

BALL'S ALPINE GUIDE  
THE  
WESTERN  
ALPS











INFORMATION respecting any portion of the region described in Vols. I. and II. of the ALPINE GUIDE, with a view to the correction of errors or omissions, will be thankfully received by the Editor. It is requested that notes may be authenticated by the name and address of the writer, and directed to the EDITOR, care of the Secretary of the Alpine Club, 23 Savile Row, London, W.

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*THE ALPINE GUIDE*

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THE WESTERN ALPS

BY THE LATE

JOHN BALL, F.R.S. &c.

PRESIDENT OF THE ALPINE CLUB

A NEW EDITION

RECONSTRUCTED AND REVISED  
ON BEHALF OF THE ALPINE CLUB

BY

W. A. B. COOLIDGE

FELLOW OF MAGDALEN COLLEGE, OXFORD  
AND FORMERLY EDITOR OF THE 'ALPINE JOURNAL'

*WITH NEW AND REVISED MAPS*

LONGMANS, GREEN, AND CO.

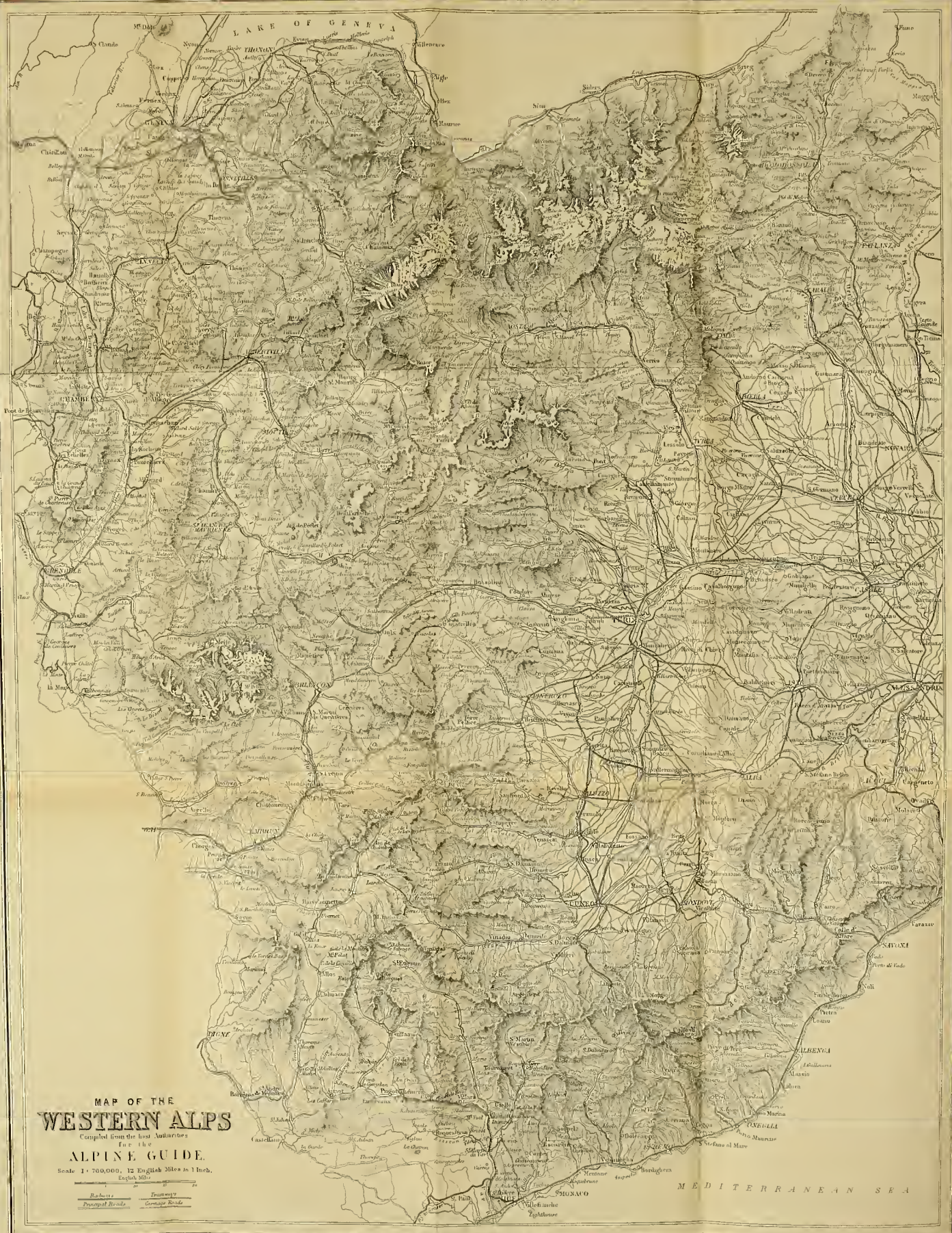
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MAP OF THE  
**WESTERN ALPS**  
 Compiled from the best Authorities  
 For the  
**ALPINE GUIDE.**

Scale 1 : 700,000, 12 English Miles to 1 Inch,  
 English Merit.

Railways      Trains  
 Principal Roads      Carriage Roads





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# PREFACE

TO

## THE NEW EDITION.



MR. BALL in his Preface to the third edition (1870) of this volume expressed his surprise at the numerous changes which had occurred since the publication of the first (1863) and second (1866) editions, and had entailed many alterations in the text. He also remarked that after another interval of two or three years a similar process of correction would be required. For various reasons, however, Mr. Ball himself was unable to carry out this intention, save to a very inconsiderable extent. Hence his important work became more and more out of date as time went on and the Alps were more and more minutely explored.

It was only natural, therefore, that, after his lamented death on October 21, 1889, the Alpine Club should take into consideration the question of bringing the book up to date, as a memorial to the first President and first Editor of the Club. An appeal made for funds to carry out this project was liberally responded to, and at the Winter Meeting of the Club in December, 1890, the then President officially announced that the revision would be proceeded with at once.

On December 12, 1893, I accepted, at the request of the Committee of the Club, the post of General Editor of Volumes I. and II. and of the General Introduction. I explained in my letter of acceptance that I was already deeply engaged for that winter, and could do little for a time except to organise a band of helpers. But I did not then foresee that my health would break down, that I should be compelled to reside abroad, and that my breakdown would culminate in a very serious illness. This series of unexpected events have, of course, greatly delayed the task of revision, which, though begun in 1894, was only completed in 1897. No one can regret these vexatious

delays more than myself, and I must express my very sincere thanks to the Committee of the Alpine Club for the kindly and generous consideration which they have shown to me under such trying circumstances. However the revision of Volume I. at least is now complete, the MS. having been ended on June 5, 1897, while it was all in type on December 2 of the same year.

The first point which I had to determine was to settle the main lines on which the revision was to be carried out. Here I was much aided through the kindness of Mrs. Ball, who allowed me to examine her husband's Alpine diaries and correspondence, especially of the periods at which the book was being originally written, or later on revised. I may be permitted here to offer her my very hearty thanks for this great courtesy. I soon found that Mr. Ball's scheme was (as I had expected) an admirable one, consisting in invoking the assistance of all the principal mountaineers, whether English or foreign, of the day. It seemed to me that I could do no better than adopt this plan, with the modifications which later experience had shown to be desirable. Hence in December, 1893, I drew up a circular of invitation (accompanied by detailed 'Instructions'), which I sent to all the mountain specialists of Europe who were likely to be able to furnish useful information for Volumes I. and II. I selected this band of helpers from among all the mountaineers that I could hear of, absolutely regardless of whether they belonged to any Alpine Club or not, or whether I had or had not the honour of their personal acquaintance. It speaks well for Alpine comity that (so far as regards the present volume at least) I did not meet with a single refusal, while gradually others either spontaneously offered their services or were later on requested by me to take part in the revision. (A general appeal for help was also inserted in the 'Alpine Journal'.) These specialists each received an interleaved copy of the unrevised text relating to the district with which they were specially acquainted. Their more or less scattered notes (though there were rare exceptions) were then set in order by myself, and this type-written draft submitted to the several writers, so that the complete MS. had been thoroughly revised by the time it was sent to the printers. I need hardly say how very deeply indebted I am to this assistance, so generously rendered. Without it my task would have been much more difficult, in part well-nigh impossible. But while fully acknowledging my indebtedness to my devoted band of helpers for the notes, often of the most detailed kind, with which they entrusted me, it is only fair to them to state as distinctly as possible that I, and I alone, am responsible for the actual form and shape in which these invaluable notes appear in the published text.



Two main principles were laid down in my 'Circular' for the guidance of my helpers. One was that the book was to be a *new edition*, not an entirely new work; hence as much of the original text as possible was to be preserved, with corrections, and only in certain cases was a passage or section to be rewritten. The other was to keep always in mind the special character of Mr. Ball's book as a Guide to *all* the Alps, whether above or below the snow line. No attempt could be made, of course, within the limits of the work, to describe or even mention *every* peak or pass, but my aim has been to give some account of all the principal peaks and passes, high or low, included in the Western Alps. Various minor changes have also been made: the descriptions of railway lines and of towns (save those in the mountains) have been abridged, the best local monographs have been indicated in the Introductions to the several Sections, the names of Inns have been placed in the Index (which can be easily reprinted and so kept up to date), heights have been given in both English feet and mètres, &c. &c. Unless it seemed to me absolutely necessary, the boundaries of the Chapters and Sections have remained unaltered, but new Routes have not unfrequently been inserted. For it is a well-known fact that the building of a new mountain Inn or Club hut entirely alters the character of a mountain region from the point of view of the practical convenience of travellers, and in a Guide-book, even in a Memorial Edition, such changes must be taken account of. Further, the growing tendency of travellers to settle down for some time in one spot had to be considered. Hence in the present edition there will be found tolerably full notices of the excursions and ascents to be made, not merely, as of old, from Chamonix, Courmayeur, Zermatt, &c., but also from such new 'centres' as Maljasset, Abriès, La Bérarde, Pralognan, Val d'Isère, Cogne, Chanrion, Arolla, &c. In this way it is hoped to make the book more useful to the various sections of Alpine travellers. In short, my aim has been to endeavour to give this book a place between such a Guide for ordinary travellers as 'Murray' and such a special series as the 'Climbers' Guides,' with both of which I have been closely associated. My own fairly extended, in some cases very detailed, acquaintance with well-nigh every district described in the present volume has enabled me, I trust, to do justice to the conflicting claims of many favourite resorts, while I have spared no pains in consulting the vast mass of recent Alpine literature, periodical or not, in order to obtain information that might be of service to the readers of this volume. The lists of books, Alpine periodicals, maps, and Club huts in the 'Preliminary Notes' have been made as complete as possible within due limits.

