz to Maria Lukau, is by the Leisacheralp. This is reached by following the high-road from Lienz up the valley of the Drave for fully 5 m. to the Luckauer-Brücke. An ascent of 2½ hrs. leads to the *Leisacheralp*. This is divided from a glen opening into the Lessachthal a short way above Maria Lukau by a low pass, 5,631 ft. in height, for which no name seems to be established in the neighbourhood.

A still easier way from the Drave to the Gail, by the E. end of the Kreuzkofel group, passes by Pirchach, and the Pircheralp (see above), to the *Pircher-Schartl* (5,065'), a pass leading to *Kornath* (3,412'), about 2½ hrs. above Köttschach on the way from Maria Lukau.

This way is tedious, and much less interesting than any of the other excursions here indicated.

### ROUTE G.

#### MOUNTAIN ROADS BETWEEN VILLACH AND GREIFENBURG.

The eastern part of the range of the Gailthal Alps is remarkable for the arrangement of the surface in ridges and troughs nearly parallel to the adjoining main valleys of the Drave and the Gail. Although the space between those rivers is narrow, a traveller going in a direct line from one river to the other must, in many places, traverse four mountain ranges, and cross three valleys that lie between them. From this peculiarity in the structure of the country, it follows that many easy roads and paths traverse the district in a direction parallel to the adjoining valleys; and a traveller from Villach, ascending the valley of the Drave, has a choice between several ways by which he may vary his route without any considerable detour.

1. *By the Weissensee.* The long valley, partly filled by the Weissensee, nearly coincides with the limit between the triassic rocks, which constitute the greater part of the Gailthal range, and the crystalline rocks of the High Tauern. It would appear as if this were, so to

say, the natural course of the Drave valley, lying nearly in a straight line between Greifenburg and Paternion, while the river makes the considerable detour by Sachsenburg described in § 51, Rte. A. Although the mountain mass included in the triangle between the Drave and the Weissenseerthal is mainly formed of crystalline rock, this is, on the S. side, overlaid by triassic limestone, which forms the summit of the Staffberg (7,275'), the highest point of the group. The road to the Weissensee quits the valley of the Drave at *Nickelsdorf*, about  $\frac{3}{4}$  m. below *Paternion* (§ 51, Rte. A). The entrance of the glen being a narrow defile, the road mounts over the shoulder of the hill, and some way further descends to the level of the stream. The scenery is throughout pleasing. In about 7 m. from Paternion, the traveller reaches the mining village of *Stockenboi*, with iron-works. Some gold has been extracted here by washing, and small quantities of cinnabar have also been found. From the name of the village, the lower part of the valley is sometimes called *Stockenboierthal*; but the writer follows the example of *Schaubach* in preserving the name *Weissenseerthal*, for the entire. About 4 m. beyond *Stockenboi* is *Weissenbach*, a small place, whence a road mounts SSW. to *Tscherniheim*. It is an easy walk over a low pass from that place to *Hermagor*.

About 2 m. E. of *Weissenbach*, the traveller, following the main branch of the valley, reaches the E. end of the *Weissensee*, 2,936 ft. above the sea. Another measurement gives 3,084 ft. Without presenting grand features, this long and narrow lake is very pleasing from the air of repose that is spread around its quiet shores. Yet these were, from a very remote period, the scene of human activity; and numerous *pfahlbauten*, the remains of ancient lake dwellings, have been found near the E. end of the lake. At that end lives a fisherman, whose boat is generally available for conveying strangers

to the farther end (counted 9 m. distant) and is the more desirable as the carriage-road stops at Weissenbach. The chief place on the lake is *Gatschach*, near the W. end, accessible by road, but whether a vehicle be forthcoming is always doubtful in such out-of-the-way places. Near *Gatschach* the lake is so contracted in width that it is crossed by a long wooden bridge. If no vehicle be found at *Gatschach*, the traveller may go by boat to the extreme W. end of the lake, whence it is only about 5 m. to *Greifenburg* on the *Drave*. The road mounts but little to the low pass that divides the lake from a slender stream that descends to *Weissach*, on the rt. bank of the *Drave*, whence a bridge carries it to join the high-road at *Greifenburg*.

Instead of following the road by *Stockenboi*, the pedestrian may leave the high-road along the *Drave* at *Jöpplitsch*, about  $6\frac{1}{2}$  m. above *Villach*, and thence follow a track nearly parallel to the adjacent *Bleibergthal* (Rte. A), which leads to *Rubland*, and thence to *Kreuzen*, a mining village on a road that goes SSW. from *Nickelsdorf* to *Görtschach* in the *Gailthal*. From *Kreuzen* a track goes due W. through a depression in the hills, and joins the road to *Tscherniheim*, about 2 m. S. of *Weissenbach*.

2. *By Bleiberg, Hermagor, and the Gitschthal.*—By this agreeable and perfectly easy way, travellers may go from *Villach* to *Greifenburg* by a road scarcely longer than the post-road along the *Drauthal*. The way from *Villach* to *Hermagor* by *Bleiberg* is described in Rte. A. From *Hermagor* a good road mounts WNW. through the *Gitschthal*, a richly wooded populous valley. At *Weissbriach*, which has two country inns, and a third, rather better, by the roadside, about  $\frac{1}{4}$  m. out of the village, the road quits the head of the *Gitschthal*, and crosses a low pass, on which lie many erratic blocks of crystalline rock, that divides the *Gitschthal* from the head of the *Weissensee*. The road passes a short way W. of the lake, and

then by a merely trifling ascent reaches the second pass mentioned above, that leads to *Weissach* and *Greifenburg*.

#### ROUTE H.

##### PONTEBBA TO HERMAGOR, BY TRÖPPELACH.

Although a short and unimportant pass, it seems worth while to distinguish under a separate heading the path connecting *Pontebba* with the *Gailthal*. It may not occur to a traveller intending to visit the *Gailthal*, that by an easy walk of five or six hours he may reach a point more than fifty miles distant by road. For the reasons mentioned below, the way has special interest for the geologist and the botanist. The ascent commences close to *Pontebba*, through a ravine called *Bombasch Graben*, in which the geologist may identify all the chief subdivisions of the so-called *Gailthal* system well characterised by fossils. In the lower part of the *Graben* the torrent has cut its channel through a vast mass of detritus, containing huge blocks irregularly scattered through it, apparently the remains of a great berg-fall. During and after heavy rain these blocks are loosened in such numbers, that the ascent through the ravine becomes actually dangerous; and it is asserted at *Pontebba* that more than 100 persons have here lost their lives from this cause. Having attained the



level of the glen above the ravine, the way is thenceforward easy; but as there are many tracks, and no very obvious landmarks, it is best to have a local guide. The summit of the pass is reached on the verge of a wide level space, where there is a good spring, rare in these parts. The plain which forms the summit level (about 5,000') is here called *Nosfeld* (a corrupt form of Nassfeld). Above it, on the E. side, rises a rocky mountain, partly covered with forest, called *Auernick-Kogel*, a part of the mass whose highest point is the Gartner-Kogel (Rte. A). The summit commands a fine view southward and eastward, in which the noble peak of the Jof di Montasio is the most conspicuous object. On the S. slope of the Auernick-Kogel, in a partial clearing of the forest, about 400 ft. above the spring already mentioned, *Wulfenia carinthiaca* was found by the late King of Saxony, being the third known habitat (all in the same neighbourhood) of that singular plant. On the farther side of the Nosfeld, the descent commences towards the Gailthal. The stony path lies through an extensive forest belonging to Prince Porcia, partly cleared. A timber-slide has been erected to convey the trunks of noble trees down to the main valley. On approaching the lower verge of the forest some time is saved by ascending a little over a shoulder of the hill, and then descending in a nearly direct line on the village of Stelnitza (called on maps Schlanitzen). A rough cart-track leads thence to *Tröppelach*, on the main road between Kötschach and Hermagor. Both the villages above named are inhabited by Slovenes, who understand but little of any other than their native Wendish dialect. A country cart with seats is generally to be found at Tröppelach, to carry the traveller to Hermagor (about 7 m.), if that be his direction, or else to Kotschach.

## ROUTE I.

## LONGARONE TO SACILE.

It will not escape the notice of the reader that in the foregoing Rtes. nothing has been said of the considerable mountain district lying between the Piave and the Tagliamento, and S. of the Canal di Sochieve (Rte. C). The mountains of this extensive tract are collectively known as the Premaggiore group. The northern portion, including the highest peaks, is formed of Dachstein limestone, but farther S. jurassic limestone and cretaceous rocks predominate; the latter rising in the Monte Cavallo to a height of 7,377 ft. No part of the Alps has been so neglected by travellers and naturalists as this; and excepting the measurement of a few points by Herr Trinker, who has done so much for the hypsometry of the Venetian Alps, the writer is not aware of any published information respecting the district in question. The Monte Cavallo has been occasionally visited by botanists; but as to the interior valleys, the only available information is derived from a hurried excursion made by the writer in 1860, in company with Mr. J. Birkbeck.

From the Mauria Pass, N. of Monte Cridola (Rte. C), to Polcenigo, at the S. base of Monte Cavallo, the range dividing the waters of the Piave from those of the *Zelline*—which is the river draining the greater part of this district—suffers but one considerable break. This occurs at Longarone (§ 61, Rte. A), where a deep gap in the mountains confining

the valley of the Piave on the E. side is seen exactly opposite the opening of Valdi Zoldo. From this gap the slender *Vajont* torrent descends through an impassable cleft. The bridle-track leading to Friuli ascends from the bridge over the Piave (1,435'), below Longarone, in one long zigzag, which carries the traveller to the level of the deep trough here cut between the mountains on either side. Several poverty-stricken hamlets are passed by the way, and the track passes over many inequalities of the ground. *Spiræa decumbens* is abundant here and throughout the valley of the Zelline, and *Bidens tripartita*, which is naturalised in many of the Venetian valleys, is a pest in the meagre corn-fields. The chief place passed on the way is *Erto* (2,589'), with a wretched inn. The summit-level is reached a little way farther at the ruined chapel of S. Osvaldo (2,775'). Amid very pleasing scenery the track descends gently to *Cimolais* (2,176'), the highest village in the main northern branch of Val Zelline, nearly four hours' moderate walking from Longarone. By a strange perversion the torrent of this branch of the valley, which partly drains the highest mountains of this district, is called *Cimolina*, and the name Zelline is preserved by a much shorter eastern tributary, which passes by the village of *Claut*, and joins the *Cimolina* nearly 3 m. below *Cimolais*. The latter is a very singular place, with an air of seclusion and strangeness that is scarcely to be equalled elsewhere. Each house stands apart, with a walled garden and courtyard, and a large gateway affording the only access to the premises. The windows are provided with strong iron gratings, and the whole speaks of some past period of general mistrust and insecurity. Not less singular is the aspect of the vegetation. A wide extent of plain, the filled-up bed of an ancient lake, extending S. of the village, is covered with stunted sub-alpine vegetation. Almost the only tree is the *krummholz*, or *Pinus mughus*; and a botanist descending into the valley would

suppose himself to be at a height of at least 5,000 ft. above the sea.

There is a rough but seemingly tolerable inn near the church at *Cimolais*; but the traveller wishing to explore the head of the valley, and to ascend the *Monte Premaggiore* (8,127'), will do better to seek shelter for the night at the *casera* of *Meluzzo* (3,944'), fully 2 hrs. higher up the valley. A path crosses the ridge thence in a NW. direction, and leads to the valley of the Piave some way above *Pieve di Cadore*.

The track leading southward through Val Zelline crosses the plain below *Cimolais*, and passes to the rt. bank of the *Cimolina* before its junction with the Zelline. Here the valley is contracted, and on slopes of debris rt. of the track the botanist will observe the very rare *Asplenium fissum*. For a long distance the valley is quite uninhabited, and only one small cluster of houses, with a chapel, was seen on the way to *Barcis*. The walk cannot fail to interest the botanist. Late in autumn, when many plants have utterly disappeared, the following, among others, were noticed by the way: *Thalictrum simplex*, *Saxifraga elatior*, *Laserpitium pruhenicum*, *Inula squarrosa*, *Campanula Alpini*, and *Allium suaveolens*. The scenery is throughout pleasing, the path good (a guide being quite unnecessary), and in about 3 $\frac{3}{4}$  hrs. moderate walking the traveller reaches

*Barcis* (1,337'), where the writer found at the inn kept by Antonio Cilli very fair quarters for so remote a place. Here the Zelline turns eastward, and by a sinuous course through the hills escapes into the plain of Friuli about 6 m. below *Barcis*. From the point where the river leaves the mountains, a road runs SSW. to *Aviano*, a small town about equidistant from *Pordenone* and *Sacile*. If bound for the valley of the *Tagliamento*, the traveller should go to *Maniago* (665'), a town about 3 m. E. of the Zelline, producing a considerable amount of rough but strong cutlery, which is carried by hawkers throughout Italy and Switzerland. A road runs eastward from thence to the *Taglia-*





mento, skirting the southern base of the mountains. A much more interesting way from Barcis mounts nearly due S. to a plateau on the E. side of the *Monte Cavallo* (7,377'), the summit of which may be reached in about 5 hrs. steady going from Barcis. The view must be very remarkable, commanding the entire northern coast of the Adriatic. Being alone, and clouds coming on when he had reached about 6,000 ft., the writer did not persevere in attempting to reach the summit. Bears are not uncommon here, and chamois are said to be unusually abundant, doubtless owing to the fact that for 17 years the disarmament of the country people was rigorously enforced by the Austrian authorities. A track across a bare stony plateau, descending by a very rough way through a gorge to a pretty green valley, leads from the base of Monte Cavallo to *Polcenigo*, a village with a large *palazzo* belonging to the Count of the same name. Though 40 m. distant, it is scarcely 130 ft. above the sea-level. The road to *Sacile* (7 m. distant) passes over rising ground that commands a fine view of the bold range of Monte Cavallo. At the Post at *Sacile* (Rte. B), the traveller finds good quarters, and here joins the railway between Venice and Trieste.

## SECTION 63.

## TERGLOU DISTRICT.

THE group of high peaks lying between the Salza and the Enns, and culminating in the Dachstein, has been described in § 46. The attractions of the district of which Ischl is the mountain capital are now well known to many travellers, but comparatively few are aware that exactly opposite to the Dachstein group, on the S. side of the broad zone of the Styrian Alps, is a more extensive group of mountains, repeating in almost every detail the characteristic features of the Salzkammergut country. This is the mass which has retained in modern geography the name *Julian Alps*, by which it was known to antiquity. In two respects this district is surpassed by its northern rival. The lakes are less numerous and less beautiful, and the mountains do not attain heights quite equal to those of the central group of the Dachstein Alps. But, on the other hand, we find in the Julian Alps greater variety, and the subtle charm of the South is flung over the valleys that descend towards the not distant Adriatic, and enhances the contrast with the sternness of the scenery in the central parts of the group.

Some travellers will find additional interest in this district, owing to the opportunity here afforded for making acquaintance with a Slavonic population. By far the largest portion is inhabited by people of that race, belonging to two, if not three, of its numerous subdivisions, but most of the younger people can speak German, except in the valley of the Isonzo and the neighbourhood of Gorizia, where the population is partly Italian. In the towns near the sea-coast the Italian element prevails, but, except on the rt. bank of the Isonzo, the rural population is almost exclusively Slavonic. The common idea as to the inferiority of that race is certainly not borne out by such indications as a stranger is

able to perceive in this region. Speaking generally, the people are physically vigorous and well-formed, the houses are on the whole cleaner and neater than in Friuli, or in many of the Styrian valleys, and the level of intelligence seems to be quite up to the general standard. The traveller will be struck by many tokens showing that the period of French rule at the beginning of this century has left a deep impress on the popular mind. Instead of the deep feeling of hatred, but partially softened by the lapse of more than half a century, that makes the South-Germans think and speak of the French invaders as their ancestors did of the hordes of Attila, it would seem that the Slavonic people found something congenial in the Gallic temperament, while the excitable imagination of that race was dazzled by the military achievements of their new rulers.

The mountains of this district do not lie in definite ridges, although if we look at the mass which includes all the higher summits, it evidently has orographic relationship to the adjoining range of the Carnic Alps, described in the last section. Speaking collectively, the Julian Alps may be said to form two lofty islands, divided by a narrow strait which extends northward from the head of the Isonzo valley by Raibl to Tarvis. Palæozoic rocks, probably identical with those of the Carnic chain, are here raised to a lower level, and are surmounted by vast masses of trias, of which the largest part is dolomitic limestone. This is, in its turn, overlaid by the newer formation, less completely dolomitic in character, which Austrian geologists call Dachstein limestone.

The structure of the country is generally similar to that of the Dachstein group, but a comparatively trifling geological difference produces a result very important to the inhabitants, and to the mountain traveller. In the order of the strata occurring in both districts there are certain beds of red slate, impervious to water, that arrest the passage of the streams that percolate

through the interior of the limestone mountains. These beds usually lie somewhere near the level of the mountain glens in the Dachstein district, and, in consequence, these are usually watered by copious streams. In the Julian Alps they lie deeper, usually covered by a great thickness of limestone. Hence, nothing arrests the flow of the internal canals, by which the whole surface water is at once carried off, and it is only in the deeper main valleys that water flows in a constant channel. Occasionally a stream comes to the surface, flows for a certain distance, and then disappears, repeating this process many times in the course of 10 or 12 m. But, as a general rule, the mountains of this group are the most arid in the Alps. Unaided by some native herdsman or hunter who can lead him to the rare spots where a few drops of water trickle from the rock, the stranger may wander over these mountains from early morning till nightfall without finding wherewith to quench his thirst, unless he reach the upper snow beds; and, even then, may have some trouble before he can achieve his object.

As already mentioned, the mass of the Julian Alps is cut into two unequal parts by the Isonzo. The smaller portion, W. of that river, shows two conspicuous mountains. The Monte Canin (8,711') is a huge mass, sustaining an extensive plateau, from which arise several slightly prominent peaks. In contrast to this, the Jof di Montasio (8,733'), or Muntatsch, shows a beautifully sharp pinnacle of most striking form, which arrests the attention of every mountaineer, but has not (apparently) yet been ascended. In the much larger and more compact eastern division of the group the highest peaks—Terglou (9,371'), Prisinig (about 8,400'), and Mangart (8,776')—lie in a range extending from E. to W. parallel to the Save. Another parallel range extends eastward from Mte. Krn (7,366') to near Krainburg on the Save; and these ranges are connected by a transverse ridge extending from the Terglou to

Monte Krn, and dividing the head of the Wocheiner Save from the Wocheiner See, the general form of the whole being nearly represented by a Z

In a popular work, which is in the hands of most English travellers, the readers are warned against 'the dirty habits, suspicious and disagreeable manners, and Slavonic language of the people of this district.' It is said, that 'the inns are generally comfortless, and the people disobliging;' and complaint is made of the ordinary use of iron bars in the windows on the ground floor. The writer has made four pedestrian excursions in Carniola, including districts remote from the valley of the Save, and can only say that he would consider himself unusually fortunate if he were to find in remote villages in England or France such clean and comfortable rooms, such good food, and as much attention, as he has almost universally met here. The people are guilty of using a Slavonic idiom in their ordinary intercourse; but it is very rare to find an inn where there is not at least one person speaking German or Italian. They have also preserved the custom of fixing iron bars to their lower windows, universal throughout nearly the whole of the south and east of Europe; but the writer has not found this to be a cause of acute personal discomfort. In the same work it is said that the country is generally unpicturesque, with the rather considerable exceptions of the valley of the Save, with its tributary glens, the Karawankas, and 'the Caldron of the Steiner Alp'—which latter happens to be in Styria. The lower country, SW. of the Save, is too hot for pedestrian excursions late in the season; but the traveller who, in spring and early summer, may visit the hilly region of which Idria is the centre, and which is described in Rte. G, will find scope for many interesting walks. In Carniola the best stopping-places for a traveller visiting the Julian Alps are found at Veldes, Wurzen, Lengenfeld, and Kronau. In the neighbourhood of the

Birnbaumerwald, good quarters are found at Loitsch, Präwald, St. Veit, and other villages. Adelsberg, whose cavern is noticed in § 64, has a very good inn. In the valley of the Isonzo, which, politically, forms part of the province of Küstenland, or Littorale, the best head-quarters are at Flitsch and Gorizia, but very tolerable accommodation is available in many of the intermediate villages.

## ROUTE A.

## VILLACH TO TRIESTE, BY THE PREDIL PASS.

	Austrian miles	English miles
Tarvis (by road)	4	19
Flitsch . . . .	3½	16½
Caporetto . . . .	2½	11¾
Canale . . . .	4	19
Gorizia . . . .	3	14
Monfalcone (by rail)	3	14
Nabresina . . . .	2	9½
Trieste . . . .	2½	10½
	<hr/> 24½	<hr/> 114½

No post-horses beyond Tarvis.

The valley of the Isonzo, which penetrates so deeply into the mass of the Julian Alps that its northern branch is separated from the stream that descends from Raibl towards the Drave merely by the low pass of Predil, will probably, before long, be traversed by a railway which will connect Villach with the

Gorizia station on the line between Venice and Trieste. In this way the only important sea-port of Austria will be connected with the Rudolfsbahn railway by a course much shorter than that by Marburg and Laybach; and a still more important saving of time and distance will, on the completion of the line between Brixen and Villach, be gained for the traffic between Trieste and the centre of Germany. Although the Predil Pass, as well as the valleys on either side, and especially that leading to the Isonzo, are relatively low, it appears that a considerable tunnel will be necessary, the expense of which, however, will be justified by the importance of the interests at stake.

The road is interesting to the tourist for the sake of the wild and grand rock scenery about the head of the valley of the Isonzo; and there are few in the Alps that offer greater attractions to the naturalist and the geologist.

The way from Villach to Tarvis is described in § 62, Rte. B. At the latter place the road to the Predil crosses the Gailitz just above its junction with the *Schlitza* torrent descending from Raibl. Ascending a little W. of due S. through the narrow *Raiblerthal*, the traveller is struck by the presence of huge porphyry blocks on the steep slopes of limestone. Straight ahead rises, very boldly, a fine dolomite peak called *Königsberg* (6,272'). An improbable tradition traces the name of the mountain to a supposed ascent by Alboin, the Longobard chief, who led his army this way into Italy. The mountain stands in the fork between the main branch of the *Raiblerthal* and a tributary glen called *Kal/wasserthal*. This originates at the base of the *Wischberg* (8,733'). Whether this be the same as the *Jof di Montasio* (§ 61, Rte. B), or (as the writer believes) a secondary summit of the same group, it appears that the best chance of attaining that noble peak is through the *Kaltwasserthal*. The blocks mentioned above originate in a mass of porphyry, protruded through the triassic strata which extends from the neighbourhood of the

Luschariberg to the E. side of the *Schlitza*, above its junction with the *Kaltwasserbach*. About 2 m. higher up is

*Raibl*, a small place, about 2,700 ft. (?) above the sea, with a fair country inn. The considerable mines of lead and zinc, which give Raibl some local importance, immediately underlie some deposits referred to the upper trias, here so fully developed, and so well characterised by fossil fish, crustacea, and shells, that they are now generally known as the *Raibl Beds*. They may be traced westward over the ridge S. of the *Königsberg* that divides Raibl from the head of the *Kaltwasserthal*, and underlie the *Dachstein* limestone in the mass of the *Wischberg*. Above Raibl the valley ascends gently to the low ridge dividing this from the beautiful *Raccolana* valley, noticed in Rte. F, and about  $1\frac{1}{2}$  m. above the village, the *Schlitza* forms a pretty little lake, called *Raiblersee*. Among the plants of the valley the botanist will observe *Pencedanum rablense*, *Campanula carnica*, and *Salix Wulfeniana*. In the ascent to the Predil, *Silene alpestris* and *Sedum hispanicum*, two characteristic plants of this region, are very abundant. The road mounts diagonally along the slope above the *Raiblersee*, and then turns due E. to gain the summit of the

*Predil Pass* (3,822'). The descent does not commence immediately, and the road keeps for a short distance in an easterly direction approaching the great rock mass of the *Mangart*. At the verge of the descent into the very deep gorge that opens unexpectedly beneath the traveller's feet stands a small fort, designed to command the pass, with a well-executed bas-relief, and an inscription commemorating 'the heroic death of Captain Johann Hermann and his comrades,' who fell in 1809 in the defence of a hastily constructed wooden blockhouse that stood much lower down in the defile of *Preth*. Charged with the duty of protecting the rear of the retreating Austrian army, this brave officer with about 300



men, arrested for several days the passage of a French corps of 6,000 men; and when the blockhouse was at length set on fire by blazing pitch-wreaths flung from the rocks above, the leader and the garrison fell in a final desperate sally, leaving but five men alive in the hands of the enemy. A short way beyond the fort is the little hamlet of *Ober-Preth*, standing on the very brink of the dark defile of the *Coritzenza*. This torrent, which is the northernmost branch of the Isonzo, issues from the base of the Mangart, and descends, first SW., then due S., to join the main stream in the basin of Flitsch. In many zigzags, which may be cut off by a footpath, the road descends more than 1,000 ft. from the upper hamlet to that of *Unter-Preth*. During this descent the most striking objects are the grand rocks of the *Sebnik*. This is a ridge extending SW. from the Mangart, and almost overhanging the defile, above which its crags rise to a height of nearly 6,000 ft.

[It would be a mistake to attempt the ascent of the Mangart from Raibl, as suggested by Gilbert and Churchill. The proper starting-point is Unter-Preth. Ascending thence to the ridge between the Travnik and Mangart, by the course followed in going from Flitsch to Ratschach, the line thence to the summit is described in Rte. D. At the S. end of the defile are a few poor houses at a spot called *Flitscher Klause* (2,147'). Even after issuing from the stony savageness of the gorge of the Coritzenza into the more open tract that extends hence to Flitsch, the general character of the scenery remains intensely stern. On the rt., near at hand, rises the rugged *Rombon* (7,239'), which is an ENE. promontory from the mass of the Monte Canin. The latter great mountain, which on every other side shows formidably steep precipices, here presents a somewhat uniform declivity, above which some of the rugged pinnacles and the snow-slopes of the upper plateau are but partially seen. The basin of Flitsch, or Flitscherboden, en-

closed by bare rocks or slopes of debris, shows a considerable breadth of meagre gravelly soil. At some past period it has been filled to a considerable depth with gravel and detritus, arranged in imperfectly stratified beds, and these have been deeply excavated by the existing torrents. On the NW. side of this basin, about 1,900 ft. (?) above the sea, stands

*Flitsch* (called by the Italian people of the valley Pless, and by the Slavonic population *Bauc'*). There is a very fair inn at the Post, in the centre of the little town, of which the writer has no complaint to make; but he gives a decided preference to the inn (formerly Leschnegg's), just outside the town as the road leaves it to descend the valley. The accommodation is limited, but there are a few well-furnished rooms, and he has there found good food, much attention, and moderate charges. Of late years it has been often occupied by railway-engineers, and travellers have had to resort to the Post.

The most interesting excursion from Flitsch is undoubtedly the ascent of the Prestrelenik, which may be taken in connection with the pass to Canal di Raccolana (Rte. F). Another excursion of a singularly wild character is that leading to Kronau on the Save, by the head valley of the Isonzo (Rte. E). The botanist who contents himself with the lower slopes close to the village, and the floor of the main valley, will find several rare plants, among which *Calamintha thymifolia*, *Centaurea rupestris*, and *Geranium macrorhizon*, deserve to be specified.

The road follows a WSW. direction for nearly 5 m. below Flitsch as far as *Saaga* (pronounced Soga), at the junction of a torrent called Rio Bianco. Hence run several paths leading to the Tagliamento (Rte. F). Here the valley of the Isonzo bends abruptly at a very sharp angle, turning from WSW. to ESE. The character of the scenery becomes less stern, and the vegetation assumes a richer and more southern aspect as the traveller reaches

*Caporetto* (Germ. *Kapfreid*), a small

village, with a tolerable country inn, at the opening of a wide gap in the mountains through which runs the road to Udine, described in the next Rte. E. of Caporetto rises a considerable mass of mountain, collectively called

*Krn* (the pronunciation is to be learned by ear). Similar in general character to the Monte Canin, this is lower by fully 1,400 ft. The highest point attains 7,358 ft. The *Monte Vagatin* reaches 6,565 ft. and *Monte Kuk* 6,829 ft. Many of the rare plants of Monte Canin (Rte. F) are found on the *Krn*, and the ascent is less laborious, but certainly less interesting.

Between Caporetto and Canale the Isonzo turns again at a sharp angle from SE. to SW. The village of *Tulmino* (Germ. *Tolmein*), with a ruined castle said to have been inhabited by Dante when the guest of Pagano della Torre, Patriarch of Aquileja, stands on the l. bank near the angle; but the post-road avoids it by crossing a depression in the hills above the rt. bank, and so cutting off the corner. In the early summer the botanist will find many very interesting plants by the road-side in this part of the valley: amongst others may be mentioned *Medicago Pironæ*, *Saxifraga petraea*, *Campanula carnica*, and *Piptatherum paradoxum*. The junction of the *Idria* (Rte. G) with the Isonzo is a few miles below Tulmino, out of sight of the road. *Canale* (379') stands on the l. bank of the Isonzo, which is here for the first time crossed by the post-road. It has a large inn that does not seem attractive. Henceforward the road keeps to the l. bank, and the mountains subside rapidly towards the opening of the valley. This bends twice at rt. angles, first to SE., and then back to SW., before reaching the charming little city of

*Gorizia* (Germ. *Görz*), only 281 ft. above the sea, yet apparently enclosed by richly cultivated hills of considerable height. There are numerous inns, of which the best appear to be the *Tre Corone* and *Stadt Trieste*. The cathedral, the *Jesuits' Church*, and the *Castle*, now a

prison, commanding a noble view, deserve a visit. For many centuries the Counts of *Görz* were amongst the most powerful of the smaller sovereigns of S. Germany; and their possessions, conterminous with those of the ecclesiastical rulers of Salzburg and Brixen, extended from S. Tyrol to Carniola. The aspect of the town, which has about 12,000 inhabitants, is singularly pleasing, and combines many of the characteristics of South Germany with those of Northern Italy; but though always politically connected with the former, the Italian element predominates in the city. The surrounding district, however, E. of the Isonzo, is almost exclusively Slavonic, as shown by the race and language of the population.

The dialect—called *Krainerisch*, or *Kragolin*—spoken in the valley of the Isonzo, and throughout the Karst and South Carniola, differs in many respects from the Wendish, which prevails through Southern Carinthia and the upper valley of the Save; but the names of objects most necessary to a traveller seem to vary little throughout the wide region extending from the Isonzo and the Gail to Belgrade.

The sheltered position and very mild climate, convenience of railway communication, and moderate prices, recommend *Gorizia* as a residence to many German families, and may hereafter attract other foreigners. Among other conveniences, that of tolerably good hackney carriages standing for hire, often wanting in the smaller towns of Italy, is of material importance to strangers.

The railway station is about 1 m. from the centre of the town, and about an equal distance from the l. bank of the Isonzo, which is crossed by a long and lofty viaduct. The direct way to Trieste lies SSE., but the space between the *Wippachthal* and the sea-coast is filled by a rugged plateau of cretaceous rocks, forming a NW. extension of the Karst (§ 64, Rte. A).

To avoid traversing this difficult tract the rly. makes a considerable detour,

being carried for nearly 8 m. from Gorizia in a WSW. direction along the SE. side of the Isonzo. At the *Sagrado* station, nearly opposite the little fortified town of *Gradisca*, the rly. finally turns SE. away from the river. [From the *Sagrado* station the lover of antiquity may make a short excursion of about 10 m. to *Aquileja*, the greatest sea-port of Imperial Rome, then the see of Patriarchs, now a fever-stricken village, with ecclesiastical monuments that alone attest its former importance. The local *farmacista* has a valuable collection of antiquities. More effectual than the rage of Attila, who sacked and burned the only place in this region that attempted to withstand his onward march, the imperceptible action of the torrents of the Carnic and Julian Alps has transported such masses of calcareous sand and mud from the flanks of the mountains to the northern shore of the Adriatic that *Aquileja* is now more than 3 m. distant from a shallow lagoon, enclosed by sand-banks and low islands, most of which have come into existence since the Roman period. The traveller may take boat for *Grado*, an ancient town on a small island, with a fine mediæval cathedral, resorted to for sea-bathing by people from Gorizia and other neighbouring towns.]

From *Sagrado* the railway, after traversing two tunnels, reaches *Monfalcone* (Inn: Leone d' Oro, very fair), a clean little town on the slope of the hill overlooking the extreme northern shore of the Adriatic. Shut in on the SW. side by the long spits of sandy shore about the mouth of the Isonzo, and bounded to SE. by the coast of Istria between Trieste and Pirano, the Bay of Monfalcone has the aspect of a lake, when its surface is not torn by the violent squalls that often descend from the Karst plateau. Nearly 4 m. from Monfalcone, and about 1 m. from the sea-shore, the *Timao* (Timavus of the Romans) bursts out from the base of the rocks, a full-grown river. Coasting vessels come to load and unload cargoes at a mill within 20 yards of the chief

source. It is nearly certain that this is the outlet of the considerable stream of the *Reka*, which, after a course of 25 m., disappears from view at St. Kanzian (§ 64, Rte. A.).

The rly. ascends gradually from Monfalcone, passing over two lofty viaducts, and leaving on the rt. hand the picturesque Castle of *Duino*, which rises very boldly above the shore, and attains the southern verge of the Karst plateau at the junction station of *Nabresina*, whence Trieste is distant about 10½ m. (See § 64, Rte. A.)

ROUTE B.

CAPORETTO TO UDINE.

	Austrian miles	English miles
Cividale . . . . .	4	19
Udine . . . . .	2½	11½
	6½	30¾

Though scarcely Alpine in character, this road well deserves the traveller's notice, as it offers a very direct and agreeable way from Venice and Udine to one of the most interesting districts of the Eastern Alps—the head of the valley of the Isonzo. Leaving Venice at 7.35 A.M., the traveller may easily reach Flitsch on the same evening, especially if he take the precaution of ordering a carriage to meet him at the rly. station at Udine. A single tra-

veller without much luggage may, however, be content to trust to the light carretine that are found standing at the rly. station. Going from Flitsch the traveller may not only reach Udine in time for the evening train to Venice, but may devote 2 or 3 hrs. to the antiquities of Cividale.

W. of Caporetto, as mentioned in the last Rte., one of those wide low openings characteristic of the orography of this region, extends nearly at a level, and forms a gap in the range dividing the Isonzo from the Natisone. The ascent is quite trifling, and after passing the summit level, the road goes round a rocky corner and overlooks the *Natisone* torrent. The botanist will find much occupation here, even though he should not be tempted to ascend the *Monte Matajur* (5,273'), rising S. of the road, and marking for some distance the frontier between Austria and Italy. Among other rarities, *Aquilegia Henkeana*, *Alyssum Gemonense*, *Geranium macrorrhizon*, *Evonymus verrucosus*, and *Trifolium hybridum*, are seen near Caporetto; the very rare *Saxifraga tenella*, *Paderota Bonarota*, and *P. Ageria*, with other Alpine species, are seen at the base of the rocks on the l. of the road as it approaches the Natisone, scarcely 1,500 ft. above the sea. On the slopes of the Matajur grows *Lilium Carniolicum*, along with other local species. The Natisone originates in the mountains 11 or 12 m. W. of Caporetto, and flows at first towards that place, as though its original course had been through the gap spoken of above. At the point where it is met by the road the stream turns abruptly round, and descends SSW. through a narrow and picturesque valley. Though after crossing the Italian frontier the mountains gradually subside to the dimensions of hills, the scenery continues to be very pleasing throughout the rather long stage extending to

*Cividale*, the ancient *Forum Julii*, probably the earliest Roman settlement in this region of Upper Italy. There is at least one fair inn (name forgotten).

In the local museum is a large collection of Roman antiquities, and the Archivio contains documents of great interest, especially the so-called Pax of St. Ursus. The Duomo (cathedral) is of the 15th century, but contains many objects of high antiquity, especially a small octagonal baptistery dating from the 8th century, attributed to Callixtus, Patriarch of Aquileja. It bears a curious contemporary Latin inscription. A small church of Sta. Maria contains an altar-piece considered the best work of Pelegrino di San Daniele. On the opposite side of the Natisone the church of S. Martino is said to deserve a visit.

From Cividale the road runs nearly at a level through richly cultivated country, and crossing on the way the broad shingly bed of the *Torre*, reaches *Udine* (§ 62, Rte. B).

### ROUTE C.

#### VILLACH TO LAYBACH, BY THE VALLEY OF THE SAVE.

	Austrian miles	English miles
Wurzen . . . .	3	14
Assling . . . .	3½	15½
Ottok . . . .	2	9½
Krauburg . . . .	2½	11½
Laybach . . . .	3½	16½
	14½	67

Post-road to Wurzen; railway thence to Laybach.

Until the railway from Villach to Tarvis is completed travellers bound for Laybach will merely go by road to Wurzen and there take the railway train; but those who wish to see the ecuntry will prefer to follow the road as far as Krainburg.

The road to Laybach branches off from that leading to Trieste and Venice

at the hamlet of *Tschnu*, and almost immediately commences the ascent of the *Wurzener Berg* (3,497'). This is a depression in the westernmost portion of the Karawankas range, but is higher and steeper than the pass connecting Tarvis with the head valley of the Save. That course, however, though it is more interesting to the tourist, involves a considerable detour. Nearly  $1\frac{1}{2}$  hr. is employed by the diligence in effecting the ascent from *Tschnu*. The slope is covered with a fine beech forest, but at intervals the views of the *Gailthal*, in which the *Dobratsch* is the most prominent object, and of the neighbourhood of *Villach*, are very fine. These are lost by the traveller who takes the diligence, as it travels (or did travel) at night. An easy descent, commanding a very striking view of the *Terglou* group, leads from the summit to

*Wurzen* (2,638'), the chief place at the head of the main branch of the *Save* (Germ. *Sau*), which is sometimes called for distinction *Wurzener Sau*. It has a good country inn at the post; but the accommodation is very limited, only two or three bedrooms being available. The traveller who is told that this was the favourite head-quarters of Sir *Humphry Davy*, and who has read the glowing sentences in which that eminent man extolled the scenery of this neighbourhood, is exposed to some disappointment when he finds that no very striking objects are in view from the village. It is not the less true that it supplies a very convenient centre for many charming expeditions, and may well tempt the naturalist to a prolonged stay. The most attractive of these are noticed, in Rtes. D and E. [There are two foot-paths leading from *Arnoldstein* to *Wurzen*, either of which may well be preferred by the pedestrian to the post-road. The easier of these crosses the ridge of the *Petsch Vrh* (4,726'), formed of slates and grit-beds, belongs to the carboniferous series. Descending to *Ratschach* (Rte. D), it joins the road from *Tarvis* to *Wurzen*. The other way, more direct but rather steeper, leads

over the *Kamen Vrh* (5,418'), which may be considered the westernmost prominent summit of the Karawankas. This is one of the most favourable points for viewing the high peaks of the Julian Alps from the *Mali Drasky Vrh* to the *Mangart*.] The scenery of the *Save* valley from *Wurzen* to its junction with the *Savitza*, or *Wocheiner Sau*, is throughout extremely pleasing. The richly wooded slopes of the Karawankas on the N. side, and the outlying spurs of the *Terglou* group in the opposite direction, are broken through at frequent intervals by narrow glens and ravines, and through these occasional glimpses are gained of the shattered peaks that guard the valley on the S. side. It is, however, rather remarkable that the ruler of this region, the noble *Terglou*, is not (as the writer believes) anywhere visible from the main valley.