Mountaineers of *any nationality* who meditate exploring the peaks

and passes on the frontier ridge S. of the Mont Cenis Pass must be warned that of recent years the action of the military authorities of France and Italy has made such explorations very disagreeable and nearly impossible. This is specially the case on the French slope, where passports and other ordinary means of identification are nearly useless, as the officials imagine that every traveller, even if refraining from making sketches or taking photographs, is necessarily a spy. It has happened that even those explorers who have armed themselves with special permits from the central authorities have been much persecuted by the local officials. It is to be hoped that the authorities may before long be convinced that, unless they wish to exclude absolutely all travellers from this part of their country, they must treat them with ordinary courtesy and consideration.

Although explorers of the higher regions of the Alps *must* employ the more or less perfect maps issued by the various Government Surveys, yet it is convenient to have at hand a set of maps on a smaller scale. Hence six entirely new District Maps (on which the greatest pains have been bestowed), representing the chain of the Alps S. of the Little St. Bernard Pass, are given with this volume. They are arranged to form a continuous series, and at the pass named join the 'Alpine Club' Map, from which the three District Maps of the Pennines (slightly revised only by reason of expense) are taken. The General Map of the Western Alps has also been thoroughly overhauled.

In a work involving so many details, many of them extremely subject to change, it is impossible, despite the greatest care, to avoid slips, and even mistakes which may cause momentary inconvenience. But I hope that, as heretofore, travellers who note any shortcomings will show their interest in and appreciation of the book by forwarding their remarks to the Editor at the Alpine Club Rooms, 23 Savile Row, W.

There now only remains the pleasant duty of thanking those who have so courteously and efficiently helped me to bring the first instalment of this undertaking to a successful close. First and foremost my most hearty thanks are due to Mr. Douglas Freshfield, whose unwearied friendship has aided me throughout in every way, and has encouraged me to an extent of which he himself is probably not aware, but which I can more or less fully appreciate. Next I must express my grateful acknowledgments to Sir Joseph Hooker and to Professor Bonney, who have each made a most important contribution to this Memorial Edition of the work of their old friend by reading the entire text of Volumes I. and II., so as to correct the botanical and geological information therein contained. Amongst

my helpers in the revision of the more strictly mountaineering portions of the text of Volume I. there are three whose assistance has been of enormous value and importance, so that I am infinitely indebted to them for having so unselfishly allowed me to draw freely upon their vast stores of special information: I allude to Monsieur Michel Gilly, Monsieur Louis Kurz, and Mr. Alfred G. Topham, who have had in charge respectively the main portions of the sections relating to the Maritime Alps, to the Chain of Mont Blanc, and to the Central and part of the Eastern Pennines. But these three mountaineers are but 'primi inter pares,' for, if I am indebted for a smaller amount of information to my other helpers, these have been in no way inferior in zeal, in diligence, or in willingness to my three chief collaborators. I wish, therefore, to thank most sincerely the following mountaineers for the aid rendered by them with reference to the districts named:—

- i. *Maritime Alps.* Monsieur Valentin de Gorlof, M. François Arnaud, Prof. W. Kilian.
- ii. *Cottian Alps.* M. Arnaud (again), Dr. J. W. Gregory, Monsieur J. J. R. Tron (Waldensian *pasteur*).
- iii. *Dauphiné Alps.* Mr. Frederick Gardiner, MM. Félix Perrin, Auguste Reynier, and H. Ferrand.
- iv. *Graian Alps.* Mr. G. Yeld, and M. Ferrand (again).
- v. *Chain of Mont Blanc.* Mr. G. H. Morse, Mr. J. H. Wicks, Dr. Claude Wilson, and the Rev. A. Sloman.
- vi. *Sixt.* Mr. J. T. Wills, and Dr. W. A. Wills.
- vii. *Champéry.* M. Eugène J. P. de la Harpe.
- viii. *Central Pennines.* Mr. Walter Larden, Signor Felice Mondini, Dr. Walter Leaf, and Mr. E. T. Compton.
- ix. *Zinal and Gruben Valleys.* The Rev. A. G. Girdlestone, Mr. Frederick Corbett, the Rev. W. Gilbert Edwards, and Mr. J. S. Mann.
- x. *Monte Rosa Group.* Sir Frederick Pollock, Bart., Sir Martin Conway, Mr. J. H. Wicks (again), and Signor Vittorio Sella.
- xi. *Antrona Valley.* Signor Riccardo Gerla.

Let me also recall the memory of my poor friend the late Mr. E. F. M. Benecke, to whom I owe some useful particulars as to the Val de Bagnes. If unintentionally I have passed over any persons who may have sent me notes for this volume I beg them here to accept my excuses, and to believe that such omission is purely accidental.

W. A. B. COOLIDGE.

GRINDELWALD. *February, 1898.*

*N.B.*—It may be as well to note here that this volume was sent to press on April 2, 1898. Hence information received after that date, or published later in Alpine periodicals, could not be utilised.



## AUTHORITIES QUOTED.

THE quotations introduced in the present volume are distinguished by the initials corresponding to the subjoined list of authorities, and are chiefly taken from the MSS. notes communicated to Mr. Ball.

T. G. B.	Professor T. G. Bonney.
E. N. B.	Edward N. Buxton, Esq.
G. C.	M. le Chanoine G. Carrel.
J. J. C.	J. J. Cowell, Esq.
J. F.	Mrs. Freshfield, authoress of 'Alpine Byways,' &c.
R. W. E. F.	R. W. E. Forster, Esq.
A. G. G.	Rev. A. G. Girdlestone.
H. B. G.	Rev. H. B. George.
F. G.	Cavaliere Francesco Giordano.
W. E. H.	W. E. Hall, Esq.
F. V. H.	F. Vaughan Hawkins, Esq.
J. J. H.	Rev. J. J. Hornby.
F. J. H.	Rev. F. J. A. Hort.
F. W. J.	F. W. Jacomb, Esq.
J. R. K.	Rev. J. R. King.
A. L.	Mrs. Lingen.
M.	Murray's 'Handbook for Switzerland, Savoy, and Piedmont.'
W. M.	William Mathews, Esq.
F. M.	F. Mills, Esq.
A. M.	Arthur Milman, Esq.
A. W. M.	A. W. Moore, Esq.
R. C. N.	R. C. Nichols, Esq.
A. A. R.	A. Adams-Reilly, Esq.
L. S.	Leslie Stephen, Esq.
F. F. T.	F. Fox Tuckett, Esq.
R. S. W.	R. Spence Watson, Esq.
A. W.	Arthur P. Whately, Esq.
C. L. W.	Rev. C. L. Wingfield.
S. W.	Stephen Winkworth, Esq.

In the present edition the notes communicated to the Editor are not distinguished by initials, but the names of those who have taken part in the revision are given in the Preface.

## 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.

ft.—for feet. The heights of mountains, &c., are given in English feet above the level of the sea, as well as in mètres.

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

r., 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.

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

For information as to Hôtels, see the Index.

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.

## PRELIMINARY NOTES TO THE WESTERN ALPS.

## I. BOOKS RELATING TO THE WESTERN ALPS.

THE following list is intended to include only the more important works relating to the Western Alps, and makes no pretension to even approximate completeness. Books relating exclusively to matters connected with the natural sciences are not here mentioned, while current Guide-books and Alpine periodicals have special lists to themselves. In a few cases articles (other than those enumerated in the Introductions to the various Sections of the text of this volume) are mentioned, when they seem to possess considerable historical importance. A *complete* list of works dealing with the Swiss portions of the regions known as the Western Alps will be found in Herr A. Wäber-Lindt's forthcoming Bibliography of Works on Swiss Travel (to be issued by the Swiss Government as part of the great 'Bibliographie der Schweizerischen Landeskunde'), which entirely supersedes vol. i. (1785) of G. E. von Haller's 'Bibliothek der Schweizer-Geschichte.' A very fairly complete list of books and articles relating to the Italian portions of the Maritime, Cottian, and part of the Graian Alps is given in the first two parts (1889) of Signori Martelli and Vaccarone's 'Guida delle Alpi Occidentali' (Turin). An excellent Bibliography of the Chain of Mont Blanc is to be found in M. Louis Kurz's 'Guide de la Chaîne du Mont-Blanc' (Neuchâtel, 1892). This is *not* reproduced in the English edition of this work in the 'Climbers' Guides' series, while one for the Dauphiné Alps is given in MM. Coolidge, Duhamel, and Perrin's 'Guide du Haut-Dauphiné' (Grenoble, 1887). Special bibliographies of the various peaks and passes will be found in the volumes of the 'Climbers' Guides' series (London, from 1890 onwards).

*Albert, Aristide.* Le Pays Briançonnais. Grenoble, 1887.

*Allais, G.* Le Alpi Occidentali nell' Antichità. Turin, 1891.

*Almer's, Christian,* Führerbuch, 1856-1894. A facsimile edition. London, 1896.