About 2 m. below *Wurzen* is *Kronau* (2,608'), with a fair country inn kept by *Pufitsch*, at the opening of the *Pischenzathal*, perhaps the most beautiful of those that penetrate the interior recesses of the Julian Alps. It is further noticed in Rte. E. A general view of the higher peaks, perhaps superior to that from the *Kamen Vrh*, is gained from the summit of the *Voschza* (5,682') NE. of *Kronau*. Though the position is perhaps more picturesque than that of *Wurzen*, and it is better placed for these two expeditions, *Kronau* is proportionately more distant from several other objects of interest noticed in Rtes. D and E. Amid rich and beautiful scenery, which affords a soothing contrast to the stern grandeur of the higher peaks, the traveller follows the road along the *Save*, crossing to the l. bank nearly 3 m. below *Kronau*. As he advances, the range of the Karawankas increases in height, and assumes more salient features. The village of *Langenfeld* (2,121'), with a very fair country inn, is passed on the l. hand; and on the opposite side of the river, at the confluence of the *Feistritz* torrent, is *Moistrana*. From either village the ascent of the *Terglou* (Rte. D) may be

undertaken. Ordinary tourists are often induced to visit a waterfall of the Feistritz, involving a walk of 3 hrs. going and returning to the road. The fall would not attract attention in the central range of the Alps, but the scenery is interesting. Moderate walkers, who are content to enjoy the view of formidable-looking peaks, may ascend the *Pleveunza* (6,516'), NNE. of Lengenfeld, about the nearest to the Terglou of the prominent summits of the Karawankas. About 7 m. below Lengenfeld is the post-station of

*Assling* (1,792'). Here, or at *Jauerburg*, a village with iron-works, about 2 m. lower down the valley, the traveller may fix his head-quarters for expeditions in the higher part of the Karawankas range (§ 64, Rte. B). At the junction of the *Radoina* (Germ. *Rothweimbach*) the valley opens out, and appears to have once formed an extensive lake-basin, now filled up with diluvial gravel which has been deeply excavated by torrents. The post-road keeps to the NE. side, near to the base of the Stou, while the Save flows SSE. to Radmannsdorf. The pretty lake of Veldes (Rte. D) is reached by a cross-road. Below the junction of its two main branches the Save becomes a river; and henceforth flows through the broad open valley with a more even and gentle current. Halfway between the post-station of *Ottok* and *Krainburg* the *Klagenfurt* road, descending from the *Loibl Pass*, joins our Rte.

*Krainburg* (1,296') has a fairly good inn (zum alten Post); the Post is no longer used as an inn. From this neighbourhood the two chief mountain groups of Carniola are seen to great advantage. The Terglou, about 27 m. distant, here towers to a great height above the intervening ranges, while the higher summits of the Sulzbacher Alps, culminating in the *Grintouz*, are only about half as distant, and invite the mountaineer to an excursion (see § 64, Rte. D). From the rising ground on which the little town stands, the road descends to a bridge over the Save, and thenceforth keeps to the SW. of the river, usually at some

distance from its rt. bank. At *Medvodame* (Germ. *Zwischenwässern*) the *Zeyer*, a considerable affluent of the Save, descends from WNW. to join the main stream. [About 6 m. distant is the ancient little town of *Laak* (1,308') at the junction of the *Soura* with the main branch of the *Zeyer*. The former stream leads, at first WNW., then about due W., to the *Podberda Pass* on the N. side of the *Borodin*. A path descends thence along a mountain torrent which falls into the *Idria* about 2 m. above its junction with the *Isonzo* (Rte. G). From the upper valley of the *Soura* another pass leads over the *Cerni Vrh* to Feistritz in *Wochein*. A tolerable char-road leads from *Laak* along the *Zeyer*—most of the way about due WSW.—to *Idria*]. A range of low hills, formed of carboniferous and triassic rocks, extends from *Laak* towards *Laybach*, and along with a similar range running westward from *Cilli* on the N. side of the *Save*, almost completely divides the basin of *Krainburg* from that of *Laybach*. The country traversed on the way between *Krainburg* and *Laybach* has that air of contentment and prosperity that characterises the southern provinces of Austria. The mountaineer, who is never altogether satisfied when travelling towards the low country with his eyes turned away from the higher peaks, has some satisfaction in knowing that at *Laybach* (§ 64, Rte. A) he joins the great line of railway that in a few hours can carry him to new scenes of activity and enjoyment.

## ROUTE D.

LAYBACH TO TARVIS, BY VELDES. ASCENT  
OF THE TERGLOU.

Few travellers will be satisfied to keep to the high-road, described in the last Rte., between Villach and Laybach, and unless overpressed for time, will at least make two detours from the direct course—to the charming lake of Veldes, and the road from Wurzen to Tarvis. An excursion from Veldes to the Wochein Lake is easily made, even by ladies, and moderate walkers may thence reach the Save valley by the Kerma Pass. The ascent of the Terglou is for a practised cragsman the most attractive expedition in this part of the Alps.

A light carriage for Veldes (about 35 m. distant) can generally be hired at Laybach for 10 fl. The way is by Krainburg (described in last Rte.), and it is possible to follow the post-road for a considerable distance farther, and then to take a country road to *Radmannsdorf* (1,617'), a little town about 3 m. from the main road, on rising ground above the l. bank, standing a little below the junction of the Wocheiner Sau with the main branch of the river. A rather shorter, and on the whole a more agreeable way, from Krainburg, is by a good country road along the rt. bank of the Save. Crossing the *Savitza*, or Wocheiner Sau, a short way above its confluence with the main branch, the road mounts over a low hill, and suddenly the traveller gains a view of the enclosed basin in which lies the little *Lake of Veldes* (1,559'), known to the Romans as *Lacus Auracius*. Though of miniature dimensions—about  $1\frac{1}{4}$  m. long by 7 furlongs wide—and surrounded by hills of moderate height, the higher mountains to the S. and W., and the not distant

Karawankas to the N., form such a noble and varied background, and the nearer objects are so picturesque, that this little lake may fairly compete with many others of greater dimensions and wider celebrity. On a rock rising very steeply above the northern shore stands the ancient castle, long an appanage of the bishops of Brixen. At the base of the rock stands the village of *Veldes*. There are several villas and two good hotels on the lake, much resorted to in summer by visitors from Trieste and Laybach. The *Gasthof zum Erzherzog Sigmund* (formerly *Petran's*) is at the hamlet of Seebach, about  $\frac{1}{2}$  m. from Veldes. The position is pretty and the accommodation good. Boating is the favourite pastime. Nearer to Veldes is a newer and larger hotel, known as *Louisenbad*, also said to be well kept. The position of the lake is singular. It lies on one side of the channel of the *Savitza*, which is less than  $\frac{1}{4}$  m. distant, and separated from it by a slender ridge of dolomitic limestone. Being only about 100 ft. deep, the bottom of the lake is considerably higher than the bed of the stream, which flows through a deep channel only 1,323 ft. above the sea at its junction with the Save. The lake is probably fed, and is certainly drained, through subterranean channels, as it has no visible outlet. On a rocky island in the middle stands the little pilgrimage church of *Maria im See*. Among other excursions from Veldes, the active pedestrian may cross the main valley of the Save, and ascend high enough on the southern flank of the *Stou*, to gain a noble view of the valley and of the successive ranges that intervene between this and the Terglou. The most interesting excursions from Veldes are those to the *Wocheiner See*, and the ascent of the Terglou, both noticed below. The pedestrian bound for Wurzen may take a very agreeable course by *Ober-Göriatsch*, descending thence to the *Radoina* torrent. Then ascending along that stream for 7 or 8 m., he reaches the singular gap near *Moistrana* (noticed in describing the

descent from the Terglou), and at that village rejoins the main branch of the Save. The carriage-road from Veldes to Wurzen also passes through very picturesque and pleasing scenery. Mounting rather steeply among the richly-wooded hills that divide the Radoina from the Savitza, it crosses the former stream, and again ascends amidst park-like glades, amidst which are seen some country-houses of resident proprietors, and finally descends to rejoin the Save, a little below Assling (Rte. C). Having reached Wurzen by the post-road, this is left to wind northward up the slope of the Wurzenberg (Rte. C), while the way to Tarvis lies due E., through a deep depression connecting the valley of the Save with the headwaters of the Fella (§ 62, Rte. B), here dividing the Julian Alps from the western extremity of the Karawankas, as on the opposite side of Tarvis the same trough separates them from the eastern prolongation of the Carnic Alps. Soon after leaving Wurzen, the road approaches the verge of a shallow lake, or large pool, with low swampy shores, whose dreariness is partially relieved by the fine stern mass of the Mangart—the most conspicuous peak throughout the greater part of the way to Tarvis. This lake, called *Wurzen-See*, is commonly considered the source of the Save; but that name more properly belongs to the torrent feeding the lake. This originates in the *Planitzathal*, a glen cutting deeply into the mountains on the E. side of the Mangart. A very slight ascent leads from the lake to *Ratschach*, a small place close to the watershed between the Save and the E. branch of the Gailitz, along which lies the way to Tarvis. The height of the summit-level is only 2,821 ft.

Not far beyond Ratschach is the opening of another glen, promising scenery more interesting than that of the Planitzathal. This runs right into the mass of the Mangart. It contains two lakes, lying one above the other, from which that great mountain is seen to great advantage. [In the 'Jahrbuch'

of the Austrian Alpen-Verein for 1866, Herr von Pavich has described an ascent of the *Mangart* (8,776') effected on August 10, 1865. Quitting Ratschach at 2.30 A.M., the party, consisting of the writer, with a friend and two guides—Peter Kirchmayer, innkeeper, and G. Petric—arrived at the foot of the mountain at 4.30. A steep ascent through a bare wood led to the stony *alm* of Mirnig, the S. end of which was reached in 1 hr. Bearing to the W., a  $\frac{1}{4}$  hr.'s scramble up the base of the Travnik (the *Mittagskofel* of the Generalstabskarte) was succeeded by an easy zigzag ascent of its steepish W. slopes to the lower shoulder, proceeding along which in a S. direction, a snowfield and chaos of rocks—called *Jarischza*—were traversed, and, the cliffs beyond having been climbed, the party stood in 2 hrs. more upon the final ridge connecting the Travnik with the Kl. Mangart.

Following the arête eastwards, beneath a summit called the *Nos* (*Nase*), masses of *geröll*, snowfields, and bare rock, were successively traversed, and the summit of the Little Mangart was reached in  $3\frac{1}{2}$  hrs., and that of the Great Mangart shortly afterwards over the narrow *kamm* connecting the two peaks. Two *stone-men* were found on the summit. Bad weather with thick fog having set in, the party took a wrong direction, so that 5 hrs. were occupied in the descent. Peter Kirchmayer (the innkeeper at Ratschach) is a good guide. He is satisfied with 3 fl. for the expedition. From 5 to 6 hrs. suffice for the ascent for an average walker. It is easy to descend from the ridge above mentioned to Unter-Preth, and so to Flitsch, which place is reached in 8 hrs. from Ratschach.]

On approaching the road, the Planitza torrent turns westward, and goes to swell the Gailitz below Tarvis. The boundary between Carinthia and Carniola is reached at *Weissenfels*. Amid pretty broken country, watered by frequent streams that are not seen on the southern declivity of the Julian



Alps, the road descends gently to Tarvis (§ 62, Rte. B), between 9 and 10 m. from Wurzen.

*Valley of the Wochein.* Few strangers who visit Veldes will neglect to visit the valley of the Savitza, called in German Wocheiner Sau, because it originates in the valley of the Wochein (Germ. *Die Wochein*), which is surrounded by many of the highest summits of the Julian Alps. Comparatively few will attempt the ascent of the Terglou, but there is a moderately easy pass, leading through noble scenery, by which ordinary walkers may reach the upper valley of the Wurzenzer Save at Moistrana. It is just possible to accomplish a visit to the Wochein Lake and the ascent of the Terglou in two days, sleeping on the first at the Belpole Alp. It is a much better plan to allow another day for the expedition, and to sleep on the first night at Feistritz, where the village inn supplies very comfortable quarters. The road from Veldes crosses the narrow rocky barrier that divides the Veldes lake from the Savitza. For several miles the upward course along this stream is nearly due S. The Savitza, which is remarkable for the bright green tint of its waters, is enclosed between well-wooded rocky slopes, and the way is throughout agreeable; but it is only after turning westward, and passing the village of Feistritz, that the scenery rises to grandeur. Before reaching that place a branch road passes over a gap in the hills on the N. side of the valley, and then descends westward along the Kerschdorfer torrent, parallel to the Savitza, but flowing in the opposite direction. This is the direct way from Veldes to Mitterdorf, from which place the ascent of the Terglou is commenced. The traveller who would make a detour by the Wochein, and intends to commence the ascent of the Terglou on the same afternoon, should send a messenger to Mitterdorf, to secure the presence of a guide at the hour appointed. The road through the Wochein valley crosses to the S. bank of the stream, about 14 m. from Veldes, to reach

*Feistritz* (1,569'), the chief place of the Wochein, with considerable iron-works belonging to Baron Zoys, and a good country inn, just outside the village. Ancient Roman mining works have been discovered near *Vittnach*, on the opposite side of the Save. Feistritz is the best stopping-place for a stranger who would give a few days to the exploration of this remote, yet very interesting, valley. The geologist will find much to engage his attention, and will discover proof of the antiquity of the valley in the miocene deposits that are accumulated to a considerable depth in the neighbourhood of Feistritz. Among the characteristic plants of the lower valley are *Sedum hispanicum* and *Astrantia Carniolica*. A drawback on the pleasure of mountain excursions in this district is the extreme scarcity of water. In consequence of that circumstance, and of the prevalence of *Festuca eskia*, a wiry grass refused by horned cattle, the upper pastures are chiefly occupied by sheep and goats, and the mountaineer can rarely count on finding milk or butter. An easy pass leads from Feistritz to St. Lucia at the junction of the Idria with the Isonzo, a few miles below Tolmino (Rte. A). About 5 m. W. of Feistritz the char-road comes to an end on the E. shore of the

*Wochein Lake* (Germ. *Wocheiner See*), 1,715 ft. above the sea. With some differences that will not escape the traveller's notice, this smaller sheet of water will forcibly recall to his recollection the Lake of Hallstadt in the Salzkammergut, and to the geologist the parallel is maintained in a striking way by finding nearly all the same deposits arranged in the same order. Close to the point where the traveller reaches the lake are a few houses, and the church of *St. Johann*. On the rt. hand the Savitza flows eastward out of the lake; while a few hundred yards farther, the meagre stream which combines several torrents draining the S. side of the Terglou flows in the opposite direction into the lake. At St. Johann the traveller may generally find a boat to carry him to the upper end of the Wochein

valley. This is enclosed between arid and forbidding-looking mountains, chiefly formed of Dachstein limestone. To NW. something approaching to a definite range extends from the Terglou to the *Vagatin* (6,565')—sometimes written *Bogatin*—and on the S. side the latter mountain is connected with the *Monte Kuck* (6,829') and the *Wochu*. The usual limit of travellers in this valley is a fine waterfall, reached by a good path from the head of the lake. It is usually considered the source of the *Savitza*. The stream issues from a hollow in the mountain, but is obviously fed by several small tarns, lying higher up in a lateral valley N. of the waterfall. The *Vagatin* mentioned above, which rises a little S. of due W. from the head of the lake, is but an eastern outwork of the great plateau, many square miles in area, that culminates in *Monte Krn*, and extends westward as a great promontory, overlooking a great part of the valley of the *Isonzo*. A rather steep path leads from the lake to *Tolmino* (Rte. A), over the *Sharbinja Joch* (about 6,000'), reaching *Rauna* in 5½ hrs. and *Tulmino* in 2½ hrs. more.

The geologist returning from *Feistritz* to *Veldes* may take an interesting way by crossing the low ridge N. of *Feistritz*, and then traversing the limestone plateau in a NE. direction, passing the hamlets of *Kopriunig* and *Goriusche*. Nature has done much to isolate the mountain population of the *Wochein*, and such intercourse as does exist with the outer world is chiefly with *Trieste* and *Gorizia*, rather than with the Germanized towns of *Carniola* and *Lower Styria*. Hence, though German is almost unknown, many of the natives have some slight knowledge of Italian. They appear to be an honest and friendly people, with livelier wits and more sense of humour than are common among the people of S. Germany.

*Ascent of the Terglou.* The two published accounts of the ascent of the Terglou (9,371')—in Slavonic *Triglav*—have created an undue impression of the peril and difficulty of the undertak-

ing. The accident which caused the death of one guide, and the very narrow escape of the whole party, on the occasion of the first ascent of the mountain by *Capt. Bosio* in 1822, merely shows the imprudence of attempting the ascent of any of the prominent peaks of the Southern Alps at times when violent thunderstorms are to be apprehended. These rarely occur after the end of July. In fine weather the expedition is quite within the reach of any practised cragsman; but the ascent of the main peak requires steady and cautious climbing, as the rocks are not very solid, and a single detached block may endanger the climber himself or his companions. The least experienced climber should go last in the ascent, and first in the descent. As the rocks have very sharp jagged edges, the traveller should look to the nails in his boots, and be provided with thick doe-skin gloves. It will be obvious that the ascent may be accomplished in the reverse direction from that here suggested, starting from *Lengenfeld* or *Moistrana* instead of the *Wochein*; but the hut at the *Upper Kerma Alp* is more uncomfortable, and is open for a shorter season, than that of the *Belpole Alp* on the S. side. The latter is a pasture for cows, while the former feeds merely sheep and goats—a further reason for the preference here given. As mentioned above, there is a direct way by which a light carriage goes in 3 hrs. from *Veldes* to *Mitterdorf*—the highest village on the S. side of the Terglou—avoiding *Feistritz*. Most travellers will go by the latter place, and may take a direct path thence to *Mitterdorf*, over a low pass on the N. side of the *Save*. There is also a circuitous char-road passing by *St. Johann*, and then turning about nearly in the opposite direction to ascend the stream mentioned above, whose main branch flows past *Mitterdorf*. At *Althammer*, a village by the way, the *Mosnitza* torrent flows southward from a very deeply-cut cleft at the base of the Terglou, below the *Belpole Alp*. That appears to be the natural way for ap-

proaching the mountain, but the head of the cleft appears to be so steep as to be universally avoided. *Mitterdorf* has a poor little inn, but it appears to be moderately clean. The guides for the Terglou are a father and son named Schest. They expect 5 fl. each for the expedition. The father is growing old, and is rather slow. The son promises to be a good mountaineer; but he may be drawn for the conscription, or go away to seek his fortune at Trieste. A local guide is not required for the difficult part of the ascent by a traveller who is accompanied by one of the good Swiss or Savoy guides.