Unauthorised edition of a valuable historical document.

*Alpi, Le, che cingono l' Italia.* Part i. of vol. i. alone published. Turin, 1845. With Map and Diagrams.

*Altmann, J. G.* Versuch einer historischen und physischen Beschreibung der Helvetischen Eisbergen. Zürich, 1751.

*Anderson, Eustace.* Chamouni and Mont Blanc. London, 1856.

*Ardouin-Dumazet.* Voyage en France. Paris.

The volumes as yet published which describe the Western Alps are :—  
viii. Le Rhône du Léman à la Mer, 1896 ; ix. Bas-Dauphiné, 1896 ;  
x. Les Alpes du Léman à la Durance, 1897 ; and xii. Alpes de  
Provence et Alpes Maritimes, 1897.

*Arnaud, Henri.* Histoire de la Glorieuse Rentrée des Vaudois dans leurs Vallées. s. l. 1710.

The most convenient reprint is that by Fick, Geneva, 1879. An English translation, by H. D. Acland, was published in London in 1827.

*Arnod, P. A.* Relation des Passages de tout le Circuit du Duché d'Aoste venant des Provinces circonvoisines, avec une description sommaire des Montagnes, 1691-4.

This most interesting MS. is preserved in the State Archives at Turin.

Portions of it have been published by Signor Vaccarone in the 'Bollettino' for 1880 and 1881, and in his work on 'Le Vie delle Alpi Occidentali,' and by Signor Bobba, in the 'Bollettino' for 1890. Mr. Coolidge's copy—made at his own cost and for his own use—covers sixty-six MS. folios. It is to be hoped that some day this MS. may be published in its entirety.

*Arve, Stephen d'* (really *E. de Catelin*). Les Fastes du Mont-Blanc. Geneva, 1876.

*Aubert, Edouard.* La Vallée d'Aoste. Paris, 1860.

*Auldjo, J.* Narrative of an Ascent to the Summit of Mont Blanc on the 8th and 9th of August, 1827. London, 1828.

Later editions in 1830 and 1856.

*Bakewell, R.* Travels, comprising Observations made during a Residence in the Tarentaise and various parts of the Grecian and Pennine Alps, and in Switzerland and Auvergne in the Years 1820-2. 2 vols. London, 1823.

*Baretti, M.* Per Rupi e Ghiacci. Turin, 1876.

*Baretti, M.* Il Ghiacciaio del Miage.

Article in the 'Memoirs' of the Academy of Sciences of Turin, 1880.

*Beattie, W.* The Waldenses, or Protestant Valleys of Piedmont, Dauphiné, &c. Fine illustrations. London, 1838.

*Beaufoy, Colonel.* Narrative of a Journey from the Village of Chamounix, in Switzerland, to the Summit of Mont Blanc, undertaken on August 8, 1787.

Article in the 'Annals of Philosophy' for February, 1817.

*Beaumont, J. F. Albanis.* Travels through the Maritime Alps from Italy to Lyons over the Col de Tende. London, 1795.

*Beaumont, J. F. Albanis.* Description des Alpes Grecques et Cottiennes, ou Tableau Historique de la Savoie. 2 vols. in 4 parts. With Atlas. Paris, 1802-6.



- Beaumont, J. F. Albanis.* Travels through the Lepontine Alps from Lyons to Turin by way of the Great St. Bernard. London, 1800.
- Beaumont, J. F. Albanis.* Voyage Pittoresque aux Alpes Pennines. Geneva, 1787.
- Beaupré, Julien de.* Account of his Ascent of the Mont Aiguille in 1492. Reprinted in vol. vi. of the 'Annuaire de la Société des Touristes du Dauphiné.'
- Berlepsch, H. A.* Die Alpen in Natur und Lebensbildern. Leipzig, 1861; 5th edition, Jena, 1885. English translation by Leslie Stephen, 1861.
- Berndt, G.* Das Val d'Anniviers und das Bassin de Sierre. Gotha, 1882. Supplement No. 66 to Petermann's 'Mittheilungen.'
- Bianchetti, Enrico.* L'Ossola Inferiore: notizie storiche e documenti. 2 vols. (one of text and one of original documents.) Turin, 1878.
- Bétha, Le Chanoine.* Valgrisanche: notices historiques. Aosta, 1877.
- Bonnefoy, J. A., and Perrin, A.* Le Prieuré de Chamonix: documents relatifs au Prieuré et à la Vallée de Chamonix. 2 vols. Chambéry, 1879 and 1883.
- Bonney, T. G.* Outline Sketches in the High Alps of Dauphiné. London, 1865.
- Bonney, T. G.* The Alpine Regions of Switzerland and the Neighbouring Countries. London, 1868.
- Bonstetten, Albert von.* Superioris Germaniæ Confoederationis Descriptio. The first description of Switzerland, 1479: the Latin and German texts have been well edited in vol. xiii., 1893, of the 'Quellen zur Schweizer Geschichte,' published at Basel.
- Bordier, A. C.* Voyage Pittoresque aux Glacières de Savoye. Fait en 1772. Geneva, 1773.
- Bourcet, P. J. de.* Mémoires Militaires sur les Frontières de la France, du Piémont, et de la Savoie, depuis l'Embouchure du Var jusqu'au Lac de Genève. Paris and Berlin, 1801.  
Only partly by M. de Bourcet.
- Bourrit, M. T.* Description des Glacières, Glaciers, et Amas de Glace du Duché de Savoye. Geneva, 1773.  
There are three English translations by C. and F. Davy, which were issued, 1775-6, at Norwich and Dublin.
- Bourrit, M. T.* Description des Aspects du Mont-Blanc du côté de la Val d'Aost. Lausanne, 1776.
- Bourrit, M. T.* Description des Alpes Pennines et Rhétiennes. 2 vols. Geneva, 1781.  
In 1783 this work was reissued at Geneva under the title of 'Nouvelle Description des Vallées de Glace,' and again in 1785, in 3 vols., under the title of 'Nouvelle Description Générale et Particulière des Glacières, Vallées de Glace, et Glaciers qui forment la grande chaîne des Alpes de Suisse, d'Italie, et de Savoye.'
- Bourrit, M. T.* Description des Cols ou Passages des Alpes. 2 vols. Geneva, 1803.

- Brachet, François.* Dictionnaire du Patois Savoyard tel qu'il est parlé dans le Canton d'Albertville. Albertville, 1883.  
New and much enlarged edition, Albertville, 1889.
- Brentari, O.* Dante Alpinista (article in the 'Bollettino' of the Italian Alpine Club for 1887).
- Bresslau, H.* Zur Geschichte der deutschen Gemeinden im Gebiet des Monte Rosa und im Ossolathal (article in the 'Zeitschrift der Gesellschaft für Erdkunde zu Berlin,' vol. xvi. part 3, 1881).
- Brockedon, W.* Illustrations of the Passes of the Alps by which Italy communicates with France, Switzerland, and Germany. 2 vols. London, 1828-9.
- Brockedon, W.* Journals of Excursions in the Alps: the Pennine, Graian, Cottian, Rhetian, Lepontian, and Bernese. London, 1833.  
3rd edition in 1845.
- Brockedon, W.* Extracts from the Journal of an Alpine Traveller.  
Five important articles in 'Blackwood's Magazine,' January, March, April, May, and August 1836, describing the Col de l'Autaret, the Col du Mont, the Col della Reale, the Fenêtre de Champorcher, the Col de Clapier, the Col de la Galise, the Col de Nivolet, the Col d'Iseran, and the Col de la Roue: all quite distinct from his two books mentioned above.
- Browne, G. F. (now Bishop of Bristol.)* Ice-Caves of France and Switzerland. A Narrative of Subterranean Exploration. London, 1865.
- Browne, G. F. (now Bishop of Bristol.)* Off the Mill: some Occasional Papers. London, 1895.
- Browne, J. D. H.* Ten Scenes in the Last Ascent of Mont Blanc. London, 1853.
- Brun-Durand, J.* Dictionnaire Topographique du Département de la Drôme, comprenant les noms de lieu anciens et modernes. Paris (Imprimerie Nationale), 1891.
- Brunet de l'Argentière, Jean.* Le Briançonnais en 1754.  
Printed in vol. xviii., 1892, of the 'Annuaire de la Société des Touristes du Dauphiné.'
- Bulwer, J. R.* Extracts from my Journal. Norwich (privately printed), 1853.
- Burch, Lambert van der.* Sabaudorum ducum principumque historiæ gentilitiæ. Leyden, 1599.  
The Elzevir edition (Leyden, 1634) is entitled 'Sabaudix Republica et Historia.'
- Burckhardt, J. R.* Untersuchungen über die erste Bevölkerung des Alpengebirgs, insbesondere der schweizerischen Urkantone, des Berner Oberland, und des Oberwallis.  
Article in vol. iv. of the 'Archiv für Schweizerische Geschichte,' Zürich, 1846.

- Burnaby, Mrs. (now Mrs. Main.)* The High Alps in Winter; or, Mountaineering in Search of Health. London, 1883.
- Burnaby, Mrs. (now Mrs. Main.)* High Life and Towers of Silence. London, 1886.
- Butler, Samuel.* Alps and Sanctuaries of Piedmont and the Canton Ticino. London, 1882.
- Chabrand, J. A., and Rochas d'Aiglon, A. de.* Patois des Alpes Cottiennes (Briançonnais et Vallées Vaudoises), et en particulier du Queyras. Grenoble and Paris, 1877.
- Cole, Mrs. H. W.* A Lady's Tour Round Monte Rosa; with Visits to the Italian Valleys of Anzasca, Mastalone, Camasco, Sesia, Lys, Challant, Aosta, and Cogne. In a series of Excursions in the years 1850-56-58. London, 1859.
- Coleman, E. T.* Scenes from the Snow Fields; being Illustrations from the Upper Ice-World of Mont Blanc. London, 1859.
- Comba, Emile.* Histoire des Vaudois d'Italie. Paris and Turin.  
Vol. i.—Avant la Réforme—of the original appeared in 1887, and in an English translation in 1889.
- Conway, Sir Martin.* The Alps from End to End. London, 1895.
- Coolidge, W. A. B.* Swiss Travel and Swiss Guide-Books. London, 1889.  
Contains a history of Swiss Guide-Books, of Alpine Inns, and of Zermatt, with a Bibliography of Books of Swiss Travel.
- Coolidge, W. A. B.* The Saracens in the Alps.  
Two articles in vols. ix. and x. of the 'Alpine Journal.' The author does not now accept the theory of a Saracen colony in the Valley of Saas.
- Coolidge, W. A. B.* Quelques Noms de Lieux dans la Vallée de Saas.  
Article relating to the names Mischabel, Fee, &c., in the 'Anzeiger für Schweizer Geschichte,' No. 6, 1896, and No. 1, 1897, Berne.
- Corona, G.* Picchi e Burroni. Turin, 1876.
- Corona, G.* Aria di Monti. Rome, 1880.
- Coryate, T.* Coryat's Crudities hastily gobled up in five moneths Travells in France, Savoy, Italy, Rhetia, comonly called the Gryson's country: Helvetia, alias Switzerland, some parts of High Germany, and the Netherlands. London, 1608. (Reprinted in three vols. in 1776.)
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- Trench, F.* A Walk Round Mont Blanc. London, 1847.
- Tschudi, Ægidius.* De priscâ ac verâ Alpinâ Rhaetiâ, cum œterio Alpinarum gentium tractu descriptio. Basel, 1538. (Also in German, same year and place.)  
This is probably the first published treatise exclusively devoted to the Alps, and contains, despite its title, a considerable amount of information as to the Western Alps. The map of the 1st edition has been lost, but not that which appeared in 1560 with the 2nd edition of the text.
- Tschudi, Ægidius.* Gallia Comata. Constance, 1758.  
Published long after the author's death in 1572.
- Tuckett, F. F.* Hochalpenstudien. 2 vols. Leipzig, 1873-74.  
Translation and collected edition of the author's Alpine articles, with maps, sketches, &c. Those on the Old Weissthor and the Signal-kuppe appeared in 1867 in Miss Tuckett's 'Pictures in Tyrol and elsewhere.'
- Türst, Conrad.* De situ Confœderatorum descriptio, 1495-7.  
The Latin and German texts were printed at Basel in vol. vi., 1884, of the 'Quellen zur Schweizer Geschichte,' together with a reproduction of his map, the first map of Switzerland known to exist.
- Tyndall, John.* The Glaciers of the Alps. London, 1860.  
Reprinted in 1896.
- Tyndall, John.* Mountaineering in 1861. A Vacation Tour. London, 1862.
- Tyndall, John.* Hours of Exercise in the Alps. London, 1871.



*Ulrich, Melchior.* Die Seitenthäler des Wallis und der Monte Rosa topographisch geschildert. Zürich, 1850. See also under *Studer, G.*

The earlier forms of all the articles relating to the Western Alps in the two works of 1850, and of 1859-1863 are to be found in vols. i.-iii., 1849-55, of the 'Mittheilungen der Naturforschenden Gesellschaft in Zürich,' which also contains other notes not reprinted by the author.

*Umlauf, F.* Die Alpen: Handbuch der gesammten Alpenkunde. Vienna, Pesth, and Leipzig, 1887.

An English translation appeared in 1889.

*Uzielli, G.* Leonardo da Vinci e le Alpi.

Article in the 'Bollettino' of the Italian Alpine Club for 1889. It contains a vast amount of interesting matter relating to Alpine history.

*Vaccarone, Luigi.* Le Pertuis du Viso. Turin, 1881.

*Vaccarone, Luigi.* Le Vie delle Alpi Occidentali negli antichi tempi. Turin, 1884.

*Vaccarone, Luigi.* Statistica delle Prime Ascensioni nelle Alpi Occidentali. 3rd edition, 1890.

The earlier editions appeared in the 'Bollettino' for 1885 and 1886. It should be noted that this list does *not* include the peaks of the Pelvoux Group, or the main mass of the Dauphiné Alps.

*Vaccarone, Luigi.* I Challant e loro questioni per la successione ai Feudi dal xii° al xix° secolo. Turin, 1893.

*Vaccarone, Luigi, and Martin-Franklin, J.* Notice Historique sur l'Ancienne Route de Charles Emanuel II, et les Grottes des Echelles. Chambéry and Aix les Bains, 1887.

*Valbonnais, J. M., Marquis de.* Histoire de Dauphiné, et des Princes qui ont porté le nom de Dauphins, particulièrement de ceux de la 3<sup>e</sup> Race. 2 vols. Geneva, 1722.

*Vallentin, Florian.* Excursions Archéologiques dans les Alpes Dauphinoises. Grenoble, 1877.

*Vallentin, Florian.* Excursions Archéologiques dans les Alpes Cottiennes et Graies.

Article in vol. vii., 1881, of the 'Annuaire de la Société des Touristes du Dauphiné.'

*Vallentin, Florian.* Les Alpes Cottiennes et Graies—Géographie Gallo-Romaine. Paris, 1883.

*Venetz, L.* Apologie des Travaux du Glacier de Giétroz. Sion, 1820.

*Venetz, L.* Mémoire sur les Variations de la Température dans les Alpes de la Suisse.

Most valuable article, containing much information as to old glacier passes. It appeared at Zürich in 1833 in vol. i. part 2 of the 'Denkschriften der allgemeinen Schweizerischen Gesellschaft für die gesammten Naturwissenschaften.'

*Vescoz, P. L.* Notions Topographiques et Historiques sur la Vallée de Cogne. Florence, 1873.

*Villars, Dominique.* Précis d'un Voyage à La Bérarde en Oisans dans les grandes montagnes de la province du Dauphiné, Septembre, 1786.

Printed in vol. xiii., 1886, of the 'Annuaire' of the French Alpine Club.

One version of this narrative appeared in Paris in 1787, in the 'Mémoires d'Agriculture, d'Economie rurale et domestique, publiés par la Société Royale d'Agriculture de Paris,' and another in vol. viii., 1882, of the 'Annuaire de la Société des Touristes du Dauphiné,' but the 1886 edition seems to be the most complete.

*Viollet-le-Duc, E.* Le Massif du Mont-Blanc. With a Map. Paris, 1876.

An English translation appeared in 1877.

*Viridet, Marc.* Passage du Roth-horn, Montagne de la Vallée de Saas, en Valais. Geneva, 1833.

2nd edition. Geneva, 1835.

*Viridet, Marc.* Viège, Saint-Nicolas, et Saas, ou Recherches sur la Géographie, sur les Mœurs, et sur l'Histoire Civile, Ecclésiastique, Physique, et Naturelle des Vallées de Saas et de Saint Nicolas, en Valais. Geneva, 1835.

Part i. only issued.

*Walliser-Sagen.* Gesammelt und herausgegeben von Sagenfreunden. Sion, 1872.

*Weilenmann, J. J.* Aus der Firnenwelt. Leipzig, 1872-7. 3 vols.

Vols. i. and iii. contain papers relating to the Western Alps.

*Welden, Ludwig Freiherr von.* Der Monte-Rosa: eine topographische und naturhistorische Skizze, nebst einem Anhang der von Herrn Zumstein gemachten Reisen zur Ersteigung seiner Gipfel. Vienna, 1824.

*White, Walter.* To Mont Blanc and Back Again. London, 1854.

*Whymper, Edward.* Scrambles amongst the Alps in the Years 1860-9. London, 1871.

2nd edition, 1871; 3rd edition, abridged, 1880; 4th and definitive edition, 1893. A German translation appeared at Brunswick in 1872, and a French one in 1873 in Paris.

*Wills, Sir Alfred.* Wanderings among the High Alps. London, 1856.

2nd edition, 1858.

*Wills, Sir Alfred.* 'The Eagle's Nest' in the Valley of Sixt: a Summer Home among the Alps; together with some Excursions among the Great Glaciers. London, 1860.

*Windham, W., and Martel, P.* An Account of the Glacières or Ice Alps in Savoy. In two letters—one from an English gentleman to his friend at Geneva; the other from Peter Martel, Engineer, to the said English Gentleman. London, 1744.

The original French text of both letters, written in 1741-2, was printed by T. Dufour in the 'Echo des Alpes' for 1879.

*Wolf, F. O.* Chamonix et le Valais. 2 vols. Zürich, 1886-8.

Issued in the series known as 'Europäische Wanderbilder,' or 'Illustrated Europe,' in several languages.

- Wundt, Theodor.* Das Matterhorn und seine Geschichte. Berlin, 1896.  
Beautifully illustrated.
- Yung, E.* Zermatt et la Vallée de la Viège. Geneva, 1893.
- Zsigmondy, Emil.* Im Hochgebirge. Leipzig, 1889.
- Zurcher, F., et Margollé, E.* Les Ascensions Célèbres aux plus Hautes Montagnes du Globe. Paris, 1867.  
3rd edition, 1876.

## II. GUIDE-BOOKS RELATING TO THE WESTERN ALPS.

In the following list the most important current Guide-books to different portions of the Western Alps are included, but *not* pamphlets relating to the various Baths, such as Valdieri, Vinadio, Brides, &c.