The way from *Mitterdorf* follows a course much E. of the direct line from that place to the summit. After clearing the first steep ascent, the way lies along a ridge E. of the *Mosnitzer* torrent, and finally approaches a nearly parallel streamlet that issues from a hollow in the *Mali Drasky Vrh*. That is the collective name of the mass rising E. of the Terglou, from which it is separated by the *Kerma Pass*. It would seem that a traveller going from *Mitterdorf* to *Moistrana* might shorten his way in distance, if not in time, by crossing the ridge between this hollow and the head of the *Kermathal*, gaining on the way one of the finest possible views of the Terglou. From the opening of the hollow, the way to the *Belpole Alp* lies westward, along a rough track that is carried round the S. face of the *Drasky Vrh*. As the ascent is very hot, 4 hrs. from *Mitterdorf* should be allowed for reaching the

*Belpole Alp* (5,430'). The hütten here have supplied night-quarters and good water to most of those who have made the ascent; but the local branch of the *Austrian Alpine Club* has opened a more convenient refuge at some point higher up. On the way from *Belpole* to the base of the highest cliffs, besides many rare species characteristic of this region, the botanist may gather *Arabis vohinensis* and *Saussurea pygmaea*. After a considerable ascent over rocky ground intermixed with *Alpine pastures*, more

verdant than usual in this district, the barren region encompassing the base of the peak is attained. The traveller, unprovided with drinkables, who recollects that many hours must elapse before water can be found, may be here tempted to diverge to the l. from the direct course towards snow-beds lying in a hollow immediately under the highest peak. Even here it is not easy to find water enough for breakfast, so thoroughly is the rock honeycombed with fissures. As the Slavonic name *Triglav* expresses the fact, the mountain has three heads, or principal peaks. Of these the westernmost is little seen from this side. In the centre rises the highest peak, a formidably steep pyramid, or rather obelisk, of rock, connected with the eastern peak, or *Kleine Terglou*, by an excessively narrow arête, but little below the level of the lower peak. This descends with moderate steepness towards the E. and SE., and the base of the rocks is surrounded by long slopes of debris. It is by these that the ascent of the peak is commenced, and they offer no difficulty to anyone used to wandering amongst limestone mountains. The rocks above look forbiddingly steep, but there is a sort of cleft, called by the German explorers of this region 'Das Thor des Terglou.' Having reached this point, there is but one possible way to the summit, and local guidance is unnecessary. The climb up the ridge of the *Kleine Terglou* is steep, but the word 'danger' here used by *Capt. Holmsay* is certainly inappropriate; nor will anyone used to mountain climbing find difficulty in reaching the summit, which, according to *Professor Peters*, attains 8,820 ft. The younger *Schest* takes a wicked pleasure in recounting how various travellers who have attained this point have found themselves affected by head-ache, stomach-ache, or some other bodily ailment that might afford a decent pretext for declining the remainder of the task set before them. And it must be said that anyone who has not found out by experience that rock-climbing is 'not so bad as it

seems, may be excused for showing some hesitation at undertaking the ascent of the final peak. The arête that spans the tremendous intervening gulf, begins as a broad-topped wall, but thins off to a breadth of a few inches, and abuts against the base of an obelisk of bare rock, some 600 ft. in height, where if a man were to slip, he must fall at least 1,500 ft. before the detached portions of his body could find a resting-place. Yet there is no real difficulty, and no real risk, except that of loose masses of rock that might be detached by an incautious climber. The narrowest part of the arête may be passed astride, but no one would think of doing so if the wall were 6 ft. instead of 1,200 ft. in height. Making the ascent in 1865 along with Mr. W. E. Forster, and this being the first walk of that season, the writer owns to having crossed the arête very cautiously, but on returning he had no difficulty in walking along it as if it were an ordinary path. Old-fashioned alpenstocks may best be left at the Terglou Thor, but those fitted with a pick, or ice-axe, are not found an incumbrance in climbing, and may sometimes be useful. The summit is a ridge, about 40 paces long, covered with broken fragments of the brittle Dachstein limestone that forms the upper part of the mountain, with some clinging wreaths of hard frozen snow, and no trace of vegetation—very singular for a peak of such moderate height. There is probably no other peak in the Alps that combines so vast a mountain panorama with so wide a sea-view. The coast of Istria beyond the bays of Monfalcone and Trieste is well within view, and if the NW. coast of the Adriatic cannot be traced as far as the mouths of the Po, it can only be for want of objects to catch the eye. Venice is undoubtedly within the range of view, but the writer does not know that any of those who have reached the summit have been favoured by a clear horizon in that direction. A small glacier, with well-marked crevasses, lies on a broad shelf of the mountain on its N. side, about

2,000 ft. below the summit, apparently overlooking the head of a short glen parallel to the Kermathal, drained by the *Kotenza*, or W. branch of the *Radoina* torrent. It seems quite impossible to reach the glacier from above, but it is probably accessible from below, and would form the object of a pleasant excursion from Lengenfeld or Moistrana.

A rather long slope of debris leads from the Terglou Thor to a point very near the summit of the *Kerma Pass* (6,332'). Although the only track leading from the *Wochein* valley to the upper valley of the *Wurzen Save*, this is little frequented, and in the upper part of the *Kermathal* is ill traced, especially in a hollow basin near the top, which involves a slight descent and ascent. There is usually one good spring of water available in the upper part of the *Kermathal*, but even this sometimes disappears in summer. The higher Alp is occupied only for a short season, and at the lower *Kerma Alp*, which is reached by a long and very rough descent in 2½ hrs. from the pass, the shepherds rely for water on blocks of old snow which they carry down from a cleft in the mountain. Henceforward the path is much easier, and the declivity gentle. Looking ahead the traveller sees a broad opening that leads to the main valley of the *Save*, but when at length an abundant stream breaks out in the bottom of the valley, and is joined by the *Kotenza*, which drains the Terglou glacier, he finds with surprise that the united torrent is carried off eastward to join the *Save* several miles below *Jauerburg*. The native name—*Radoina*—has been Germanized to *Rothweinbach*, and the hamlet a little below the junction is called *Rothwein*. The way to the main valley of the *Save* lies through the broad opening which has been long in sight. An ascent of about 300 ft., and a longer descent, are needed to reach *Moistrana*, on the l. bank of the *Save*, with a rough inn, to which a mountaineer need not object. Better quarters are found at *Lengenfeld* (Rte. C), on the opposite side of the

valley, some 2 m. distant. A vehicle is generally to be found at Moistrana, and there is a road leading to Wurzen along the l. bank, joining the high-road half way to that place.

The traveller who would ascend the Terglou from Lengonfeld or Moistrana should seek shelter for the night at the Ober-Kerma Alp (5,332'). Gregor Legat of Lengonfeld is named as an experienced guide. Captain Holsmay recommends Alois Kováts of Moistrana, and warns travellers against a drunken fellow named Wucher. Professor Peters speaks very favourably of a tailor in the same village, whom (in spite of a halt in his gait!) he found his best guide in this region.

## ROUTE E.

### FLITSCH TO WURZEN OR MOISTRANA.

Except by following the road over the Predil Pass to Tarris, and thence by Weissenfels to Wurzen, there is no very easy way for the pedestrian who would connect a visit to the Monte Canin (described in the next Rte.) with the interesting region surrounding the Terglou. The easiest course for a moderate walker is probably by a path that mounts along the bed of the stream from Unter-Preth, above Flitsch, and crosses the W. shoulder of the Mangart, descending on the opposite side by the lakes on the N. side of that mountain

to the carriage-road near Ratschach. The writer has been prevented by weather from crossing that pass, and has obtained no reliable information respecting it. The course taken by the country people, long and fatiguing, but nowhere difficult, follows the main stream of the Isonzo nearly to its source, and leads to one or other of two passes, by one of which they reach Kronau, by the other Moistrana.

The upper valley of the Isonzo corresponds in many respects to the Wochein valley. It was remarked in the introduction to this § that the general form of the main mass of the Julian Alps—not including the group of Monte Canin—is represented by the letter Z. The Savitza, flowing eastward from the Wochein, drains the lower angle, while the upper Isonzo flows somewhat S. of W. and drains the mountain region enclosing the upper angle. It will be understood that minor secondary ranges fill most of the space included in the ground plan thus roughly sketched; and as the Savitza receives the waters of several torrents that have at first flowed in an opposite direction to itself, so a part of the drainage of the secondary ranges near Flitsch flows ENE. till, after joining the torrent that is considered the proper source of the Isonzo, the stream follows its normal WSW. course to join the Coritenza near Flitsch. The journey from Flitsch to Kronau is counted 10 hrs. steady walking, and an hour more should be allowed for reaching Moistrana. A pleasant path through the fields leads from Flitsch to the junction of the two streams, and the opening of the upper valley of the Isonzo, known to the German people hereabouts as *Trentathal*, from the name of its highest hamlet. For a distance of nearly 4 hrs. the Trentathal is one of the most dreary and desolate-looking in the Alps. The slopes on either hand are bare rock or piles of debris, and for the greater part of the way neither a house nor a tree are to be seen. 'Death pictures were positively the only signs of life and became

frightfully numerous' [G. and C.]. The traveller is not surprised to hear that the people of this neighbourhood are excused from direct taxation on account of the poverty of the soil. In the midst of this barren tract stands the little village of *Sotcha*, 2½ hrs. from Flitsch. The traveller should either start very early from Flitsch or else pass the night at *Sotcha*. The *pfarrherr*, who gave Messrs. Gilbert and Churchill a hospitable reception, has been removed, and it is doubtful whether his successor will receive strangers. There is, however, a very poor inn. [From *Sotcha* a path, not to be attempted without a guide, leads eastward to the *Wocheiner See* (last Rte.). It is said to be a walk of 10 hrs. to *Feistritz*.] Fully 2 hrs. above *Sotcha* is the hamlet of *Looch* at the junction with the *Isonzo* of the *Sadenza*, a tributary torrent draining a glen that runs up to the W. base of the *Terglou*. [By that way goes the path to *Moistrana*, over the *Luknia Pass* (about 6,200') between the W. peak of the *Terglou* and the *Prisinig*, and descends to *Moistrana* through the *Uratathal*. The pass lies at the head of the valley of the *Sadenza* on the side farthest from the *Terglou*, reached by steep zigzags through beech wood, and then by a rough track over steep slopes, till a fine rock portal is attained. In descending the way first bends to the rt. towards the *Terglou*, and then follows a dry torrent bed and rough débris till the stream is reached. The course is then by the l. bank till the tract becomes a rough road leading to *Moistrana*, 12 hrs. moderate walking from Flitsch.]

The next place on the *Isonzo* above *Looch* is *Sta. Maria*. The path to it lies somewhat W. of N. as the main valley begins to curve round to the l. in approaching its head. In 1½ hr. from *Sta. Maria* the traveller who has time to spare may reach the Source of the *Isonzo*. This is a striking scene. A very considerable torrent bursts out in a single mass from the SE. slope of the *Jaluz*, a mountain standing farther east than it is laid down on maps. The

*Worschez Sattel* (5,254'), leading to the valley of the *Save*, lies between the *Jaluz* and a still loftier mass crowned by the peak of the *Prisinig* (about 8,400'). A rapid descent from the pass leads to the head of the *Pischnenzathal*, and into the very centre of some of the grandest rock-scenery to be found in the Alps. Those who do not undertake the long and fatiguing walk from Flitsch to *Kronau* should on no account omit to make a short and easy excursion from the latter village, or from *Wurzen*, in order to enjoy this noble scene. Nowhere can the contrast of fantastic rock-scenery with dark masses of pine and *krummholz* be more fully enjoyed. On rocks about the head of the glen, and on slopes of debris below them, many rare plants may be found, and especially the very rare and curious *Campanula Zoysii*. 2½ hrs. are amply sufficient for the descent through the *Pischnenzathal* to *Kronau* (Rte. C).

#### ROUTE F.

##### FLITSCH TO RESIUTTA.

In the last as well as the present section occasional reference has been made to a great mountain mass, collectively known as *Monte Canin*, that lies between the *Isonzo* and the *Fella*, or E. branch of the *Tagliamento*; but no particulars respecting it are given in the preceding Rtes. This is in many respects the most remarkable of those high plateaux of limestone rock that are characteristic features in the orography

of the Eastern Alps, both on the N. & S. sides of the central chain. The Steinerne Meer, near Berchtesgaden, the Tännengebirge, and the Todtesgebirge, have been spoken of as examples of this structure; but all these, even the first, fall considerably short of the elevation of the plateau of Monte Canin, and some other singular features noticed below are better developed here than elsewhere in the Alps. Although the writer has twice reached the plateau, and once attained what is said to be the highest point, the presence of drifting clouds, which perhaps enhance the scenic effect, debarred him from obtaining complete and accurate information as to many particulars, and he has not been able to supplement these deficiencies from other quarters.

The naturalist who would examine the upper region carefully must make one or more expeditions from Flitsch, unless he would pass a night in one of the miserable huts on the mountain. But an active walker, starting early, may take the summit of the Prestrelenik on his way to Resiutta or Raccolana. There is a rarely-used track across a slight depression in the plateau leading from Flitsch to the Canal di Raccolana; while the pedestrian who is content to approach close to the mountain may take a tolerably direct course by the S. side, or a much more circuitous, but very interesting, way by the head of the Raiblerthal, and the Canal di Raccolana.

1. *By the Prestrelenik Sattel.* Fully 8 hrs. from Flitsch to Raccolana.

The principal mass of the Monte Canin shows two very bold ranges of mural precipices, standing nearly at right angles, and meeting in the summit which is known on the Friuli side as Monte Canin—probably that to which the height 8,711 ft. has been attributed. Nearly due S. from this summit extends the range of very steep rocks that closes the head of the *Canal di Resia*, terminating southward by an eminence named Monte Baba. A much longer range extends somewhat N. of E. from the same

peak, and is not marked by any deep break in its continuity till it approaches the Predil Pass. The highest part of this range terminates about 3 m. east of the Canin, in the summit of the *Prestrelenik*, which is generally believed to be the highest point of the entire mass. E. of the Prestrelenik the plateau subsides to a height not much exceeding 7,000 ft., and the projecting points in the range extending thence to the Predil—Monte Prevala, Monte Cerniala, &c.—scarcely attain a height of 8,000 ft. Speaking only of the higher part, lying WSW. of the pass, which for the sake of distinction is here called Prestrelenik Sattel, we have a broken plateau, 9 or 10 square miles in extent, with a mean height of about 8,000 ft., bounded on the N. and W. sides by a series of watch-towers, of which the most conspicuous are the Prestrelenik, the Monte Canin proper, and Monte Baba. As far as it exhibits any definite slope, this is towards the S. and E., but under ordinary circumstances no streams flow towards the valley of the Isonzo through the gaps that open here and there between the buttresses of mountain that sustain the plateau on that side. The only moderately easy way of access to the plateau seems to be through a wide and deep recess in the mountain range WNW. of Flitsch. Of three guides at Flitsch, an old soldier, commemorated by Messrs. Gilbert and Churchill, is objectionable; a stunted little man, by trade a master chimney-sweeper, is inoffensive; a third, named Grangua, living in the house No. 147, Flitsch, is perhaps the best. In fine weather, travellers used to this region scarcely require local guidance beyond the shepherd's hut, fully 2 hrs. above Flitsch. The path winds along the rocky slopes that circle round the recess above mentioned, partially overgrown with beech scrub, affording slight shade from the sun, which is best avoided by a very early start. On the way the guide will surely point out the only spring of water that is likely to be seen in the day's walk. It trickles, drop by drop, into a little hollow scooped in the rock,

which contains about enough to fill a leather cup such as mountaineers usually carry. A numerous party would need a long delay to obtain even so much drink for each man. The solitary shepherd's hut passed in the ascent is a miserable place, and its occupants are usually reduced to goats' whey as their only beverage. A short way above the hut the last creeping pines are left behind, and the ascent begins over what now appears a stony wilderness, but will appear to one descending this way a cheerful region, when contrasted with the utter desolation of the upper plateau. As remarked in regard to the head of the Wochein valley, the character of these mountains and the condition of the population are mainly influenced by the growth of a hard wiry grass, not distinguishable from the Pyrenean *Festuca eskia*, which is not eatable by horned cattle, though sheep and goats, when hard set for other food, do not refuse it. But however uninviting to the eye, the stony slopes up which the traveller climbs with a general direction towards WNW. are full of interest to the botanist. Nearly all the rarest plants of this region of the High Alps (excepting perhaps *Arabis rochincensis*) are found in the course of the ascent. The rare *Campanula Zoysii* here attains its western limit. *Saxifraga tenella*, *Carex reclinata*, and *C. fuliginosa*, with many other prizes, will relieve the apparent dullness of the way. A new interest will be excited as the traveller gradually approaches the upper plateau. If bent only on crossing the pass to Raccolana, he will leave it a little on his l. hand; but by so doing he will lose one of the most singular and impressive scenes to be found in the Alps. This cannot be enjoyed early in the season when the plateau is covered with snow, and is best contemplated in the later season, after mid-August. Although the snow is then limited to hollows and shaded slopes, the traveller sees with surprise wide tracts of bare rock that reproduce to the eye the aspect of the great glaciers of the Central Alps. Narrow,

parallel fissures stretch across wide spaces, and here and there, as happens with glacier crevasses, these are enlarged to broad chasms. The effect is enhanced when slowly drifting clouds roll over the surface, vastly increasing the apparent dimensions of the stone glacier. Most impressive is the awful silence that reigns amid this solitude. On the great glaciers, little gurgling rills furrow the surface by daytime, minute insects are borne by the breeze, or find a home on the surface of the ice; and, even by night, some falling rock, or fragment of ice, reminds the stranger that great forces are still awake and active. But here all seems stiffened into silence and inaction, as by the Gorgon's head, and no sound, save the howling of the storm, ever breaks the perpetual stillness. Yet, in the midst of this cemetery of Nature, life, though silent, is not altogether absent. The rocky surface is indeed quite bare, but in the crevasses, partly filled by snow, there is moisture enough to feed a few bright flowers. The glacial *Ranunculus*, the Alpine poppy, both the white and orange-flowered varieties, and a few others, find the requisite conditions of existence. The pleasure of wandering alone in this desert region is somewhat marred by the reflection that any accident that prevented a traveller from walking, might leave him to lie, without assistance, for months, if not for years, unless he should take the precaution to leave suitable instructions at Flitsch. In crossing the sharp-edged crevasses on the plateau a jump is sometimes requisite; and in case of a slip the results would be far more serious than on ice.

On approaching the Prestrelenik, which rises in the form of a laterally compressed cone a few hundred feet above the plateau, the botanist is surprised to find it covered by comparatively abundant vegetation, and among other rarities will recognise *Alyssum Wulfenianum* and *Saussurea pygmaea*. The view must be at once extremely extensive and interesting. The exquisite



peak of the *Jof di Montasio*, rising at the opposite side of the deep cleft of the Raccolana valley, is alone worth the trouble of the ascent. Bad weather coming on, the writer had but a momentary glance towards the SW., taking in a great extent of sea-coast, and a much wider view of the plain of Venetia than is seen from the Terglou. If, as the writer believes, the difference of height be inconsiderable, the view from the proper peak of the Canin probably includes a much larger extent of country on the Italian side. It is said that there is a natural tunnel through the peak of the Prestrelenik, not far below the summit; but in a rising storm the writer did not verify the assertion. To visit the plateau and ascend the Prestrelenik, will involve a detour of at least 2 hrs. for the traveller intending to cross the pass which, for want of a recognised name, is here called *Prestrelenik Sattel* (about 7,100'). The descent on the N. side, beginning with a long snow-slope, is steep and trackless, but not difficult. The only necessary precaution is to bear to the rt. as the traveller approaches the valley. The only path through the Canal di Raccolana lies along the N. side, and this should be struck quite high up, above a deep gorge that runs under the base of the range of Monte Canin. The scenery of the so-called canal is charming, and affords a very pleasant afternoon walk. About half-way down, the path crosses to the l. bank, above the poor little village of *Saletto*. Throughout the valley the traveller will be interested by observing the strange vicissitudes of the stream. It is clear that in floods this rolls its waters in the face of day, from one end of the valley to the other; but in ordinary weather the water is lost to sight throughout the greater part of its course, passing either through internal clefts of the rock, or under the masses of rolled blocks that often encumber its bed. At intervals it suddenly starts into daylight, filling its bed, and as suddenly disappearing from the sight. Below *Saletto* the path returns to the rt. bank, and once

more crosses and recrosses the stream before reaching *Raccolana*, a poor village standing N. of the junction of the Canal di Raccolana with the valley of the Fella. On the opposite side of the latter stream, and on the high-road from Pontebba to Udine (§ 62, Rte. B), is *Chiusa*, where a vehicle may be found for *Resiutta*—5 or 6 m. distant—or, in case of need, very fair quarters for the night.

2. *By Saaga and the Canal di Resia.* Scarcely 8 hrs. from Flitsch to *Resiutta*. *Saaga* is a small village, with an inn that does not seem very bad, about 5 m. below Flitsch, on the way to *Gorizia* (Rte. A), at the junction with the *Isonzo* of a torrent called *Rio Bianco*. At least two paths lead thence to *Resiutta*, and another, nearly due W., goes to *Venzone* on the *Tagliamento*. It seems to be difficult to find guides at *Saaga*, as there is very little communication between the people of the Upper *Isonzo* and their Italian neighbours. The writer went this way from Flitsch to *Resiutta* in spring, when much snow lay on the higher mountains, and the lower valleys were bright with a thousand flowers. The guide, so called, knew the way for a short distance only; but it did not seem easy to go far astray from the direct way. The ascent begins close to *Saaga*, after crossing a torrent that descends from a recess in *Monte Baba*. After a rather long pull up a gravelly declivity, the track winds along the S. slope of a ridge diverging from the base of *Monte Baba* that divides the short glen of the *Rio Bianco* from the head of *Canal di Resia*. By a gradual ascent the summit of this ridge is attained, and then begins a comparatively steep descent towards the *Resia* torrent. The great range of precipices that closes the head of *Canal di Resia* here shows very finely, but is lost to view as the traveller descends a long ridge that divides the *Resia* from a tributary torrent. Although the maps show a track along both banks of the stream, the writer was directed to cross to the N. bank near *Resia*, the chief place in the valley. The traveller

must not be surprised if he finds it difficult to converse with the people of this valley and that of Raccolana, as they speak a peculiar dialect, declared to be unintelligible even by the people of the adjoining valleys. The scenery is not equal to that of the Canal di Raccolana, but this is a very easy, and on the whole an agreeable way to Resiutta (§ 62, Rte. B). There is another way from Saaga which follows for some distance the gorge of the Rio Bianco. The guide alluded to above expressed a strong objection to that path, but the reason did not clearly appear.