- Arnaud, François.* Barcelonnette et Ses Environs. Gap, 1896.
- Arnaud, François.* Guide des Alpinistes dans la Vallée de l'Ubaye. Pour le Congrès de 1898 du C. A. F. à Barcelonnette. Paris, 1898.
- Arnollet, François.* Nos Alpes—Isère et Dorons. Moutiers, 1895.
- Bädeker, Karl.* Le Sud-Est de la France du Jura à la Méditerranée. Leipzig and Paris, 1897.  
Originally issued in 1885, under the title of 'Le Midi de la France.'
- Bädeker, Karl.* Switzerland. 1897.
- Ball, John.* Guida delle Alpi Cozie, con Note ed Aggiunti del Cav. V. Buffa e Dott. E. Rostan. Pinerolo, 1879.  
Annotated translation of the Viso and Waldensian Valleys Sections of Mr. Ball's 'Alpine Guide.'
- Bazetta, G. G., et Brusoni, E.* Guide de l'Ossola. 2nd edition. Domodossola, 1889.
- Bovet, E.* Le Lac Champex et ses Environs. Neuchâtel, no date, but issued in 1896.
- Brocherel, Giulio.* Guida Illustrata di Courmayeur e Dintorni. Courmayeur, 1895.
- Brusoni, Edmondo.* Guida alle Alpi Centrali Italiane. Vol. i. Domodossola, 1892.  
This volume describes the Val Sesia, the Lago d'Orta, and the Val d'Ossola. Vol. iii. will deal with the mountains included within those limits.
- Carrel, G.* Les Alpes Pennines dans un Jour. Aosta.  
The N. bit of the panorama appeared in 1855, but the S. bit in 1860 only.
- Carrel, J. P., Chamonin, P. B., and Vescoz, P. L.* Géographie du Pays d'Aoste. Aosta, 1870.  
This booklet is nominally by the 'Petite Société Alpine de Cogne,' but the authors' names are given in the Preface.



*Chartreux, Un.* Guide à la Grande Chartreuse. 6th edition. Grenoble, 1896.

*Claparède, Arthur de.* Champéry et le Val d'Illiez. 3rd edition. Geneva, 1893.

*Clavarino, Luigi.* Le Valli di Lanzo. Turin, 1874.

*Climbers' Guides Series.* London. Edited by Sir Martin Conway and W. A. B. Coolidge.

The following volumes of this series deal with the Western Alps:—

1. *Conway, Sir Martin.* The Central Pennine Alps. 1890.

2. *Conway, Sir Martin.* The Eastern Pennine Alps. 1891.

3. *Coolidge, W. A. B., Duhamel, H., and Perrin, F.* The Central Alps of the Dauphiny. 1892.

4. *Kurz, Louis.* The Chain of Mont Blanc. 1892.

5. *Yeld, G., and Coolidge, W. A. B.* The Mountains of Cogne. 1893.

*Conway, Sir Martin.* The Zermatt Pocket-Book. London, 1881.

*Coolidge, W. A. B., Duhamel, H., and Perrin, F.* Guide du Haut Dauphiné. Grenoble, 1887.

Supplement issued in 1890.

*Covino, A.* Da Turin a Chambéry. 3rd edition. Turin, 1871.

*Covino, A.* Il Panorama delle Alpi e i Contorni di Torino. Turin, 1874.

*Dellepiane, G.* Guida per Excursioni negli Appennini e nelle Alpi Liguri. 2nd edition. Genoa, 1896.

*Duhamel, H.* Grenoble considéré comme Centre d'Excursions. Grenoble, 1893.

See also under 'Climbers' Guides.'

*Ferrand H.* Itinéraire Descriptif, Historique, et Archéologique de la Maurienne, et de la Tarentaise. 2nd edition. Grenoble, 1879.

*Ferrand, H.* Guide à la Grande Chartreuse. 2nd edition. Grenoble, 1889.

*Gorret, A., and Bich, Claude.* Guide de la Vallée d'Aoste. Turin, 1876.

*Illustrated Europe* (in English, French, and German). See *Wolf* in the preceding section.

*Joanne.* Jura et Alpes Françaises. Paris, 1877.

*Joanne.* Provence. Paris, 1896.

*Joanne.* Alpes Dauphinoises. Vol. i. only published. Paris, 1890.

*Joanne.* Dauphiné. Paris, 1898.

*Joanne.* Savoie. Paris, 1895.

*Joanne.* Suisse. Two parts. Paris, 1895.

All these are the *large* editions.

*Juge, Stéphane.* Guide Bleu Illustré des Alpes Françaises. Dauphiné-Savoie. Paris, 1894.

*Kurz, Louis.* Guide de la Chaîne du Mont-Blanc. Neuchâtel, 1892.

*Laissus, C.* En Savoie. La Tarentaise. Guide du Baigneur, du Touriste, et Naturaliste. Moûtiers, no date.

- Linarix, Ch.* Guide Pratique de la Savoie et de la Haute-Savoie Médicale et Pittoresque. Paris, 1895.
- Martelli, A. E., Bobba, G., and Vaccarone, L.* Guida delle Alpi Occidentali. 2 vols. in 3 parts. Turin, 1889-1896.
- Miriam, Guides.* Guide du Touriste dans le Briançonnais. Paris, 1898.
- Mortillet, G. de.* Guide en Savoie. 3rd edition. Chambéry, 1874.  
First issued in 1856.
- Murray.* Handbook for Travellers in Switzerland, Savoy, Piedmont, the Italian Lakes, and part of the Dauphiné. 2 parts. 18th edition. London, 1892.
- Murray.* Handbook for Travellers in France. Part ii. (includes the French Alps.) 18th edition. London, 1892.
- Perrin, F.* See under 'Climbers' Guides' and 'Coolidge.'
- Pertusi, L., and Ratti, C.* Guida pel villeggiante nel Biellese. 2nd edition. Turin, 1887.
- Ratti, C.* Da Torino a Lanzo e per le tre Valli della Stura. 2nd edition. Turin, 1893.
- Ratti, C., and Casanova, F.* Guida Illustrata della Valle d' Aosta. Turin, 1893. 3rd edition.  
A new edition is in preparation, the 'Gressoney' section of which was issued as a separate book in 1897.
- Schaub, C., and Briquet, M.* Guide Pratique de l'Ascensionniste sur les Montagnes qui entourent le Lac de Genève. 3rd edition. Geneva, 1893.
- Tivollier, J.* Monographie de la Vallée du Queyras (Hautes Alpes). Gap, 1897.
- Tonetti, F.* Guida Illustrata della Valsesia e del Monte Rosa. Varallo, 1891.
- Tschudi, I. von.* Der Turist in der Schweiz und den Grenzrayons. 33rd edition. Zürich, 1895.
- Uberti, Giansevero.* Guida Generale ai Grandi Laghi Subalpini. Milan, 1890.
- Vaccarone, L.* Il Gruppo del Gran Paradiso. Turin, 1894.
- Vaccarone, L., and Nigra, L.* Guida-Itinerario per le Valli dell' Orco, di Soana, e di Chiusella. Turin, 1878.
- Vaccarone, L., and Bobba and Martelli.* See under *Martelli*.
- Wagnon, Auguste.* Autour de Salvan et de Fins-Hauts. 2nd edition. Lausanne, 1895.
- Whymper, Edward.* A Guide to ChamoniX and the Range of Mont Blanc. London, 1896.
- Whymper, Edward.* A Guide to Zermatt and the Matterhorn. London, 1897.
- Yeld, G.* See under 'Climbers' Guides.'

## III. ALPINE PERIODICALS.

At the present time the number of periodicals devoted to Alpine matters is so considerable, and the amount of valuable information they contain is so enormous, that the would-be Alpine bibliographer finds his task a very heavy one. Yet when the first edition of the present volume was issued in July, 1863, modern Alpine periodicals were represented only by two numbers of the 'Alpine Journal' (March and June, 1863), and by a single volume of the 'Mittheilungen' of the original Austrian Alpine Club, for the Swiss Club (the only other founded at that time) did not put forth its first 'Jahrbuch' till 1864. In order, therefore, to help those who wish to consult these numerous periodicals the following list has been compiled. It practically includes all the important Alpine periodicals, for all contain (from time to time only it may be) articles and notes relating to the Western Alps. A nearly complete list of all Alpine periodicals is given at the opening of Herr Wäber-Lindt's great bibliography of works relating to Swiss travel.

## 1. THE PRINCIPAL ALPINE CLUBS.

- a. *Austrian Alpine Club* (Oe. A.C.), founded December 5, 1878, as the 'Alpenclub Oesterreich;' name altered in 1884.

Oesterreichische Alpen-Zeitung. Vienna. Appears fortnightly since 1879.

Three *Indices* published, each for 6 vols., down to end of 1896; also volume indices.

- b. *English Alpine Club* (A.C.), founded December 22, 1857.

The *Alpine Journal*. London. Appears quarterly since March, 1863.

An *Index* to vols. i.-xv. inclusive, 1863-1891, was issued in 1892: also indices to each volume published.

For the *history* of the Club see chap. iv. of Mr. W. Longman's 'Modern Mountaineering,' an appendix to vol. viii. of the 'Alpine Journal.'

- c. *French Alpine Club* (C.A.F.), founded April 2, 1874.

Annuaire. Appears in Paris once a year since 1874.

*Index* published in 1892 to vols. i.-xv. inclusive, 1874-1888: no volume indices.

Bulletin. From 1874. Now 9 numbers a year (not in summer months).

Dates of issue have varied. No index of any kind, but tables of contents.

Many of the Sections of the C.A.F. publish 'Bulletins,' wherein many useful articles are to be found. In particular we may mention—



a. The 'Bulletin' of the *Lyons* Section, 8 vols. 1878-1892  
(continued in the 'Revue Alpine ;' see under 2).

No index.

b. The 'Bulletin' of the *Maritime Alps* Section. Annual, Nice.  
From 1880 onwards.

*Index*, issued in 1895, to vols. i.-xv. 1880-1894.

d. *German and Austrian Alpine Club* (D. u. Oe. A.V.)

This society was formed at the end of 1873 by the fusion of two older societies.

a. The *Austrian Alpine Club*, founded at Vienna, November 19,  
1862.

It published :

Mittheilungen, 2 vols. 1863-4 ; Verhandlungen, 1 vol. 1864 ;  
Jahrbuch, 8 vols. 1865-73.

In 1872 vol. viii. of the 'Jahrbuch' was at the same time  
vol. iii. of the 'Zeitschrift.'

b. The *German Alpine Club*, founded at Munich, May 9, 1869.

It published : Zeitschrift, 4 vols. 1869-73.

The new society issued a single annual 'Zeitschrift' from 1874  
onwards, and also from 1875 onwards fortnightly 'Mittheilungen'  
(various sizes).

The 'Zeitschrift' has no volume index, like the 'Mittheilungen.'

The places of publication vary with the shifting of the headquarters of  
the Club.

*Index* issued in 1896 (superseding two earlier ones of 1877 and 1887) to  
all periodicals published by either society from 1863 to the end of  
1894 (including vol. xxv. of the 'Zeitschrift').

For the *history* of the two societies see—

(1) Zur Erinnerung an die vor 25 Jahren erfolgte Gründung des  
Oesterreichischen Alpenvereins. Vienna, 1887.

(2) Emmer, J. Geschichte des Deutschen und Oesterreichischen  
Alpenvereins (an article in vol. xxv., 1894, of the 'Zeitschrift,'  
and also issued separately).

The Club also issues annually a convenient *List of Club Huts* in the  
whole chain of the Alps, and has put forth (1897) a *Map* showing the  
Club huts and mountain inns in the Eastern Alps. It has, too, pub-  
lished *Hartinger's* beautifully executed pictures (500 in number, in 5  
vols.) of Alpine flowers—*Atlas der Alpenflora* (2nd edition completed  
in 1897), and also 5 parts in 2 vols. (1878-1882) of an 'Anleitung zu  
wissenschaftlichen Beobachtungen auf Alpenreisen,' including oro-  
graphy, hydrography, geology, meteorology, anthropology, zoology,  
and botany.

e. *Italian Alpine Club* (C.A.I.), founded October 23, 1863.

Bollettino. From 1865. Turin. Now appears annually.

Alpinista. 2 vols., 1874-5. Turin.

Rivista Mensile (originally R. Alpina). Turin. From 1882. Monthly. *Indices* (three in number) have been published (1885-94) to all these periodicals, complete for the 'Alpinista,' down to 1893 for the 'Bollettino' and to 1891 for the 'Rivista.'

Each volume of the 'Alpinista' and 'Rivista' has a separate Index; the 'Bollettino' only a Table of Contents.

For the *history* of the Club, see—

*Cainer, Sc.* Cronaca del Club Alpino Italiano dal 1863 al 1888. Turin, 1888.

f. *Swiss Alpine Club* (S.A.C.), founded April 19, 1863.

Jahrbuch. Bern. From 1864 annually, in German. (Vols. iv.-v., 1868-9, also in French.)

*Index* (1886) to vols. i.-xx. (1864-85), and volume indices from vol. xvi. onwards.

The 'Jahrbuch' is the principal publication of the S.A.C. ('Alpina' added in 1893), but each of the three nationalities have or have had a separate organ.

(1) *French-speaking Sections.* Echo des Alpes. Geneva. From 1865. Now monthly.

*Index* (1892) to vols. i.-xxv. (1865-89), but no volume Indices.

(2) *German-speaking Sections.*

For long these made use of the *unofficial* publication, first entitled 'Alpenpost' (6 vols., at Glarus, save vol. vii. at Zürich, 1871-4), and then 'Neue Alpenpost' (16 vols., Zürich, 1875-82; neither has any Index, but only Tables of Contents).

The first *official* organ was the fortnightly 'Schweizer Alpen-Zeitung' (11 vols. 1883-93, Zürich; only Tables of Contents for vols. i.-vi.; then Indices for each volume).

From July, 1893, this was replaced by the 'Alpina' (Zürich; volume Indices only), which is now the official monthly organ of the whole Club.

(3) *Italian-speaking Sections.*

Annuario del Club Alpino Ticinese (C.A.T.), 5 vols. (1886-94.) Bellinzona. This society is now a Section of the S.A.C.

For the *history* of the S.A.C. see—

*Buss, E.* Die ersten 25 Jahre des Schweizer Alpenclub. Glarus, 1889 (also a French version, Geneva, dated 1889, but really published late in 1890).

## 2. THE FRENCH ALPS.

There are such a number of periodicals (apart from those issued by the C.A.F.) in which information as to the French Alps may be found that it

seems most convenient to group them together under a separate heading. The two principal are—

*a.* Touristes du Dauphiné (S.T.D.), *Annuaire de la Société des*. Appears annually at Grenoble since 1875.

*Index* (issued 1896) to vols. i.-xx. 1875-94.

*b.* *Revue Alpine*. Appears monthly at Lyons since the end of 1894. Volume indices only.

As noted above, this is issued by the Lyons Section of the C.A.F.

It deals with the whole of the French Alps, the S.T.D. confining its attention to the Dauphiné Alps.

Several other French periodicals may be mentioned, though of less importance to mountaineers than the two noted above.

*c.* *Alpes Françaises*. Grenoble. From 1884. Weekly.

*d.* *Alpinistes Dauphinois* (originally *Grenoblois*), *Annuaire de la Société des*. Appears annually since 1892 at Grenoble.

*e.* *Dauphiné, L.e.* Grenoble. Weekly. From 1863.

*f.* *Durance, La. Embrun*. Weekly. From 1872.

*g.* *Grenoble Revue*. Grenoble. Monthly. 1890-2.

*h.* *Hautes Alpes, Société d'Etudes des*.

*Bulletin. Gap*. Quarterly. From 1882.

#### IV. MAPS RELATING TO THE WESTERN ALPS.

When this work was first published in 1863 the great Government Surveys of France, Italy, and Switzerland were only in progress, if even begun, so that recourse was necessary to many isolated maps made by various savants, &c. Nowadays all these great surveys have not merely been completed (so far as regards the Western Alps), but also issued to the public. Doubtless as time goes on they will be more and more perfected, but it may fairly be said that now we have a good, in part excellent, set of large-scale maps for the Western Alps. In a few cases they still need, however, to be supplemented by special maps.

It seems best to describe the Maps relating to the Western Alps under three headings, according to whether they are of more or less purely historical interest, or are now indispensable to the traveller.

##### i. MAPS OF HISTORICAL INTEREST.

It may be stated generally that the historical geography of the higher portions of the Western Alps takes its start (with a few isolated exceptions in the case of some special districts) with the two great maps issued in 1827 (scale,  $\frac{1}{500000}$ ; many smaller maps on a scale of  $\frac{1}{100000}$  in the text) with the



*Opérations Géodésiques*, and in 1845 (scale  $\frac{1}{600000}$ ) with *Le Alpi che cingono l'Italia*. But part of the S.W. Alps was mapped, and very well too for the time, a good deal earlier, as M. de Bourcet's *Carte Géométrique du Haut Dauphiné et de la Frontière Ulérieure* (scale  $\frac{1}{86400}$ ) appeared in nine sheets as far back as 1763, and as regards parts of the ranges S. of the Valgaudemar is still the best in existence. Of course there were earlier maps, which, however, paid little attention to the regions above the snow line; among these may be mentioned *Borgonio's* map (twenty-five sheets, scale  $\frac{1}{144000}$ ) of the dominions of the duke of Savoy (1680), and the numerous early maps of parts of Switzerland, which are carefully catalogued in the splendid list published by the Swiss Government as vol. ii. (1896, by Professor Graf, of Bern) of the great 'Bibliographie der Schweizerischen Landeskunde,' and such general works as Weiss' 'Atlas Suisse' (1786-1802) and Wörl's 'Karte der Schweiz' and neighbouring regions (1834-5).

To these may be added the later *Sardinian Map* (ninety sheets, scale  $\frac{1}{50000}$ , 1851-71), and the *Dufour Map* of Switzerland (twenty-five sheets, scale  $\frac{1}{100000}$ , 1845-64). Of the latter a most interesting history was published at Bern in 1896 under the title of 'Die Schweizerische Landesvermessung, 1832-64 (Geschichte der Dufourkarte).'

Besides these general maps a few special ones may be named, which are most valuable and interesting from an historical point of view.

*Dauphiné*. (1) Mr. Tuckett's map of 'The Pelvoux and its Environs,' 1862 (photograph; scale  $\frac{1}{97000}$ ), which is reproduced (scale  $\frac{1}{60000}$ ) in his 'Hochalpenstudien,' 1873.

(2) The *Carte Topographique du Massif du Mont-Pelvoux*, by Prudent (1874; scale  $\frac{1}{48000}$ ), issued with vol. i. of the 'Annuaire' of the French Alpine Club.

*Graians*. (3) Mr. Nichols' three maps (scale  $\frac{1}{100000}$  in case of the chief) in vols. ii. and iii. (1865-7) of the 'Alpine Journal,' with the N. portion of that chain, due to the same explorer, on the S.W. sheet (1874-5; scale  $\frac{1}{250000}$ ) of the 'Alpine Club Map.'

*Mont Blanc Chain*. (4) The maps by Adams-Reilly (1865; scale  $\frac{1}{80000}$ ), by Mieulet (1865; scale  $\frac{1}{40000}$ ), and by Viollet-le-Duc (1876; scale  $\frac{1}{40000}$ ).

*Central and Eastern Pennines*. (5) The three maps issued in connection with *Engelhardt's* books, in 1840, 1850, and 1856—a most precious source for the early topographical history of the Monte Rosa group.

(6) The two editions (1849 and 1853) of Gottlieb *Studer's* 'Karte der südlichen Wällisthäler' (scale  $\frac{1}{100000}$ ).