3. *By the Raiblersee and Raccolana Pass.* About 9 hrs. from Flitsch to Raccolana, 2 hrs. thence to Resiutta. The traveller who would enjoy the fine scenery of the Raccolana valley, but shuns the somewhat laborious passage of the Prestrelenik Sattel, may effect his object by a detour over the Predil Pass, and a very easy walk of 6 hrs. thence to Raccolana. Soon after commencing the descent from the pass, the traveller may leave the high-road, and follow a path leading down to the little lake of Raibl. A very gentle ascent leads from the upper end of the lake to the low pass, which, in default of a fixed local name, is here called *Raccolana Pass* (3,419'). For a short distance, the ground gently slopes on the W. side; but after passing some open ground, where the way from the Prestrelenik Sattel joins the beaten track, this passes to the rt. side of the valley, and begins to descend steeply over rough ground. The views of the Jof di Montasio, and the range of Monte Canin, from the neighbourhood of the pass, are of a very high order. The Canal di Raccolana has been described above.

### ROUTE G.

#### LAYBACH TO GORIZIA, BY IDRIA OR ADELSBERG.

Although scarcely within the scope of this work, it seems desirable to give a slight notice of the considerable district, extending southward from the main mass of the Julian Alps, whose natural centre is the important mining town of Idria. This includes several groups of hills, ranging, for the most part, between 4,000 and 5,000 ft. in height, which differ widely in geological structure and in their general features. The whole district is nearly divided into two equal portions by the valley of the Idria, and the depression over which runs the road from the town of Idria to Loitsch. On the NE. side of that line the hills are formed of carboniferous rocks of the Gailthal series, partially overlaid by triassic deposits. Much more modern are the hilly ranges, lying on the SW. side of the same boundary. These fall naturally into two groups, known by distinct local names, that are divided by a depression over which runs the road from Wippach to Idria. E. of that road is the tract, called *Birnbaumer Wald*, formed of cretaceous rocks, in some places showing a dolomitic character. West of the same road, the hills stretching towards the valley of the Isonzo, are collectively called *Tarnovaner Wald*, and are formed altogether of Jurassic limestone. Taking together the whole region here spoken of, it presents on the S. side, towards the Adriatic and the plateau of the Karst, the aspect of an immense bastion, rising from 2,000 to 3,000 ft.

above the surrounding country, with faces about 27 m. in length, and a well-defined apex, marked by the projecting summit of Monte Nanos, the southernmost point of the Birnbaumer Wald. The SE. face of the bastion, rising on the rt. of the road from Laybach to Adelsberg and Präwald, is somewhat broken by a projecting mass above Planina; while in the SW. face, which overlooks the Wippachthal, the uniform outline is broken by a slight recess in the hills, corresponding to the breach between the Jurassic and cretaceous rocks.

1. *By Idria.* Railway to Loitsch 23½ m. Road from Loitsch to Idria, about 15 m. On foot, from Idria to Gorizia, 8 or 9 hrs.' walking, exclusive of halts. Reference was made in Rte. C to a road from Laak to Idria, which might be used by a traveller descending the valley of the Save, who has no occasion to pass by Laybach; but the ordinary way is to take the railway from Laybach to Loitsch (§ 64, Rte. A). At the good hotel of the Post, not far from the rly. station, a carriage may be engaged for Idria—charge, 6 to 8 fl. The road is now in good order; but as it is very hilly, fully 3½ hrs. should be allowed for the drive. On approaching the town, the road descends into the comparatively deep basin in which stands

*Idria* (1,543'), long famous for its quicksilvermine. Inn: Schwarzen Adler. The object of nearly all strangers who come here is to visit the mine, which, next to Almaden in Spain, ranks as the richest in Europe. The metal, occurring partly as cinnabar, but chiefly in the native state, is found in the uppermost beds of the Gailthal series, or nearly at what may be called the connecting link between the palæozoic and the secondary epochs. A large building in the middle of the town, called the Schloss, or *Gewerkenburg*, contains the offices of the Director and other officials, where permission to enter the mine is easily obtained. The entrance is close at hand, and after passing through an

entrance gallery, and a chapel, the visitor descends 757 stone steps. The chief inconvenience arises from the heat of the lower shafts—about 90° Fahr.—and it is not prudent to remain long, as there is enough of mercury volatilized at that temperature to affect the health of delicate persons. The mercury is extracted from the poorer ores by roasting—a process carried on in winter, when snow is on the ground, to avoid injury to the health of men and cattle. The mine has been worked since the beginning of the 16th century, but the annual produce has fallen from nearly 300 to about 150 tons.

In case better accommodation be now available than was found several years ago, Idria is a place offering to a geologist or naturalist inducements for a halt of many days, especially in the early summer, before the surrounding hills are parched by the sun. In the immediate neighbourhood, the former may trace the chief subdivisions of the secondary formations from the chalk to the lowest beds of the trias, with the underlying Gailthal beds. These are described in an important Memoir, by Prof. Stur, in the 9th volume of the 'Austrian Geological Institute.' The botanist may find several of the peculiar species of Croatia and S. Hungary, which here attain their western limit, and some other more exclusively local plants. The following deserve to be noted—*Hacquetia Epipactes*, *Campanula pyramidalis*, *Omphalodes verna*, *Scopolina atropoides*, *Lamium Orvala*, *Primula carniolica*, *Lilium carniolicum*, and *Erythronium Dens Canis*. The extremely rare *Hladnikia pastinacæfolia* has been found on the *Monte Zhaun*, between Idria and Heidenschaft. Most travellers return from Idria by the Loitsch road, retaining the vehicle hired at that place. There is another road, very hilly, and fit only for light country carriages, leading southward from Idria to the Wippachthal. This nearly follows the boundary between the cretaceous rocks of the Birnbaumer Wald and the Jurassic range of the Tarro-

vaner Wald. In descending from Zoll, this road forks. By the l. hand branch the traveller may go due S. to Wippach; while a rt. hand branch runs eastward to Heidenschaft. The easiest way for a pedestrian going from Idria to the Isonzo is by the valley of the *Idria* stream. Time would be lost by following its windings throughout the first part of the way; and there is an easy and direct track through a depression in the hills which rejoins the banks of the *Idria* at Tribuse, and then follows its l. bank to its junction with the *Isonzo*, about 4 m. below *Tulmino*. This, however, would be a very circuitous way to *Gorizia*, which may better be reached by a rather long walk across the rough hills of the *Tarnovaner Wald*. The direct line passes by the village of *Tarnova*, but this apparently involves many intermediate ascents and descents. The way commonly taken is by *Val Chiapovano*. Though no stream is commonly seen in that valley, it marks a deep transverse trough across the range of the *Tarnova* hills, and opens into the valley of the *Isonzo*, about 4 m. NE. of *Gorizia*. A traveller unacquainted with the *Krainersisch* dialect should take a guide from *Idria* for all the walking expeditions here mentioned, as the country people use no other language; and the ground is often so rough that a traveller cannot make his way across the country without enquiring the way.

3. *By the Wippachthal.* The most direct way from *Laybach* to *Gorizia* is by a country road that turns eastward from the old high-road to *Trieste*, about 4 m. beyond the *Loitsch* station, and runs through a slight depression in the *Birnbaumer Wald* to *Zoll*, where it joins the road from *Idria*, mentioned above. The way thence lies by *Heidenschaft* to *Gorizia*. This course has no advantages, as it misses most objects of interest, and those pressed for time will prefer the railway. A far better way is to take a carriage from *Loitsch* to *Planina* (1,530'), a little town on the old road to *Trieste*, almost abandoned

since the opening of the railway. It stands in a depression forming the natural division between the *Birnbaumer Wald* and the *Schneeberg* range that extends south-eastward to *Fiume*. Near at hand may be observed a good instance of one of the singular phenomena of this region. The considerable stream of the *Unz* breaks out from a cavern close to *Planina*, pursues a very sinuous course of 8 or 9 m., and as suddenly disappears in an opening at the base of a hill about half-way between *Planina* and *Loitsch*. There is no doubt that the cavern whence the *Unz* flows is directly connected with the great cave of *Adelsberg*, and that the *Unz* is in the main the same stream as the *Poik* which is lost in its recesses. From *Planina* an active walker will go to *Präwald*, making on his way a visit to the *Castle of Lueg*, and passing over the *Monte Nanos*, both further noticed below.

All travellers who have not already seen the great *Cave of Adelsberg* will doubtless take that place on their way from *Laybach* to *Gorizia*, and the more so as they can do so without omitting any other object of interest. *Adelsberg*—40 m. by railway from *Laybach*—is described in § 64, Rte. A. The way by road thence to *Gorizia* is about 43 m. Post-horses are no longer to be found, but tolerably good vehicles may be hired at all the chief villages by the way. After visiting the cave in the forenoon, an active traveller will have no difficulty in taking the *Castle of Lueg* on his way to *Präwald*, although that course involves a detour of several miles. The writer, who has not visited the castle, cannot add to the account given in the following extract:—

'The singular *Castle of Lueg* (*Prejana*) is about 8 m. W. of *Adelsberg* (*i.e.* about 2 hrs.' fast walking from *Adelsberg*, and as much from the *Magdalenen-Grotte*). It is placed in the highest of three caverns, out of which its chambers are partly excavated, and is accessible only by a flight of steps cut in the rock, by ladders of wood, and by drawbridges over gulfs and chasms. The rock is

honeycombed with holes and perforations; caverns alternate with buildings, and at its base the river disappears in a yawning gulf; it is altogether a mysterious spot. "Were a stone thrown from the summit of the mountain, it would fall perpendicularly to the bottom, passing by the castle without touching it. From the base of the rock, and even from the valley upon which it looks, the castle is not to be perceived; it is only visible from the adjacent heights, and even these are at too great a distance to enable any artillery that might be placed upon them to reach the fortress. A road cut out of the solid rock meandering in every direction, and often winding back upon itself, leads to the gate." The lower cave cannot be entered on account of the Poik; that in the middle is approached by wooden bridges, and extends 1,800 ft. into the rock.—[M.]

About 10 m. E. of Adelsberg is *Präwald* (Slav. Resderto), formerly a post-station on the way to Trieste, 1,817 ft. above the sea, at the S. foot of Monte Nanos. It has an excellent country inn, in a house which is also a brewery, sometimes visited in summer by pleasure parties from Trieste. The chief object for a traveller here is the ascent of *Monte Nanos* (4,251'). This presents itself as a bold headland, projecting southward from the hilly region which includes the southern outliers from the mass of the Julian Alps. Irrespective of its attractions to the botanist, its peculiar position enables it to command a very interesting view across the plateau of the Karst, extending SE. to the mountains near Fiume. The W. coast of Istria is traced for a considerable distance, and the Bay of Fiume is also seen on the E. side of the Monte Maggiore (4,574'), the highest point of that peninsula. The SE. face of Monte Nanos is very steep, though not inaccessible; but the sun beating on the bare rocks is very trying. The SW. face is less steep, and partly overgrown with shrubs and stunted trees. The beaten track makes a great detour,

but the writer hit upon a rough goat-track that leads from Präwald directly enough to the plateau of the mountain. He prefers the view from the summit rising at the southern angle immediately above Präwald, to that from the somewhat higher points rising farther N. The botanist should not content himself with visiting one summit alone, as the Flora of the plateau is much varied. In addition to several of the plants mentioned as growing about Idria, *Arabis Scopoliiana*, *Viola pinnata*, *Astragalus Wulfeni*, and *Genista sericea*, may be found, along with several southern herbs and shrubs of interest to the northern botanist. If bound for the Wippachthal, the traveller will descend by a beaten track from the plateau of the mountain to the high-road near *St. Veit*, a village about 6 m. NW. of Präwald, with an excellent country inn, apparently superior to any in *Wippach* (Slavon. *Vipava*), the chief place in the valley of the same name, 1,285 ft. above the sea. The sheltered position of the *Wippachthal*, protected from the destructive blasts of the Bora, and enjoying the influence of the mild sea-breezes, enables the inhabitants to cultivate many plants not seen elsewhere in Carniola, and makes the flora, even though it offer no very rare plants, of much interest to the botanist. The road, gradually receding from the stream of the Wippach, runs NE. from Wippach to *Heidenschaft*, or *Aidussina*, with a fair country inn. Just before reaching that thriving village, the road crosses the boundary between Carniola and the Littorale. Beyond *Heidenschaft* the road, keeping to the N. side of the broad valley, clings to the base of the range of the Tarnovaner Wald. The scenery is in places rather pretty, but cannot be called very interesting. About 33 m. from Präwald, or 43 m. from Adelsberg, the traveller reaches *Gorizia* (Rte. A).

Most travellers will prefer to return from Präwald to the line of the Trieste rly. Instead of returning to Adelsberg, they will save a little time in going to

Trieste by taking a light vehicle by *Senoneč*, and then crossing a very steep hill that separates that place from the Divača station. (See § 64, Rte. A.)

## SECTION 64.

### KARAWANKAS AND SULZBACHER ALPS.

THE easternmost division of the Alps S. of the Drave now remains to be described. The range of the *Karawankas*, extending for about 70 m. from Tavis to Windischgrätz, may be considered as orographically the prolongation of the Carnic chain, from which it is divided only by the breach through which the Gailitz flows from Tavis to join the Gail and the Drave; and the same range may be said to extend still farther eastward in the granitic mass of the Bacher Gebirge between Windischgrätz and Marburg. Closely connected with the Karawankas range, and considerably surpassing it in height, is a group of dolomite peaks rising on the frontiers of Carinthia, Carniola, and Styria, and distinguished by a different name in each of those provinces. This is called, in Carinthia, Seethaler Alps;

in Carniola, Steiner Alps; and in Styria, Sulzbacher Alps. Inasmuch as the greater portion of this group lies on the Styrian side, and encloses the village of Sulzbach, it appears that the latter name is the most appropriate, and should be preferred by strangers.

The geological structure of the Karawankas range offers many points of peculiar interest. The western portion, indeed, differs but little from the adjoining Carnic chain; but on the eastern side we have more direct evidence of the continued action of elevatory forces along the same axis throughout a period of enormous duration. In the neighbourhood of Kappel we find a band of true granite, overlaid by crystalline slates. In the series of stratified rocks whose outcrop is parallel to this crystalline axis and to the main valley of the Drave, the carboniferous (Gailthal series), the trias, and the Jurassic formations are all present within a very limited space; and as trilobites and other Silurian fossils have been detected near Kappel, it is highly probable that the series of palaeozoic rocks will be hereafter completely made out.

Reckoning from W. to E. the chief summits of the Karawankas are the Mittagskogel (7,071'), Stou (7,326'), Vertatscha (7,208'), Koschutta (6,895'), Ovir (7,001'), and Petschen (6,926').

The Sulzbacher Alps are remarkably simple in structure. They appear to originate in a vast displacement which has upheaved an enormous mass of triassic dolomite, not overlaid by the Dachstein limestone which plays so conspicuous a part in the higher portion of the neighbouring Julian Alps. Several of these peaks attain a considerable elevation. Of those which have been ascended the most conspicuous are the Grintouz (8,386'), Oistrizta (7,701'), and Raducha (6,730'). The Rinka, which has been erroneously confounded with the Grintouz, apparently approaches the height of that peak.

The scenery of the Sulzbacher Alps is extremely fine, and even though the attractions of the Logarthal may have been

unconsciously exaggerated by travellers who, in a region hitherto so little known to strangers, found the additional charm of surprise to heighten its solitary grandeur, it must be owned that the district has hitherto been undeservedly neglected. In the range of the Karawankas there are also many charming nooks which will reward the traveller who gives some time to explore this range.

The best head-quarters for a traveller are at Sulzbach and Vellach, but tolerable accommodation is found at many other places; and a great part of the Karawankas range may be visited from the villages in the valley of the Save mentioned in § 63, Rte. C, and especially from Wurzen, Lengenfeld, and Jauerburg. The northern and southern limits of this district are marked by the valleys of the Save and the Drave, and its eastern boundary is the line of railway between Marburg and Steinbruck. For the convenience of travellers, a notice is here given of the extension of that railway to Laybach and Trieste, completing the description of the railway from Vienna to Trieste of which the northern portions are given in Chapter XV.

ROUTE A.

MARBURG TO TRIESTE, BY RAILWAY.

	Austrian miles	Eng. miles
Kranichsfeld . . . . .	1½	7
*Pragerhof . . . . .	1	4½
*Pöltschach . . . . .	2	9½
*Cilli . . . . .	4½	21½
Tüffer . . . . .	1½	7
*Römerbad . . . . .	1	4½
*Steinbruck . . . . .	1	4½
Sagor . . . . .	2	9½
Littay . . . . .	2	9½
*Laybach . . . . .	4	18½
*Loitsch . . . . .	5	23½
Rakek . . . . .	1½	7
*Adelsberg . . . . .	2	9½
*St. Peter . . . . .	1½	7
Divaca . . . . .	3½	16½
*Sessana . . . . .	1	4½
Prosecco . . . . .	1½	7
*Nabresina . . . . .	1	4½
Grignano . . . . .	1	4½
*Trieste . . . . .	1½	7
	40	188½

Express train (first and second class carriages) in 7 hrs. 33 min. Two ordinary trains daily in nearly 12 hrs. Several unimportant stations are omitted. The express train stops at those marked with an asterisk.