(7) Mr. *Adams-Reilly's* map of 'The Valpelline, the Valtournanche, and the Southern Valleys of the Chain of Monte Rosa, from an actual survey made in 1865-6' (scale  $\frac{1}{100000}$ ).

(8) The eight sheets published by the *Swiss Alpine Club*, under the name of 'Excursionskarte für das Südwallis,' from 1867 to 1869; these are based on the then unpublished original surveys for the Dufour Map (later issued as the 'Siegfried Map'), and are on a scale of  $\frac{1}{50000}$ .

ii. CURRENT MAPS.

1. *Government Surveys.*

- A. *France.* Carte de l'Etat Major. 258 sheets (1833-76). Scale  $\frac{1}{80000}$ . (The best edition is that lithographed, and kept up to date, which is known as the 'Type 1889.')

Carte de la Frontière des Alpes (in three colours). 72 sheets. Scale  $\frac{1}{80000}$ . c. 1875. A very pretty and legible map, limited to the frontier districts.

Carte du Service Vicinal. c. 600 sheets. Scale  $\frac{1}{100000}$ . Very legible and handy, but extremely untrustworthy as to names and heights. All the Alpine sheets were issued by 1889.

- B. *Italy.* Carta Topografica del Regno d'Italia. 277 sheets. Scale  $\frac{1}{100000}$ . Too small for practical use.

Surveyed from 1879 to 1891, and published from 1884 to 1897, so far as regards the Alpine regions.

Tavolette rilevate per la costruzione della Carta del Regno d'Italia (surveyed 1880-1884, published from 1882 to 1892). 174 sheets. Scale  $\frac{1}{50000}$ . Accurate, but very illegible.

The  $\frac{1}{25000}$  edition (surveyed 1884-92) is much clearer.

- C. *Switzerland.* Topographischer Atlas der Schweiz (commonly known as the Siegfried Map, or Atlas. From 1870 onwards (the mountain sheets relating to the Western Alps are now—1898—all published). 589 sheets. Scale  $\frac{1}{50000}$  for the mountain districts,  $\frac{1}{25000}$  for the plains.

This is the publication, after careful revision, of the original large-scale surveys for the Dufour Map. It is undoubtedly the most splendid and accurate representation of a mountain land ever yet published, its clearness being only surpassed by its excellence.

2. *Special Maps.*

In a few cases the Government Surveys must still be supplemented by certain special maps, which deal with very unknown or strangely neglected districts, and are meant specially for the use of mountaineers.

*Cottian Alps.*

- (1) *Rochas d'Aiglun, A. de.* Carte Historique des Vallées Vaudoises (scale  $\frac{1}{100000}$ ), in 5 colours, issued with the author's book on the 'Vallées Vaudoises' in 1881.
- (2) *Coolidge, W. A. B.* Sketch Maps of the Ambin and Scolette groups (*i.e.* the region between the Tunnel and the Mont Cenis), both on a scale of  $\frac{1}{80000}$ , and given with the author's articles on these two groups in vols. iii. and iv. (1897-8) of the 'Revue Alpine' of Lyons.
- (3) *Duhamel, H.* Maps of the Pelvoux Group (4 sheets; scale  $\frac{1}{100000}$ ). Originally issued in 1889 in connection with the 'Guide du Haut

Dauphiné,' and reissued (after careful revision) in 1892 with the new edition of that work in the 'Climbers' Guides' series.

Wonderfully clear and accurate.

- (4) *Pilkington, C.* Mountains at the Head of the Valgaudemar. Issued in 1880, with an article by the author, in vol. x. of the 'Alpine Journal.'  
The only accurate representation of a very little known group.
- (5) *Moisson, P.* Sketch Map of the Chaillol Group (scale  $\frac{1}{40000}$ ), issued with an article by the author in vol. xiii. (1887) of the 'Annuaire de la Société des Touristes du Dauphiné.' Grenoble.
- (6) *Coolidge, W. A. B., and Boiton, J.* Sketch Map of the Cerces Group between the Cols du Galibier and des Rochilles, issued with an article by Mr. Coolidge in vol. xvii. (1891) of the last-named periodical.
- (7) *Fiorio, C., Ratti, C., and Rey, G.* Sketch Map of the Aiguilles d'Arves Group (scale  $\frac{1}{50000}$ ), issued with an article by the authors in the 'Bollettino' of the Italian Alpine Club for 1889.

#### *Western Graians.*

- (8) *Paillon, Maurice.* Massif du Mont Pourri (scale  $\frac{1}{50000}$ ), issued with the author's article on the Mont Pourri in vol. i. (1895) of the 'Revue Alpine' of Lyons.

#### *Eastern Graians (Cogne District).*

- (9) *Paganini, Pio.* Gruppo del Gran Paradiso (scale  $\frac{1}{50000}$ ), issued with the author's work 'La Fototopografia in Italia,' Rome, 1889.  
Few names and many heights, but very illegible.
- (10) *Yeld, G.* Sketch Map of the Eastern Graians (scale  $\frac{1}{37000}$ ). Originally issued in 1886, with an article by the author in vol. xii. of the 'Alpine Journal,' and reissued (after careful revision) in 1893 with another article by the author in vol. xvi. of the same periodical, as well as with the author's Guide to the 'Mountains of Cogne,' published in 1893 in the 'Climbers' Guides' series.

It has no heights, but gives the names now commonly recognised, and has some topographical corrections, while it is extremely legible.

#### *Chain of Mont Blanc.*

- (11) MM. *Imfeld* and *Kurz's* 'La Chaîne du Mont-Blanc' (scale  $\frac{1}{50000}$ ), published in 1896. This is one of the finest specimens of modern cartography, while the names and topography are based on the latest information. It is also remarkable as being the only map, on a fairly large scale, which represents the *whole* chain of Mont Blanc, which politically belongs to three countries.
- (12) The MM. *Vallot* propose to issue some day a map of the chain of Mont Blanc in 12 sheets, and on a scale of  $\frac{1}{20000}$ . At present the firstfruits of this great undertaking that have been given to the world consist in



Sketch Maps (scale  $\frac{1}{40000}$ ) of the Aiguilles Rouges range, published in vol. xix.—1892—of the 'Annuaire' of the French Alpine Club, and of the Great Chamoni Aiguilles, in vol. xxi.—1894—of the same periodical.

*Central and Eastern Pennines.*

(13) The Federal Topographical Bureau issues combined maps, formed by lithographing together certain mountain sheets of its maps, so as to form a special map for a particular district. The Swiss portion of the Western Alps described in this volume is included in three of these combination maps—

- a. *St. Maurice* ( $\frac{1}{100000}$ , Dufour Map), taking in the Champéry, Salvan, and Finhaut districts, together with that of the Dent de Morecles, beyond the Rhône.
- b. *Martigny—Grand St. Bernard—Combin* ( $\frac{1}{50000}$ , Siegfried map), extending from the Col de Balme to Arolla.
- c. *Evolena—Zermatt—Monte Rosa* ( $\frac{1}{50000}$ , Siegfried map), including the country between Arolla and the Saas valley.

The first and third each cost 2 fr. unmounted (3 fr. 30 c. mounted to fold), and the other 2 fr. unmounted (5 fr. mounted to fold).

(14) The combined map numbered *c* above was also issued with vol. xxvi. (1891) of its 'Jahrbuch' by the Swiss Alpine Club, which in the following year put forth a further very useful combination, showing the whole of the upper end of the Saas valley.

(15) *Martelli, A. E.* Map of the southern slope of the chain between the St. Théodule Pass and the Lyskamm (scale  $\frac{1}{50000}$ ), issued with an article by the author in the 'Bollettino' of the Italian Alpine Club for 1886.

iii. GENERAL MAPS.

It is a singular fact, the reasons for which are not altogether evident, that there exists at present no one map, on a fairly large scale, of the whole chain of the Alps. That (sheet 52) in the second edition of Andree's 'Allgemeiner Handatlas' (Bielefeld and Leipzig) is on a scale of  $\frac{1}{250000}$ , but is extremely good so far as it goes. The 'Alpine Club Map' extends in its first edition (1874-5,  $\frac{1}{250000}$ , 4 sheets) only from the head of the Isère valley to the Ortler group, while in its second edition (1881,  $\frac{1}{100000}$ , 8 sheets) it is cut short at the Little St. Bernard. The six new district maps in the present volume do indeed extend its scope as far as the Col de Tenda, but the style of execution is different. Herr Ravenstein, of Frankfurt a/Main, has issued eleven very clear and beautiful sheets (scale  $\frac{1}{250000}$ ), which extend from the Little St. Bernard to Marburg, and it is to be hoped that some day he will add two more, so as to carry on his most useful and handy map to the Col de Tenda.

At present the first six District maps in the present volume are the best existing handy map of the Alps south of the Little St. Bernard, and for the Pennines either the Alpine Club map or the western sheet of Herr Ravenstein's 'Karte der Schweizer Alpen' (1897). The large map of the Western Alps in the present volume gives only a general view of the Western Alps, while each of the Guide-books mentioned in one of the preceding Sections has maps which vary much in point of scale and usefulness.

## V. CLUB HUTS IN THE WESTERN ALPS.

The following list contains, it is believed, all the Club huts proper in the Western Alps which are now actually in use, thus excluding abandoned and ruined huts, like those of Alpetto, Bonnepierre, La Lavey, Puiseux, &c. But though very great pains have been taken to procure the latest information regarding each hut it is possible that there may be errors. It would be very convenient for travellers if each Club (like the Swiss Club) were to issue annually a statement as to the precise condition at that moment of each of its Club huts. In this list each hut is followed by the number of the page of the text whereon its surroundings are more or less minutely described, and in some cases by the name of the principal peak accessible from it, or that of the person in whose honour it was built. Many huts, especially on the Italian slope, are locked, so that a party should procure the key at the nearest village on the way up. The huts marked \* are only shelter huts, and not strictly speaking Club huts.