At *Marburg* (§ 56, Rte. A) the railway from Vienna to Trieste crosses the Drave, just at the point where it emerges from the Alpine valley in which it has flowed more than 200 miles into the open hilly country that extends hence towards the borders of Hungary and Croatia. Between Marburg and Cilli the railway traverses a district of low tertiary hills, drained by the streams that flow SE. from the Bacher Gebirge, and finally unite in the channel of the *Dran*, which joins the Drave near the ancient town of *Pettau*, the ancient *Pætovium*, remarkable for the mass of Roman remains that have survived 18 centuries of destruction and neglect. More than 100 *sarcophagi* have been disinterred here. Near the *Kranichsfeld* station (856') is a fine mediæval castle. The next station is

*Pragerhof*, at the junction of the important line of railway that runs eastward by *Pettau* and *Kanizsa* to the S. end of Lake *Balaton* in Hungary, and thence NE. to *Stuhlweissenburg* and

Buda. The old post-road, which is carried farther W. than the railway, and nearer to the base of the Bacher Gebirge, passes through *Windisch Feistritz* (Wend. Bisterza), a small town, 908 ft. above the sea, not to be confounded with a village of the same name on the Drave, SW. of Klagenfurt. The rural population of Lower Styria, S. of the Drave, is almost exclusively Wendish, speaking the same dialect of Slavonic that prevails in Southern Carinthia and Upper Carniola. The warm region lying between the Drave and the Save produces much wine of good quality, which commands in Austria relatively high prices. Two tunnels are traversed before reaching the *Pöltschach* station. This lies on the N. side of a range of comparatively high hills that extend eastward from the neighbourhood of Cilli to the Croatian frontier. The most conspicuous summits are the *Wotsch* (3,215') and the *Donatiberg* (2,899'). On the S. side of this range, close to the frontier, is the frequented watering-place of

*Rohitsch*, near a village of the same name, and at the head of the *Sottla*, about 12 m. from *Pöltschach*. The water of the principal spring is slightly saline, and contains much fixed air, much resembling that of *Nieder Selters*. Over 400,000 bottles are annually sent away to furnish an agreeable companion to the rather strong white wines of the country. The position of *Rohitsch* is rather hot, but it offers the attractions of good accommodation and agreeable society. In the neighbouring range of the *Wotsch* the botanist will find a few of the characteristic species of the Pannonian flora. This range forms the watershed between the *Drave* and the *Save*; and the *Sottla*, flowing nearly due S., falls into the latter river a few miles W. of *Agram*. Near *Pöltschach*, on the N. side of the *Wotsch* range, are the fine ruins of the *Abbey of Seitz*, the most ancient house of the Carthusian Order in Germany, founded in 1151. Between *Pöltschach* and the following station of *Ponigl* the rly. is carried

through a depression on the W. side of the *Wotsch*, and follows a sinuous course among the hills till it descends into the valley of the *Vogleina*, along which it runs nearly due W. to

*Cilli* (751'), a very ancient town with over 4,000 inhabitants, the *Colonia Claudia Celeia* of the Romans, standing at the junction of the *Vogleina* and the *Ködnigbach* with the *Sann*. There are numerous inns, of which the best are the *Krone*, *Sonne*, and *Ochs*. The traveller should not omit a visit to the ivy-grown ruins of the castle of *Ober-Cilli*, standing on the *Schlossberg*, an eminence S. of the *Vogleina*, overlooking the town and the rich country surrounding it, with the fine outline of the *Sulzbacher Alps* in the western background. The Counts of *Cilli* rose to importance in the 14th century, but after extending their rule over the adjacent parts of Carinthia, Carniola, and Croatia, a century of brilliant fortune was terminated by the murder of the last of the line in 1456. After that event the Emperor *Frederick IV.*, hard set to maintain his claim to the inheritance, took refuge within the walls of the castle. Very numerous Roman antiquities have been found here, but a great portion has been lost by neglect, and many of the most interesting objects removed to *Vienna* and *Gratz*. Roman inscriptions, built into walls and gateways or preserved in private houses, are very abundant. The *Pfarrkirche* contains a chapel which is a fine specimen of the early German pointed style. Another ancient chapel, with a half-effaced inscription, marks the traditional site of the martyrdom of *St. Maximilian* in the 3rd century. *Cilli* is the most convenient starting-point for several expeditions in the neighbouring Alps, described in *Rtes. D, E, and F.*

The railway and the road to *Agram* run southward from *Cilli* as far as the junction of the *Sann* with the *Save*; but the post-road to *Laybach* took a much more direct course, nearly due E. from *Cilli*, approaching the S. base of the *Sulzbacher Alps*, known on that side



as Steiner Alps. The scenery of the valley of the Sann is very pleasing, the rich vegetation giving place at intervals to steep, though not lofty, masses of limestone, partly carboniferous, partly of triassic age. Close to the *Tüffer* station (695') is a large establishment for mineral baths—called Franz-Josephsbad—close to the rt. bank of the Sann. The accommodation is said to be fairly good, and the charges reasonable, but its attractions by no means equal those of the handsome and well-situated establishment adjoining the next station of

*Römerbad* (656'). Though only recently become a favourite resort of strangers, this place, as its name expresses, boasts a high antiquity. Two Latin inscriptions attest the fact, and the channels through which the water is conducted from the hot springs to the baths are probably of Roman workmanship. The establishment is said to be well managed and comfortable. The grounds are prettily laid out, and the position, on rising ground above the river, much superior to that of *Tüffer*. It is much resorted to in summer. Among other interesting plants the botanist may find here *Helliborus atrorubens* and *Euphorbia saxatilis*. The Wendish name of the place is *Teplitza*, that being the generic Slavonic name for warm springs. The favourite excursions are to the ancient castle of *Montpreis*, nearly 2,000 ft. above the sea, among the hills W. of the river, and to the ruins of the Carthusian abbey of *Geyrach*. Passing through a defile between rocky hills over 3,000 ft. in height, the railway and the road follow the banks of the Sann to its confluence with the Save at the

*Steinbrück* Junction Station (624'). Very good food is found in the refreshment-room, and a large hotel adjoins the station. Here the Croatian railway turns SE., leading in about 2½ hrs. to Agram, and thence either to Sissek, to meet the steamers that descend the Save to Semlin, or to Karlstadt. The traveller, if he has a few minutes to spare,

should examine the railway bridge over the Sann, which completely eclipses the bridge by which the road crosses that river, built to replace the ancient ruined stone bridge which gave its name to this place. From *Steinbrück* to near *Laybach* the railway follows an upward course through very charming scenery, along the winding banks of the Save. The general direction is about due W., but for the first 10 m. the course is WNW. Coal with fine impressions of fossil plants has been found at some points in the valley, and also on the way between *Cilli* and *Steinbrück*, but not, as it would appear, in any considerable quantity. The S. side of the Save lies altogether in Carniola, and on the N. bank the boundary between that province and Styria is passed before reaching the *Sagor* station. Near here a rocky islet in the Save is said to be covered with the rare *Saxifraga tenella*. Beyond the *Littay* station the railway crosses the Save by a lattice bridge, and passes through a short tunnel under the castle of *Sojaneck*. The *Saloch* station stands near the junction of the *Laibach* with the Save. Here the railway leaves the latter river and runs straight across a level tract to

*Laybach* (994')—written *Laibach* in German, called in Slavonic *Ljubljana*, in Italian *Lubiana*—and known to the Romans as *Æmona*. The capital of Carniola, much enlarged and improved within the last 25 years, now contains more than 20,000 inhabitants. The *Stadt Wien*, and *Elephant*, rank first among the numerous inns; next to these are reckoned the *Wilder Mann*, *Löwe*, &c. The still, clear, and deep stream of the *Laibach*, that issues as a full-grown river from the edge of the limestone hills at a distance of only a few miles, passes through the town. There are numerous sightly public buildings, but none that need engage the attention of a traveller. The collections in the *Landesmuseum* may probably deserve the attention of a naturalist. From the ruined castle on the *Schlossberg*, about 200 ft. over the town,

a fine view is gained of the surrounding country, which extends in clear weather to the Terglou and Sulzbacher Alps, with a portion of the Karawankas range between them. The plain watered by the Laibach, between the city and the hills, was for centuries a mere swamp, the favourite resort of aquatic birds, but the drainage works which have been carried on for more than a century have partly effected their purpose, to the great benefit of the surrounding population. The botanist may find several rare and local plants in the neighbourhood of the city, of which the following deserve to be specially noted:—*Medicago carstiensis*, *Vicia oroboides*, *Aremonia agrimonoides*, *Malabaila golacensis*, *Pastinaca Fleischmanni*, *Crucianella molluginoides*, *Cineraria rivularis*, *Carlina simplex*, *Omphalodes verna*, *Scopolina atropoides*, *Euphorbia epithymoides* and *E. carniolica*, *Calla palustris*, *Lilium carniolicum*, *Piptatherum paradoxum*, and *Danthonia provincialis*.

The remarkable region lying between Laybach and the coast of the Adriatic does not come within the scope of this work. Many pages would be required to give even a sketch of its structure and of the many singular phenomena which are there exhibited; but a very short general description, and a brief notice of some of the objects of interest adjoining the line of railway, must here suffice.

Orographically the region lying between the sea-coast and the basin of the Save and the Southern Gurk is made up of a broken and irregular range of limestone mountains extending from NW. to SE. flanked on either side by a broad plateau. The plateau on the NE. side, scarcely anywhere surpassing 2,000 ft. in height, is mainly composed of the same triassic beds that play so important a part in the geology of the SE. Alps, with some ancient basins filled by deposits of the cretaceous period. The central range, which we shall call from its best known summit the *Schneeberg Range*, may be considered as a SE. pro-

longation of the cretaceous mass of the Birnbaumer Wald, described in § 63 Rte. G. Its northernmost summit, the *Javornik*, attains 4,044 ft., but it rises considerably higher towards the SE. in the *Schneeberg* (5,883'), the *Belschitz* (5,894'), and other summits NE. of Fiume. The remarkable range rising very steeply from the sea-shore between Fiume and Zengg appears to be a SE. prolongation of the same range.

The plateau of the *Karst* (Ital. *Carso*), lying between the Schneeberg range and the Adriatic, is formed of cretaceous rocks of the same age, separated only by a narrow band of eocene deposits, lying in a fold or ancient valley that extended from Gorizia to the neighbourhood of Fiume. The designation *Karst* is sometimes limited to the portion of the plateau lying nearest the coast; but as the character of the whole is remarkably uniform, it is highly inconvenient to divide it by an arbitrary line. It will be seen that, so far as it is possible to speak of a range connecting the Alps with the mountain chains on the E. side of the Adriatic, that extend with little interruption from Fiume to Albania, this must be sought not in the range of the Julian Alps, that subsides into the trias plateau S. of Laybach, but in the hilly district SE. of Gorizia, which may possibly be considered as the NW. extension of the Schneeberg range. The most striking characteristic of the entire region, and especially of the portion formed of cretaceous rocks, is the degree to which, more than any other district of equal extent in Europe, it is pierced to a relatively great depth by interior clefts and reservoirs. Most of the rainfall at once disappears through the chinks that traverse the surface. The streams which at rare intervals issue from subterranean reservoirs speedily disappear in the same abrupt way in which they come to light. The two most considerable streams—the Reka and the Poik—both originate on the W. side of the Schneeberg range. The first disappears at St. Kanzian, and after flowing

diagonally beneath the zone of the Karst, falls into the Adriatic near Monfalcone, 23 m. distant; while the second, after disappearing from view near Adelsberg, and revisiting the daylight as the Unz near Planina, returns for the third time to the surface as the Laibach, and joins the Save in its course to the Black Sea. A striking characteristic of the Karst is the number of large and deep hollows, usually of circular or elliptical form, that occur at irregular intervals on its surface. These vary from a small size to a diameter of half a mile or more. Many of these appear to have been great caverns whose roofs have fallen in owing to the gradual yielding of the rock-pillars by which they were supported. The scourge of this region is the NE. wind, or *Bora*, which sweeps with terrific force over the plateau, and descends to the coast in furious squalls that make the navigation of the E. side of the Adriatic difficult and dangerous to inexperienced seamen. This formidable enemy, added to the aridity of the surface, confines the population of the Karst within narrow limits. Villages and trees can exist only in a few exceptionally favourable sites. In the exposed parts, the few houses seen are built, both walls and roofs, of heavy slabs of limestone, and the small patches of garden ground are fenced from the wind by massive stone walls. The climate is severe and liable to the most sudden vicissitudes. In the middle of September the writer has experienced on one day overpowering heat, and on the next a furious snow-storm, in which a line of country wag-gons, abandoned by their cattle and drivers, lay upset along the roadside. Hence it happens that the vegetation of the plateau shows little traces of the influence of the Mediterranean climate. The more delicate plants are strictly confined to the sheltered slopes close to the coast.

Starting from Laybach, the rly. crosses the partly-drained marshy plain to the northern edge of the triassic plateau, and begins to ascend by winding along its

irregular slopes. A fine viaduct leads to the Franzdorf station, where the rly. makes a rapid turn to WNW. as it mounts above the flat country. Here the traveller looks down on *Oberlaibach*, where the Laibach stream, navigable from its source, issues from the base of the hill. Before the opening of the rly. it was much used for the transport of heavy goods. This little town was the *Nauportus* of the Romans. The writer does not know whether there be any earlier warrant than the fancy of some mediæval chronicler for the mythical tale that the town was founded by Jason and the Argonauts, who, after the seizure of the Golden Fleece, travelled so far by water, following the upward course of the Danube and the Save, and finally returned to Greece by the Adriatic. The next station is

*Loitsch* (1,555'), where the road to Idria (§ 63, Rte. G) turns off from the former post-road to Trieste. There is a good inn (*Stadt Triest*) near the rly. station. Hence the rly. runs for 7 m. SE., at rt. angles to the direct course, to *Rakek*. This is the nearest station to the *Lake of Zirknitz*, one of the curiosities of this region, often visited by strangers. In its ordinary condition this is a large sheet of water, about 7 m. long, and, in places, 3 m. in breadth, 1,880 ft. above the sea-level, lying at the base of the Javarnik (4,044'), the NW. extremity of the Schneeberg range. Usually, but not invariably, the water of the lake disappears in the month of August, and returns with the first heavy rains of autumn. During the interval crops of buckwheat are often raised on the low swampy shores, and in some years hay is cut on the dried-up bed of the lake. The explanation of this phenomenon appears simple enough. The greater part of the lake is very shallow, varying from 2 to 6 ft. in depth in its ordinary condition; but there are a large number of circular holes, some of which communicate with subterranean channels. These suffice to carry off the drainage of the lake at its ordinary rate of supply, but when

this falls short the water is withdrawn into the holes, which at such times contain abundance of fish. When the supply of water becomes more copious the lake rapidly resumes its former level. Many rare water-birds are found here and in the swampy tract near Laybach. From the little town of *Zirknitz* (1,910'), near the N. end of the lake, the pedestrian may walk to Adelsberg through the woods on the N. slope of the Javornik. The rly. winds amid very rough ground from Rakek to

*Adelsberg* (1,769')—in *Krainerisch Postojna*. The neat little town lies about  $\frac{3}{4}$  m. W. of the station. There is a good and reasonable inn (*Krone*) in the town. This place derives a certain celebrity from its famous cavern, in all respects the finest in Europe. Considering that a love of mischief is so common among the stupid majority of our species, it is fortunate that the protection of the grotto from careless or voluntary injury is entrusted to a responsible director, and all those connected with it placed under strict regulation. Tickets of admission are issued at 70 kr. for each stranger, and the guides are entitled to 80 kr. each. Ladies may have a chaise-à-porteur, costing 6½ fl. The chief expense is the lighting, as to which travellers are free to decide, but the effect depends so much on sufficient illumination, that it is well to be liberal. The more striking effects will be tolerably well seen at a cost of 8 or 10 fl. The internal temperature is only about 48° Fahr., so that it is well to be provided with extra covering. The cavern is very extensive, and some of its branches are more than 1½ m. distant from the entrance. Those who go as far as a remarkable curtain of stalactite, called the *Vorhang*, take about 2½ hrs.; but in order to include the *Calvarienberg*—a vast hall 112 ft. high, and about 650 ft. in length and breadth—nearly 4 hrs. must be allowed. Some of the most striking effects are produced by the river *Poik*, which runs through a part of the cavern, at one time heard and dimly seen rushing

at an unknown depth below the traveller's level, at another crossed by a wooden bridge. The *Dom*, a hall about 73 ft. high and 160 ft. long, was long supposed to be the largest of these subterranean chambers, but is greatly surpassed by many others discovered during this century. In that called the *Tanzsaal*, more than 300 ft. long, a ball is given on Whit-Monday, which attracts visitors from Trieste and other more distant places. The *Proteus anguinus*, a blind reptile of great interest to zoologists, is found not in the great cavern, but in the *Magdalena Grotto*, about 3 m. from Adelsberg. In the same subterranean pool blind water-beetles have also been discovered. Specimens of the *Proteus* are generally to be found alive at Adelsberg. It is necessary to protect them from light, to preserve an equable and not too high temperature, and to supply them with a frequent change of river water.

From Adelsberg the railway goes southward along the stony valley of the *Poik* to *St. Peter*. At that place the road from Laybach to Fiume keeps nearly due S., passing by the W. base of the *Schneeberg* (5,883'), about 14 m. distant, while the railway turns westward across the *Karst*. One of the difficulties attending the construction of the railway was the want of water for the men engaged in the work, and for the regular supply of the locomotives. Large cisterns fed by aqueducts have been constructed at the stations. At the station of *Ober Leselce* the traveller gains a view over the valley of the *Reka*, which comes abruptly to an end at *St. Kanzian*. That very interesting place is best visited from the following station of *Divača* (pronounced *Divazza*), whence it is about 3 m. distant. This cave of *St. Kanzian* is not to be confounded with another of the same name near *Planina*. The interior, so far as it has been explored, is not equal to many other caverns in this district; but the approach to it, and the view as the traveller returns to daylight through the noble entrance arch,

are extremely beautiful and striking. By the way from Divača the traveller may visit one of the largest of those singular hollows that abound on the surface of the Karst. Among many interesting plants seen at St. Kanzian may be noted *Saxifraga petraea*, *Nesocleis arachnoideus*, and *Euphorbia fragifera*. At Sessana (1,628') the ground begins to slope towards the coast, and soon after passing that station the railway passes within about 5 m. of Trieste, but in order to effect so great a descent a very long circuit is necessary. The pedestrian will be tempted to leave the railway at Sessana, or the following station of *Prosecco*, and may reach Trieste not long after the train.

At *Nabresina Junction Station* the railway from Venice joins that from Vienna. There is here a good refreshment-room and conveniences for washing—very acceptable to those who make the rather long direct journey from Venice to Vienna. Nabresina is about 900 ft. above the sea-level; and almost immediately after leaving the station, and completing a sharp turn, the traveller seated on the rt. hand side enjoys a beautiful view, stretching far across the Adriatic, with the Istrian coast bounding the view to the S. Near the *Grignano Station* is a point of land between the rly. and the sea whereon stands *Miramar*, the beautiful villa of the unfortunate Emperor Maximilian, whence he departed for the tragical adventure that ended at Queretaro. Passing through a long tunnel, the railway reaches

TRIESTE, the one important seaport of the Austrian empire, as the small places on the Illyrian and Dalmatian coast have no foreign trade. Excluding the suburbs, the population exceeds 65,000, and the annual imports and exports are officially valued at not less than 8 millions sterling each. The hotels are comparatively dear. In the first rank are reckoned the *Hôtel de la Ville*; *Locanda Grande*; *Hôtel Victoria*; and *Hôtel de France*, with a good restaurant. Less handsomely fitted

up, and more moderate in prices, are the *Albergo Daniel*, and *Aquila Nera*. English travellers know the city chiefly as the port of embarkation for the Ionian Islands, Greece, Constantinople, and the Levant; but the naturalist will find much interesting occupation in the neighbourhood, which offers within a limited space great variety in the Fauna and Flora.

ROUTE B.

LAYBACH TO KLAGENFURT, BY THE LOIBL PASS. ASCENT OF THE STOU.

	Austrian miles	Eng. miles
Krainburg . . .	5½	26
Neumarkt . . .	2	9½
Unterbergen . . .	4	18½
Klagenfurt . . .	2	9½
	13½	63½

Post-road. Diligence plying only twice a week.

This road was formerly much frequented. It formed part of the line of communication between Trieste and the centre of Germany, passing through Klagenfurt, Judenburg, and Salzburg. The extension of railway communication has deprived it of the greater part of the traffic.

The road between Laybach and Krainburg is described in § 63, Rte. C. About half-way between Krainburg and

Ottok, the next post-station in the main valley of the Save, the road to Klagenfurt turns nearly due N. to ascend through one of the numerous valleys of the Eastern Alps that bears the name *Feistritzthal*. The cleft through which the Feistritz torrent descends to the Save cuts through the triassic and carboniferous strata, and below the latter exposes argillaceous and semi-crystalline schists that probably belong to the Devonian, and perhaps also to the Silurian epoch. At some points porphyry is seen at the base of the series of stratified rocks. At the point where the glen fairly enters the mountains stands the busy little town of

*Neumarkt* (1,619'), at the S. base of the Karawankas (Inns: Post, good; Graf Radetzky). The main branch of the Feistritz which descends SW. from the S. base of the Koschutta, is here joined by the *Moszenik*, flowing SSE. from the Loibl Pass. The road mounts along the latter stream towards a gap in the mountain range, which, as seen from the S. side, appears to be the summit of the pass. It lies between a western promontory from the ridge of the *Koschutta* (6,895'), and the long ridge of the *Begunschza* (6,747'), an outwork of the main range running parallel to the ridge connecting the Stou with the Vertatscha and the Selenitzta. Here the traveller has entered an enclosed recess in the mountains. One short glen mounts westward between the Stou and the Begunschza, and another, still shorter, in the opposite direction along the N. side of the Baba (6,283'). The scenery is very fine. Bright green Alpine pastures, and masses of dark pine forest, contrast well with steep crags and pinnacles of white Dachstein limestone, which, in the higher peaks, caps the triassic strata. The forests harbour many wolves, which, in spite of the protection of St. Wolfgang, commit sad havoc among the flocks. At the E. base of the *Selenitzta* (6,533') the road reaches the hamlet of *St. Anna* (2,951'), and immediately commences the long and steep ascent

by zigzags leading to the pass. The ascent lies chiefly over a red slate, in some places broken through by greenstone, and at the summit a narrow band of carboniferous limestone is exposed. The present road was completed under the Emperor Charles VI. in 1728, and is not so well engineered as most of the Austrian Alpine roads. At the very summit of the *Loibl Pass* (4,445') the road was originally carried through a tunnel in the limestone rock, but, the roof having fallen in, this is now a mere cutting about 150 yards in length. To enjoy the view to better advantage, most travellers walk over this short space on either side of the cutting. *Campanula Zoysii* was first discovered on rocks near the pass; *Geranium argenteum*, and other rare species may also be found in the neighbourhood. The descent on the N. side is not quite so steep as the slope on the Carniola side, but is much more rapid than the gradients adopted by modern engineers. There is a project for driving a tunnel through the mountain from St. Anna to the little church of St. Leonhard on the Carinthian side of the pass. This would be little more than  $\frac{3}{4}$  m. in length, and would avoid the steepest part of the road on both sides, diminishing the height of the pass by very nearly 1,500 ft. The descent lies through a hollow in the mountain range exhibiting a richness and vigour of vegetation not common in this region. As in some other places in this part of the Alps, the pine forest occupies the lower zone, and the beech extends above it to a level of nearly 5,000 ft.

As happens on the opposite side of the pass, the glen into which the road descends is enclosed by a minor range parallel to the main chain, through which a gap or short defile, between the Singersberg (5,196') and the *Czerni Vrh* (5,360'), leads to the valley of the Drave. The first place in this defile is *Unter-Loibl* (1,808'), a village with a tolerably comfortable country inn. About 1 m. beyond it is the post-station of *Unterbergen*, and farther on,

at an equal distance, the village of *Kirschentheur*, with an inn perhaps superior to that at Unter-Loibl. Crossing the Drave near the picturesque castle of Hollenburg, the road runs across the rich plain to *Klagenfurt* (§ 57, Rte. A).

*Ascent of the Stou.* The mountaineer will naturally desire to complete his acquaintance with the Karawankas by the ascent of the *Stou* (7,326'), the culminating point of that range. Supposing that his destination is not towards the central district of the Styrian Alps, he may best accomplish this by going on the first day from Laybach to Unter-Loibl, or Kirschentheur—going on foot across the pass from Neumarkt—and returning on the following day to the valley of the Save over the summit of the Stou. The shortest and easiest way is by the *Bodenthal*. In that glen, whose torrent joins the stream descending northwards from the Loibl Pass about 2½ m. above Unter-Loibl, the hamlet and lead-mine of *Bleiberg* lie about 1½ m. W. from the high-road. From the summit of the Stou there is no difficulty in effecting the descent by the WSW. slope of the mountain to Jauerburg in the valley of the Save; but it seems to be a more interesting course to descend SE. into the head of the glen mentioned above that divides the ridge of the Begunschza from the *Vertatscha* (7,208'), and to follow this eastward to the road of the Loibl Pass.

A longer, but decidedly more interesting way than that by the *Bodenthal* lies through the *Bärenthal*. This opens into the valley of the Drave at *Windisch Feistritz*, a village with a good country inn, reached by a road leading westward from Kirschentheur, about 6 m. distant. A narrow and picturesque defile leads up to the more open basin at the head of the glen. Two or three farmhouses are passed before reaching the *Bärenalp*, a group of hütten enclosed by the summits of the *Kotschna* (6,862'), *Benza Vrh*, and *Stou*. The scenery is said to resemble, though on a smaller scale, that of the *Logarthal* (Rte. D). Here, as

elsewhere, in the mountain valleys of the Karawankas, the Wendish dialect is the only language of the farmers and herdsmen. The ascent to the summit of the *Stou* lies over slopes of debris and broken rocks. The traveller who shuns laborious expeditions may enjoy the scenery of the *Bärenthal*, and a fine view of the *Terglou* group along with the nearer summits of the Karawankas, by crossing the *Kotschna Joch* (about 5,200'), an easy pass leading from the *Bärenalp* to Jauerburg. The ascent lies SW. from the alp to the pass which lies E. of the *Kotschna*, and is reached in from 3 to 3½ hrs. from *Windisch Feistritz*. From the summit, which is a level tract of swampy pasture, the descent lies through the *Javornigthal*, and in 1½ hr. the traveller reaches Jauerburg.

### ROUTE C.

#### KRAINBURG TO KÜHNSDORF, BY BAD VELLACH. ASCENT OF THE OVIR.

About 13 m. to Kanker; 13 m. thence to Bad Vellach; 5 m. to Kappel; 13 m. more to Kühnsdorf—in all about 44 m. Between Kanker and Bad Vellach the road is practicable only for light country carriages.

The traveller who would see something of the Sulzbacher Alps without diverging from a carriage-road, may best follow the route here described,

which skirts the NW. base of that group; but although he passes close to its highest summit—the Grintouz—he does not approach any of the other principal peaks. Bad Vellach offers, however, very eligible head-quarters for one who would devote several days to exploring the neighbouring mountains, as it lies within 3 hrs. of the Logarthal, which is the main centre of attraction.

*Krainburg* (§ 63, Rte. C) stands close to the junction of the Kanker with the Save, both of which have excavated a deep channel through the mass of diluvium that is spread over the broad valley. A fine bridge of a single arch, 110 ft. long, and 93 ft. above the torrent, carries the road to the l. bank of the Kanker. For several miles the way lies NE. over the nearly level floor of the broad valley of the Save, but on entering the hills through the opening of the *Kankerthal*, the road (recently improved) crosses to the rt. bank, and runs E. to

*Kanker*, a small village with an inn. The position is extremely picturesque. The Grintouz, which crowns a massive promontory projecting westward from the principal group of the Sulzbacher Alps, rises NNE. of the village, and sends southward a considerable ridge that divides the *Kankerthal* from the *Feistritzgraben*, N. of Stein (Rte. D). Turning to NNW., at rt. angles to its former course, the road winds upwards amidst the roots of the Grintouz, passing several iron-works at its western base, till it reaches a rough inn at the village of *Ober-Seeland* (2,942').

[The ascent of the *Grintouz* (8,386'), the culminating peak of the Sulzbacher Alps, is best made from a farmhouse called *Suchadolnig* (3,053'), lying somewhat E. of the road between Kanker and Seeland. Ascending thence to a 'sheep alp,' called *Planinza* (5,511'), the summit is reached without any real difficulty. A guide should, however, be taken as the mountain is intricate, and it is easy to get into difficult situations. As the summit lies more than 30 m. E.

of the *Terglou*, the view to the E. and SE. extends farther than from any other Alpine peak.]

The pass of the *Seeberg* (3,976'), between *Ober-Seeland* and *Bad Vellach*, is short, but extremely steep on both sides, and those who can do so, will find it more agreeable to walk than to remain in the rough country vehicles that are alone used on this road. On the N. side the traveller descends into a richly wooded glen, where, almost buried in trees, the bathing establishment of *Vellach* stands by the road-side.

*Bad Vellach* (2,741') offers by far the best accommodation to be found in the immediate neighbourhood of the Sulzbacher Alps, supplying very fair rooms and good food at reasonable prices. The surrounding scenery is pleasing, and several excursions may be made in the range between this and the *Logarthal*. In this neighbourhood the limited portion of the Sulzbacher group visible from the valley is called *Vellacher Kotschna*, but it is a mistake to quote that as the Carinthian name for the entire group, of which, in truth, but little is known on the Carinthian side. For a notice of the pass leading to the *Logarthal*, see Rte. D. The mineral waters of *Bad Vellach* appear to be in increasing repute. There are four springs, of which one only is used for baths. One, which is used at table, is chalybeate, and slightly saline, and issues at a very low temperature, about 48° Fahr. Strangers arriving in the frequented season may easily happen to find the house full; and in that case must push on either to *Kappel* or to *Seeland*. A short way below *Bad Vellach* the traveller is almost startled by the sudden appearance of a colossal figure of St. Christopher painted on a vertical face of rock above the torrent. A rapid descent of 5 m. by a good road leads to the busy little mining town of

*Kappel* (1,866'), often called *Eisenkappel* for the sake of distinction. There are at least a dozen inns, two or three of which are clean and comfortable-looking. A post-carriage runs daily



between Kappel and *Kühnsdorf* station, on the railway between Klagenfurt and Marburg (§ 55, Rte. A), going in the morning and returning in the afternoon. For about 5 m. it follows the banks of the Vellach, which is joined below Kappel by the Ebriach descending from the S. side of the Ovir. Where the Vellach turns NW. to join the Drave, the road passes NE. through a gap in the hills, and enters the level plain that here extends a considerable way S. of the Drave. A small lake is passed near Gösselsdorf, and thence the road runs due N. to Kühnsdorf. By a rivulet S. of that village the botanist may gather *Leersia oryzoides*, not included by Herr v. Josch in his 'Catalogue of the Carinthian Flora.'

*Ascent of the Ovir.* The Ovir (7,001'), which rises W. of Kappel in the form of a tolerably regular cone, is a mountain offering many attractions to the geologist and the botanist, and the advantage of good shelter for the night at the 'Knappenhaus' called *Osterz*, only 312 ft. below the summit of the mountain. For those who merely seek a panoramic view, this mountain is not so well situated as those in the main range of the Karawankas. The mountain is best known in Carinthia on account of its lead mine, which is worked by numerous shafts, all at a considerable elevation. Among other rare plants the botanist finds here *Arabis ovirensis*, *Alyssum Wulfenianum*, *Gentiana Frochlichiana*, and *Eritrichium nanum*; the malacologist may collect *Helix phalerata* and *H. ovirensis*; while the entomologist will find a still larger variety of local and peculiar species. The mineralogist is no less gratified by finding several rare minerals, specimens of which may usually be purchased on the spot. The geologist also may avail himself of the numerous mining shafts to obtain a more complete knowledge of the relations of the carboniferous and triassic beds that make up the greater part of the mountain. Besides all these attractions for the cultivators of natural science, the Ovir is known to the student

of physics as one of the few points in the Alpine chain where reliable meteorological observations have been regularly made for a considerable period. The instruments are placed at the Osterz, 6,689 ft. above the sea, and have been observed three times daily since the year 1846. For many purposes these observations are far more instructive than those made at the Hospice of the St. Bernard, where the climate is affected by the surrounding masses of the snowy Pennine Alps, and where no comparison can be made with a moderately near station in the plain country, as is here practicable in regard to Klagenfurt. Taking the mean results of 18 years' observations, the following results in degrees of Fahrenheit's scale (unfortunately still preferred by English readers), may be of some interest:—

	Osterz	Klagenfurt	Difference
Mean of year . . .	33°·87	45°·43	11°·56
Coldest month (Jan.)	20°·30	21°·20	0°·90
Hottest month (July)	49°·77	65°·97	16°·2

The easiest way to the summit of the Ovir is from Kappel, passing along the eastern ridge of the mountain. If bound for Klagenfurt, the traveller may descend due N. to *Gallizien*, a village near the Drave, only about 4 m. from the rly. station at *Grafenstein*. It is also not difficult to descend on the S. side of the mountain into the *Ebriachthal*, whose torrent flows eastward to join the Vellach close to Kappel. Through the latter glen a path leads nearly due W., along a trough in the mountains on the N. side of the Keschutta range, and leads to the mining village of *Waidisch*, where accommodation may be found at the house of the director (Bergverweser). The Ebriachthal, and most of the valleys of this district, were covered with fine forests, but of late years the axe has effected sad havoc. The geologist may make an excursion southward, through a narrow defile traversed by a torrent that joins the Ebriach, to the enclosed basin of *Trögern*, quite shut in by mountains, once covered with pine

forest, now partly stripped by the wood-cutter. These are composed of rocks belonging to the Gailthal series. A pretty little church in this retired spot was built by a wealthy farmer, whose house is near at hand, and who has founded a permanent endowment for a chaplain.

## ROUTE D.

CILLI TO SULZBACH, BY THE SANNTHAL.  
PASSES LEADING TO SULZBACH.

	Austrian miles	Eng. miles
Prassberg . . . .	4	19
Laufen . . . . .	2½	11½
Leutschdorf . . . .	1½	7
Sulzbach . . . . .	1½	6
	<hr/>	<hr/>
	9½	43¾

Good road as far as Laufen. Rough foot-path between Leutschdorf and Sulzbach. A post-carriage plies daily between Cilli and Prassberg.

The route here described is the easiest course for reaching the centre of the group of the Sulzbacher Alps, whose highest peaks (excepting the Grintouz) surround the little village of Sulzbach. These mountains had attracted but little attention until lately, and it seems as if the German, English, and French writers who have been the earliest to direct the attention of their respective countrymen to this district, have experienced the usual difficulty of judging calmly objects that are invested with

the charm of novelty; and the writer is bound to say that the work by Messrs. Gilbert and Churchill, so often referred to in the latter chapters of this work, here fails to convey accurate impressions. Wherever the designation 'Caldron of the Steiner Alp' may have originated, and whether it be applied specifically to the Logarthal, or collectively, as in the work just referred to, to the narrow valley of the Sann at Sulzbach, with the three Alpine glens that supply the chief sources of that stream, it appears to the writer likely to mislead the ordinary reader. If intended as equivalent to the German term 'kessel,' applied by many writers to every enclosed valley or hollow in a mountain country, it may serve for the Logarthal in common with 100 other upland glens in the Eastern Alps; but the word 'basin,' usually adopted, seems adequate, and gives a far truer conception of the proportion usually existing between the height and breadth of such hollows. But to use the name 'Caldron' (in a figurative sense) for a group of mountain glens that could acquire no likeness, however remote, to that object, save by removing the vast ridges and buttresses that fill the interior space, will certainly not tend to convey to a stranger clear conceptions of the structure of the country. Even though the writer should be constrained in the following pages to pitch his description of this district in a rather lower key than that of his predecessors, it is not the less true that it contains some charming and ever-grand scenes; and as the village of Sulzbach is connected with the adjoining provinces of Carinthia and Carniola by numerous easy passes noticed below, the traveller commencing a tour in the Eastern Alps cannot do better than make his start from Cilli by the present Rte.

Between Cilli and Steinbrück the Rte. follows the course of the *Sann* (Rte. A) in a direction somewhat W. of S. Above Cilli the course of that stream for many miles is nearly due E. The road leading to Laufen keeps nearly at a level at

some distance from the l. bank. [‘2-horse carriage from Cilli to Laufen in  $4\frac{1}{2}$  hours, 12 gulden.’] The hills that rise on either side draw near to the stream at the confluence of the Paak (Rte. F), and the road runs NW. along the l. bank of the Sann to *Prassberg* (1,037'), a small place, with an inn well recommended. Here the road, following upward the course of the Sann, turns for some distance to SW., but a few miles farther returns to its normal NW. direction. Through the considerable lateral valley of the *Drieth*, which drains the hilly district S. of the Sann, lies a road to Stein in Carniola, noticed below. Passing a little S. of Rietz, and near a large convent, formerly belonging to the Jesuits, the good road comes to an end at

*Laufen* (Wend. *Liubno*), a small place with three rough inns. Beyond this there is nothing but a rough cart-track leading to Leutschdorf; and the traveller does much better to walk, especially as the footpath, which soon crosses to the rt. bank, is prettier and more shaded than the cart-track. The mountains on either side of the valley begin to assume bolder proportions. The *Trauneeck* on the N. side attains 5,350 ft. Here porphyry, which also shows in several places nearer the main group of the Sulzbacher Alps, makes its appearance. On the S. side of the valley is the *Rogazberg* (5,096'). The people of this valley appear to a stranger inferior in general intelligence to their Wendish countrymen in Carniola. Their system of agriculture is singularly wasteful and barbarous, involving at the same time the gradual destruction of the forests, and the exhaustion of the arable land. Between Prassberg and Laufen the river describes a curve convex to the S.; beyond Laufen it curves exactly in the opposite direction, and the traveller comes abruptly on the village of

*Leutschdorf* (1,734'), called in Wendish *Lutsche*, standing at the junction of the Leutzbach with the Sann. It has a very fair country inn (bei Matheuz). Here the Sann issues from the

fine defile through which it has descended SE. from Sulzbach, and turns abruptly to NE. after passing its confluence with the Leutzbach. The position of Leutschdorf is picturesque. It stands at the E. base of the *Oistriza* (7,701'), one of the highest and most massive peaks of the Sulzbacher group. It may be ascended from this side, or from Sulzbach, and is probably the best point for a general view of the group.

An easier expedition, which may be undertaken equally well from Laufen or Leutschdorf, is the ascent of the *Raducha* (6,730'). This summit, which comes into view below Laufen, rises NE. of the Oistriza, at the opposite side of the defile leading to Sulzbach. The naturalist who wishes to have abundant time on the mountain may sleep at the house of a farmer named Michael Kleutz, nearly 3 hrs. from Laufen. The summit is reached in  $2\frac{1}{2}$  hrs. more. As in the Julian Alps, the traveller cannot count on finding water on the mountains of this district.

The defile of the Sann between Leutschdorf and Sulzbach offers very picturesque and even striking scenery, but is not on so grand a scale as might be supposed from some descriptions. In many places it will recall the old path leading from St. Laurent du Pont to the Grande Chartreuse in Dauphiné, before the new road removed all the difficulty and some of the picturesqueness of the way. No scenes here rival in grandeur the Pischenzathal and other interior valleys of the Julian Alps. For a short way the track lies along the rt. bank of the Sann, crossing to the opposite side as the mountains begin to close together. Before long the foot-path, which is unnecessarily rough, as a tolerable track might easily be made, begins to climb the slope on the rt., and thenceforward, through the narrowest part of the defile, is carried up and down along the steep broken declivity of a lofty buttress of the Raducha that immediately overlooks the torrent. The traveller will be misled if, noticing here and there the track of horses and even wheels on level

ground on the side of the Sann, he be tempted to descend to seek a passage in that direction. The fact is that when the waters are low the country people sometimes ride through the defile, or even drive their light carts that way, in great part through the bed of the stream, but here and there on flat ground at either side, till they rejoin the path when the narrowest part has been passed. None but a native can know when it is practicable to take that course, or when there is not risk of encountering floating logs of timber, which in such a position might be a source of real danger. At the very narrowest part of the defile the path passes through a cleft, only a few feet broad, between the mass of the mountain and a detached pinnacle of rock, from which apparently this place is known as the *Sulzbacher Nadel*—in Wendish, *Igla*. Immediately after traversing this gap the path descends to the Sann. Near the bank of the stream is an ebbing and flowing well, which is pointed out to strangers as one of the wonders of this district. In summer the water rises for 8 min., and ebbs for about 5 min. The way follows the rt. bank till after it has passed the opening of a fine glen that runs deep into the mass of the Oistriza. After returning to the l. bank for a short distance the traveller recrosses the Sann, and in 2 hrs. from Leutschdorf reaches

*Sulzbach* (2,116'). the only village of the upper valley, with an inn which, though small, supplies very fair accommodation. There are two good rooms, each containing two beds, and under ordinary circumstances there is no occasion for appealing to the hospitality of the Pfarrherr, who may, however, be consulted with advantage by a stranger wishing to explore the neighbourhood. It is difficult, and sometimes impossible, to find a guide speaking German; but a person moderately used to mountain walking may do very well without assistance. The 'Meissner,' who speaks German, knows the ordinary paths, and

can give local information, but he is often fully engaged in his trade.

The indispensable excursion is that to the head of the Logarthal, and the way is easily found by attention to the hints given below. The path ascends gently along the Sann amidst very charming scenery, at first by the right bank; but after about  $\frac{1}{4}$  hr. it crosses to the opposite side of the stream. Sulzbach contains few houses, and in summer the adult population is nearly all engaged on the surrounding mountains, but the traveller will be surprised to observe a large number of substantial farm-houses standing in the midst of cornfields on the broad ridges that enclose the valley on the N. and NW. sides. The large farmers appear to form in this part of Styria a sort of peasant aristocracy, as in the Pinzgau, exhibiting all the indications of material comfort and relative wealth, without much progress in education. In  $\frac{3}{4}$  hr. from Sulzbach the traveller finds himself opposite to the opening of the beautiful glen of the *Logarthal*. This is an oblong basin, stretching southward about 5 m. with an average breadth of nearly 1 m. The nearly level floor rises only about 200 ft. from the opening to the southern end of the glen. This is enclosed by a steep range of dolomite summits connecting the Oistriza with the Rinka, without any considerable intermediate depression. The middle portion of the glen, however, is flanked by projecting buttresses from the two mountains above named, for the most part clad with forest, and only here and there showing some projecting crag. The scenery may be compared with that of the Sextenthal, the valley of Auronzo, and some other interior valleys of the Cadore Alps; but the scale is altogether smaller, and the peaks are far from rivalling the sublime daring of their S. Tyrolese rivals.

A mill stands at the junction of the main branch of the Sann, issuing from the Logarthal, with the Giessbach descending from the Jeserathal, further mentioned below. The traveller crosses

a bridge, and follows a good cart-road, very soon reaching the farm of the Logarbauer. A massive whitewashed dwelling-house, and extensive farm-buildings, announce the local importance of the Wendish yeoman who gives his name to the glen. Near at hand the waters, that have flowed underground from the upper end of the Logarthal, burst out in an abundant stream, forming the main source of the Sann. About 10 min. farther is a rude place of entertainment, the Wirthshaus 'beim Andere,' where tolerable wine, good bread (as usual in Styria), and eggs, supply luncheon. The host speaks only Wendish, but his eldest daughter serves as interpreter. In an adjoining shed two rough beds may serve a traveller wishing to attempt the ascent of the *Rinka*, probably the second in height of the Sulzbacher Alps, and not yet ascended. It may probably be best attacked from the N. side. A general rule for the mountaineer—to close well the gates through which he passes—should be carefully observed here. Negligence in this respect, too common amongst travellers and guides, may cause grievous inconvenience to the natives, whose cattle stray far and wide, and bring on the traveller the ill-will of an entire valley. The rival of the Logarbauer is the Plessniggbauer, who divides the sovereignty of this secluded corner of the Alps. The large group of buildings connected with his farm stands 2,558 ft. above the sea,  $\frac{1}{4}$  hr. above the wayside public-house. Here the track enters the pine forest, and (in 1867) the traveller enjoyed the welcome shade for a distance of about a mile; but woodcutters and charcoal-burners were plying their trade, and will soon lay this bare, as they have already denuded a large part of the upper valley. Beyond the wood cart-tracks cross, but the traveller will not hesitate to choose the middle track nearly due S. This presently forks, and the left-hand track is preferred. Another fork, and again the traveller keeps to the left; but at a third fork the right-hand path is

taken, and the very rough cart-track is left to go to a large camp of charcoal-burners. In case of doubt, the enquiry 'Cjesta na zlap?' (orthography uncertain) will serve to ask the way to the waterfall. At length the traveller reaches a little green expanse of pasture at the foot of the *Baba*, which appears to be the highest summit in the range connecting the Oistriza with the *Rinka*, and but little lower than the former. Hitherto the course has varied little from due S., but it now turns WSW., to reach the farthest recess of the glen, where the overpraised *Rinka Waterfall* tumbles down the face of a cliff of dolomite limestone. Although in ordinary summer weather the waterfall is a paltry dribblet, the scenery is really fine and striking. It has suffered grievous injustice by the comparison with the matchless Cirque of Gavarni, first made by M. Boué, the eminent French geologist. Instead of forming a nearly complete amphitheatre, the rocks here make a curve scarcely amounting to a third of a circle; they do not reach half the height; and the waterfall, described as springing over the cliff to a depth of 1,000 ft., is certainly not 400 ft. in height. The scene no more equals the grandeur of Gavarni, than the valley between the village of Gavarni and the 'Cirque' can rival the beauty of the way from Sulzbach to the head of the Logarthal. The so-called *Rinka Fall* does not come directly from the peak of that mountain, but from a plateau, or upland basin, that extends back a considerable distance from the verge of the cliffs to the true peak of the *Rinka*. This plateau is reached by a steep sheep-track, that mounts some way on the south side of the waterfall. Amongst other objects of interest to the botanist, *Campanula Zoysii* descends below the level of 3,000 ft. about the head of the Logarthal. To obtain a good view of the glen, and the surrounding peaks, the traveller cannot do better than ascend to the Schkaria Pass, leading to Stein, further noticed below.

*Passes leading from Sulzbach.* It has appeared most convenient to group together the various passes leading from Sulzbach northward and westward into Carinthia, or southward into Carniola.

1. *To Schwarzenbach* about 4 hrs. As Schwarzenbach (Rte. F) is only about 7 m. distant from the Prevali station on the rly. between Klagenfurt and Marburg, this is the shortest way for a traveller bound for the valley of the Drave. The way lies NE. from Sulzbach over the ridge connecting the Raducha with the *Üschowa* (6,319'). There are two moderately frequented passes over that ridge. The lower, called *Wistrasattel* (4,252'), lies nearest to the Raducha, and the path descends through a rather sinuous glen, passing the hamlet of Wistra, and entering the valley of the Miss, close to Schwarzenbach. The more western pass, called *Koppreinersattel* (4,415'), is a little more direct, and passes near to the *Üschowa*, the ascent of which may be made by the way. The path descends directly to Koprein, a small place in the Missthal, nearly 6 m. above Schwarzenbach.

2. *To Kappel.* The ridge extending along the N. side of the valley W. of the *Üschowa* is broad and flat topped, cultivated nearly to the summit, and covered with scattered farmhouses. On the Sulzbach side is the hamlet and church of Heiligengeist, and on the opposite that of St. Leonhard. Though a little higher than the others, this appears to be the easiest of the passes leading from Sulzbach into Carinthia. A tolerable cart-road leads over the ridge from the N. end of the Logarthal to Kappel; but it is so steep that few will attempt to pass that way in a vehicle, and in going on foot from Sulzbach it involves a detour of more than  $\frac{1}{2}$  hr. The direct way mounts by the little church of Heiligengeist, standing in the midst of a few scattered farmhouses, and on reaching the brow of the hill the traveller should turn round to enjoy the fine view of the Logarthal and the surrounding mountains. Cul-

tivation extends beyond the level of 4,000 ft., and the summit of the ridge is covered with forest, save where this has been levelled by the relentless woodcutter, The *St. Leonhard Sattel* (4,666') is reached in 2 hrs. from Sulzbach, and a short descent leads to a green slope whereon stands the hamlet of *St. Leonhard*, with a little church commanding an extensive view to the N. and E., not nearly so striking as that on the opposite side of the ridge. The descent to Kappel is easy, and the way can scarcely be missed in clear weather. About  $3\frac{1}{2}$  hrs. suffice to reach that place from Sulzbach.

3. *To Bad Vellach.* The pass leading from Sulzbach to Bad Vellach is here called for convenience *Vellacher Sattel* (4,411'), but has, doubtless, a local Wendish name which the writer has been unable to procure. The traveller pressed for time may easily combine a visit to the head of the Logarthal with this or the last pass in one moderate day's walk. From the bridge at the opening of the Logarthal the cart-track, which is that mentioned above leading to Kappel, mounts westward along the Giessbach, through a little defile. In taking this way from the Logarthal it is a slight short-cut to mount somewhat by a path behind the house of the Logarbauer; this is carried some way at a level along a paling, and drops into the track at the lower end of the defile of the Giessbach. This stream flows from the *Jeserathal*, a short upland glen originating at the N. base of the Rinke, runs some way parallel to the Logarthal, and then turns eastward to join the Sann. The tradition that the head of the *Jeserathal* was formerly a lake is somewhat confirmed by the fact that 'Jesera' in Wendish means *lake*. Near the point where the Giessbach issues from the *Jeserathal* the Kappel road crosses to the l. bank, and soon begins to ascend southward. The pedestrian going to Vellach follows it for some distance, till it begins to turn SE. and wind up a steep slope towards a large and conspicuous farmhouse. He leaves

the road at the turn and begins to mount by a rather steep cattle-track. Going this way without a guide, he may be somewhat embarrassed by the variety of paths that he must encounter; but he will not go far wrong if he remembers that the pass to Vellach lies due W. of the defile of the Giessbach, but that his course makes a considerable circuit northward in order to attain a point nearly as high as the pass, and then winds nearly at a level above a deep bay that extends westward from the opening of the Jeserathal. For about 1 hour the ascent is tolerably steep and continuous, passing several farmhouses. From the highest (that of the Zangbauer?) a fine view is gained of the Raducha, Oistriza, and other neighbouring peaks. The latter part of the way is partly through forest. On reaching the crest of the ridge, which commands a fine view westward towards the Koschutta, Ovir, and other summits of the Karawanks, the traveller, instead of descending straight before him, turns sharply to the l., descending some 60 or 80 ft. along the ridge in order to reach the actual pass, 2¼ hrs.' moderate walking from Sulzbach. A very rough track for charcoal-carts, in places extremely steep, leads down towards the Vellacherthal, which is reached at a point fully 1 m. below the baths. On approaching the valley the pedestrian gladly abandons the rough stony track, and drops down a steep slope that leads him to the road at a point nearer to Bad Vellach, which is reached in 1 hr. rather fast walking from the pass.

4. To *Stein*, by the *Logarthal* and *Schkaria Pass*, 7 to 8 hrs.' walking. Unlike the other passes here described this is somewhat difficult, and should not be attempted by a traveller who has not a steady head and a sure foot. A practised mountaineer will scarcely find a guide indispensable. In point of scenery, it is by far the finest and wildest pass in this district. The pass does not lie near the peak of the Oistriza, as asserted in the new edition of Schaubach, but it is on the W. side of the

*Baba*, the most prominent summit at the S. end of the *Logarthal*.

The way from Sulzbach is the same as that already described to the Rinka Waterfall as far as the green level space at the head of the main branch of the *Logarthal*. The pass, which is a well-marked broad 'sattel,' is well seen on the rt. of the *Baba* as the traveller ascends the glen, but the rocks below it appear formidably steep, though interrupted at intervals by slopes of fine dolomitic debris lying at a high angle. The key to the pass is found when the traveller observes some black lines crossing diagonally a slope of debris some way below the summit. At one time a tolerably good path was made in this direction, and trunks of trees, forming the black lines in question, were laid in such a way as to hold the very slippery debris, and give secure footing to cattle. But the track has been neglected, the timbers have in many places been carried away, and it seems to be very rarely used. Sufficient landmarks remain to enable the mountaineer to thread his way up the steep ascent. Among other rare plants the botanist will find *Ranunculus Traunfellneri* near the summit. *Gentiana Froehlichiana* should be sought for, but was not seen by the writer. On reaching the summit of the

*Schkaria Pass* (6,198') the traveller overlooks the head of a long valley—called by Prof. Lipold *Feistritzgraben*—drained by one of the many torrents bearing the name *Feistritz*. The scenery of this valley appears to be of a high order; but though visited in 1564 by the Archduke Charles, who seems to have shared in the mountaineering propensity of the House of Habsburg, it is rarely traversed by modern travellers. The *Feistritz* torrent breaks out at the base of the *Grintouz*, which rises on the NW. side above the head of the valley. In rather more than 2 hrs. the traveller descends from the pass to the *Urschitzalp* (2,035'). An easy path leads thence along the *Feistritz* to *Stein*. A lateral glen on the

W. side leads to the *Kervauz Vrh* (7,260'), sometimes ascended for the sake of the fine view there obtained of the Sulzbacher (here called Steiner) Alps, and the Terglon group. It crowns the S. end of a ridge that projects from the Grintouz, dividing the Kankerthal from the Feistritz Graben.

*Stein* (1,255')—in Wendish *Kamnek*—is a busy little town, connected by a good road with Laybach (about 14 m.), and by another more picturesque, running eastward along the base of the mountains, with *Möttinig*, and thus with Cilli (fully 36 m.).

5. *To Stein by Leutschdorf.* About 6 hrs. As to this way the writer has no information beyond the fact that an easy foot-path leads from Leutschdorf to a pass at the head of the Leutschgraben, SSW. of that place, and then passes by the hamlet of Goisd to reach Stein.

6. *To Stein, by Oberburg and Neustift.* Carriage-road between Stein and Laufen. There is little inducement to take this road, as a traveller bound for Laybach will either take the easiest way, by Cilli and then by railway, or the more interesting route by Bad Vel-lach, Kanker, and Krainburg. It is well to note, however, that a good carriage-road ascends from near Laufen in the valley of the Sann to *Oberburg* (1,206'), a little town with a large showy church, and a castle belonging to the Bishopric of Laybach. Following upwards the stream of the *Drieth*, the road reaches *Neustift*, whose remarkable pilgrimage church contains curious frescoes. From hence the road crosses the ridge of the *Tscherniouz* (3,017'), and then descends to Stein.

## ROUTE E.

### CILLI TO UNTER-DRAUBURG.

Most travellers now approach the valley of the Drave by railway, but there are several tolerably direct roads traversing the comparatively low hilly district at the E. end of the Karawankas range. There is here much pretty and varied scenery within a small compass, and a few days may be pleasantly spent in the district briefly noticed in this and the next Rte. In going from Cilli to the Drave, there are only two roads practicable for carriages that traverse the range connecting the Karawankas from the Bacher Gebirge. The easternmost of these, which runs through the Misslingthal, and marks the western boundary of the Bacher range, is noticed in the present Rte. The other road, running northward from Schwarzenbach through a deep cleft traversed by the Miss torrent, is referred to in Rte. F.

There are two roads, about equal in length, by which the traveller may go from Cilli to the head of the Misslingthal. The more interesting is apparently that which passes by *Weitenstein* (1,322'), a prettily situated place at the S. base of the Bacher mountains, which are divided from the triassic hills that form the eastern extremity of the Karawankas by a narrow zone of miocene deposits. This is one of the best places for excursions into the range of the *Bacher Gebirge*. This island of granite, girdled by gneiss and crystalline states, rising at the easternmost limit of the Alpine region, is in many respects deserving of notice. It forms a small highland region in great part covered with forest, and with summits that rise but little above the general level. The *Velka Kappa*,



the highest summit, attains only 5,047 ft. and the others fall somewhat short of 5,000 ft. There are several glass works, in which the workmen are said to be all Germans; but the wood-cutters, who form the bulk of the population, consist of people from all the surrounding provinces, including not a few Italians from Friuli. These people live in small scattered hamlets. Numerous pilgrimage churches call together the inhabitants on certain anniversary holidays. The vegetation is scarcely Alpine, but some rare plants have been found here, of which the most notable are *Avena planiculmis* and *Botrychium rutæfolium*. The glen of the *Hudina* through which the road ascends WNW. from Weitenstein, is said to be extremely picturesque. A low, slightly marked ridge divided the head of that stream from that of the Paak; and near the old castle of Waldeck the road joins the new line from Wöllan, noticed in Rte. F, and crosses the *Hudina Lukna Pass*, dividing the Paak from the *Missling*. The latter stream originates in the Bacher Gebirge, and at the point where it is joined by the road, it enters the head of a long, nearly straight valley, that extends hence to its junction with the Drave close to Unter-Drauburg. The chief place in the Misslingthal is *Windischgrätz* (Wend. *Hradc*). Numerous ruined castles stand on the adjoining slopes, and contrast with the tokens of manufacturing activity seen throughout this part of Styria. *Windischgrätz* is about 30 m. from Cilli, and in 7 m. more a good road leads the traveller to *Unter-Drauburg* (§ 55, Rte. A).

## ROUTE F.

## CILLI TO KAPPEL, BY SCHWARZENBACH.

About 30 m. by road to Schwarzenbach—14 or 15 m. thence to Kappel.

The shortest way from Cilli to Schwarzenbach is by a road that runs through the hills NW. of the town to Wöllan; but most travellers prefer the better road that turns aside from the old high-road to Gratz and Vienna at *Hohenegg*, about 5 m. N. of the town. This road follows the bank of the *Ködingbach* to *Neukirchen*, at the junction of the latter stream with the *Hudina*. Along the latter the picturesque road to Weitenstein runs nearly due N., while the way to Schwarzenbach pursues a tolerably uniform course to WNW. In a recess in the hills behind the village of *Doberna*, on the N. side of the road, stands *Neuhaus* (1,244'), about 9 m. from Cilli, a frequented watering-place, with a mineral spring resembling those of Gastein and Pfeffers. Strangers are received in one large building (*Kurhaus*), and three or four subsidiary houses. The accommodation and the charges, though not low, are reasonable. English travellers will appreciate the advantage of finding a very fair restaurant, which relieves them from the tyrannical institution of the *table d'hôte* at fixed hours. The surrounding hills are well wooded, and many pretty paths are cut through them in various directions. The favourite stroll is to an ancient castle (*Schlangenburg*?), whose ruined towers command an extensive view. *Euonymus verrucosus*, *Scrophularia Scopoli*, and other characteristic plants of this district, are common in the neighbourhood.

W. of Doberna the road crosses the range of tertiary hills that divide the basin of the Ködingbach from that of the Paak, and reaches the latter stream at *Wöllan* (1,172')—in Wendish, *Velenski*. This corner of Lower Styria offers every appearance of comfort and prosperity. The land seems to be well

tilled, the houses are substantial, and in every village the traveller sees neat-looking inns. [Within the last few years a new road has been carried upwards from Wöllan through the narrow defile of the Paak. Near the head of that stream it joins the road from Weitenstein (Rte. E), and affords a tolerably direct way from Cilli to Windischgrätz. In the narrowest part of the defile is a monument to the late Archduke John, and close to it a considerable cavern from which a stream flows to join the Paak.]

The main road runs nearly at a level along the N. side of the stream to *Schönstein*, a pretty village on the l. bank of the *Paak*. Here that stream, after flowing some miles toward WNW., begins to change its direction, and presently turns aside into a cleft in the hills, through which it flows at first S., and finally SSE., to join the Sann below *Prassberg* (Rte. D). A country road, cutting off the angle between the Paak and the Sann, leads directly from Schönstein to that place. *Dianthus barbatus* is not uncommon hereabouts. For some time before reaching Wöllan the traveller may have observed, beyond an intervening range of lower hills, a large building crowning the summit of a mountain. This is the church on the *Ursulaberg* (5,563'), a famous place of pilgrimage in the adjoining districts of Styria and Carinthia. It is built on the very summit of the mountain, on the boundary between those provinces, so that the W. entrance is in Carinthia, and the high altar in Styria.

A rather long but not steep ascent leads from Schönstein over the range of hills that here divide the tributaries of the Save from those of the Drave. The highest point, near the village of St. Veit, is 3,806 ft. From the summit of the pass a long trough extends westward to Kappel, and forms the natural boundary between the eastern end of the Karawankas and the Sulzbacher Alps. Following the *Javoria* torrent, the road descends to

*Schwarzenbach*, the chief place in the

Upper Missthal, and the centre of a mining and manufacturing district. Count Thun, who owns some lead-works, has also a model sheep-farming establishment in the neighbourhood. After here joining the *Javoria*, the Miss, which originates in the valley W. of Schwarzenbach, turns abruptly northward, and flows through a deep cleft in the triassic strata that divides the Ursulaberg from the much loftier mass of the *Petschen* (6,926'). Both mountains may be ascended from Schwarzenbach. Two passes leading from that place to Sulzbach are noticed in Rte. D, and it is probable that the Raducha may also be reached within a day's walk.

Nearly all travellers who reach Schwarzenbach from the S. side avail themselves of the good road that follows the course of the Miss, and leads in about 7 m. to the Prevali station on the Klagenfurt rly. (See § 55, Rte. A.) A way, very interesting to the geologist, goes westward from Schwarzenbach through the trough between the Petschen range to the N., and that of the Uschowa to the S. From the low watershed, about half-way between Schwarzenbach and Kappel, the chief source of the Missbach descends eastward, while in the opposite direction a tributary of the Vellach flows westward to Kappel (Rte. C). Country carts pass that way, but the writer has not learned whether the road is made passable for travellers otherwise than on foot. While the ranges on either side are formed of stratified rocks—Gailthal beds overlaid by Trias—the floor of the valley, or trough, is formed of granite and crystalline schists, with veins of syenite. This disposition would be of common occurrence if the valleys of the Alps were universally formed by erosive action; but its rarity should inspire caution in those who select one amongst the multitudinous agencies that have operated on the earth's crust, as alone capable of explaining the complicated phenomena of great mountain regions.

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