### *Maritime Alps.*

- Barma cave (Mont Clapier), pp. 8, 13.
- Genova (Argentera), p. 11.  
(For the 'maisons forestières' round Allos see p. 24.)

### *Cottian Alps.*

- Quintino Sella (Viso), pp. 61-2.
- Rochebrune, p. 85.

### *Dauphiné Alps.*

- Belledonne, p. 136.
- Carrelet (Ecrins), p. 153.
- Cézanne, p. 152.
- Châtelleret (Meije), p. 148.

### *Dauphiné Alps (continued)—*

- Fare (Grandes Rousses), p. 127.
- Lac Noir, p. 147.
- Lyon Républicain (Aiguilles d'Arves), p. 121.
- Provence or A. Lemer cier (Pelvoux), p. 163.
- Selle, p. 147.
- Tuckett, p. 152.

### *Graian Alps.*

- Budden (Becca di Nona), p. 302.
- Crot del Ciaussiné (Gastaldi), p. 260.
- Defey (on Rutor), p. 288.

*Graian Alps* (continued)—

- Gura, p. 267.  
 Levanna, pp. 318-9.  
 Nants (Dôme de Chasseforêt), p. 242.  
 Pera Ciaval, p. 257.  
 Piantonetto, p. 313.  
 Prarion, p. 276.  
 Rutor (near lake), p. 289.  
 Sausse, p. 235.  
 Vanoise (Grande Casse), pp. 242-3.  
 Vittorio Emmanuele II. (Grand Paradis), p. 320.

*Chain of Mont Blanc.*

- Barberine, pp. 409, 418.  
 \*Béranger (Pierre à), p. 344.  
 Blanc (Mont) :  
   Bosses (Vallot), p. 355.  
   Dôme, p. 358.  
   Goûter (Aiguille du), p. 356.  
   Midi, p. 357.  
   Quintino Sella, p. 358.  
 \*Buet (Pictet), p. 406.  
 Crammont (Saussure), pp. 375.  
 Géant, Col du, p. 365.  
 Grandes Jorasses, p. 376.  
 Orny, p. 392.  
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 Triolet, p. 366.

*Central Pennines.*

- Bertol, Col de, pp. 463-4.  
 Chanrion, p. 448.  
 Fallère, Mont (Regina Margherita), p. 434.  
 \*Grande Penna (Grand Combin), pp. 444-5.  
 Matterhorn :  
   \*Cravate, p. 508.  
   Lower Swiss hut, pp. 501, 508.  
   Luigi di Savoia (or Grande Tour), p. 508.  
 Mountet (Constantia), p. 481.  
 Panossière (Grand Combin), p. 445.

*Eastern Pennines.*

- Bò, Monte, p. 537.  
 Castor (Quintino Sella), p. 517.  
 Dom (Festi), p. 509.  
 Rosa, Monte :  
   Bétemps, p. 504.  
   Gnifetti, pp. 504, 517.  
   Marinelli, p. 505.  
   Regina Margherita, pp. 504, 506.  
 Tournalin, Grand (Carrel), p. 513.  
 Weissthor, New (Eugenio Sella), p. 524.





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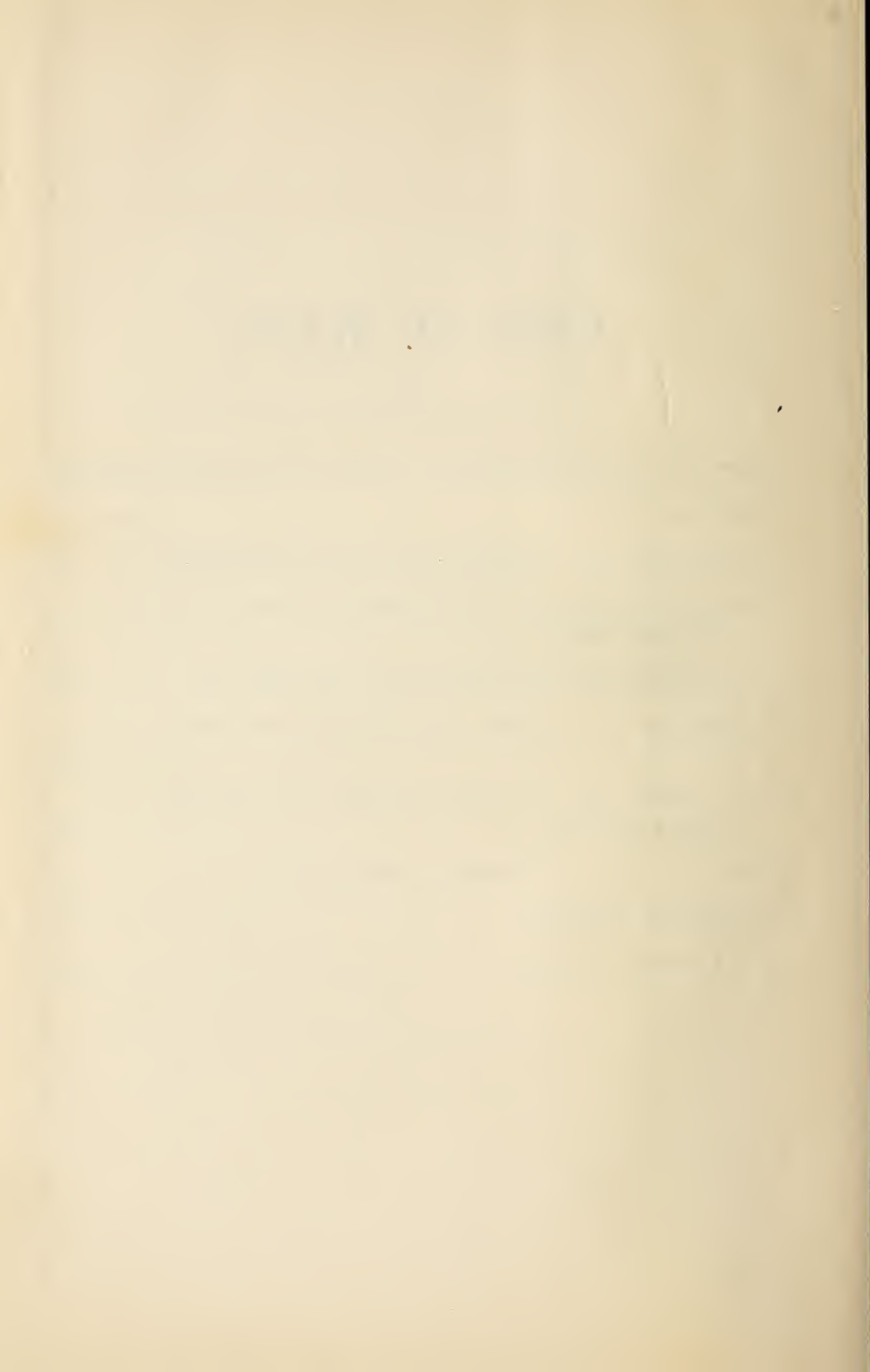
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# THE WESTERN ALPS.

## CHAPTER I.

### MARITIME ALPS.

#### SECTION I.

##### ARGENTERA DISTRICT.

Route.

- A. Turin and Cuneo to Nice or Ventimiglia by the Col de Tenda. Pesio Glen.
- B. Cuneo to the Baths of Valdieri. Excursions and Ascents from the Baths.
- C. Valdieri to St. Martin Vésubie, and Nice by the Col delle Finestre. Excursions and Ascents from the Madonna delle Finestre and St. Martin Vésubie.
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- E. Baths of Valdieri to the Tinée Valley by the Bassa di Druos.
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#### SECTION 2.

##### THE SEAWARD VALLEYS.

Route.

- A. Nice to Barcelonnette by the Valley of the Tinée.
- B. Nice to Barcelonnette by the Valley of the Var.
- C. Nice to Barcelonnette by the Valley of the Verdon.

IF the reader will cast his eyes upon a detailed map of the region where the great chain of the Alps approaches the shores of the Mediterranean, he will observe that from a point about 15 miles S. of Monte Viso a number of valleys diverge in many directions like the spokes of a wheel. These correspond to as many mountain ridges, which all radiate from the **Rocher des Trois Evêques** (2,862 m., 9,390 ft.), just S. of the Mont Enchastraye (2,955 m., 9,695 ft.), the latter being the first point of importance S. of the Col de l'Argentière, the N. limit of the Maritime Alps. On the W. and N.W. sides of the Trois Evêques there are merely short outlying ridges, between which several mountain torrents run down to the *Ubaye*, one of the chief affluents of the Durance.

To the S.E. and S.W. much more considerable ridges extend towards the Mediterranean.

Of these the more important is that running at first S.E., then nearly due E., and separating the Stura and Tinée valleys, for on or near it rise all the higher peaks of the Maritime Alps, their monarch itself, the **Punta dell' Argentera** (3,317 m., 10,883 ft.), crowning a N. spur. This great ridge is characterised by an axis of crystalline rocks, which are developed on a large scale. This circumstance, along with the height of the peaks rising on it, and the extent of perpetual snow, has obtained for it the distinction of being considered the true prolongation of the main chain of the Alps. Extending in a direction nearly parallel to the



# I. THE MARITIME ALPS.



SCALE, 1 : 250,000, 4 ENGLISH MILES TO 1 INCH [NEARLY]

0 1 2 3 4 5 ENGLISH MILES

0 1 2 3 4 5 KILOMETERS

London: Longmans & Co

Carta del Geographisches Institut, Berlin





shores of the Mediterranean, it is ultimately linked to the Appennines, which, under one or another denomination, reach to the furthest extremity of the Italian peninsula.

The ridge extending S.W. from the Trois Evêques at first separates the head waters of some of the main affluents of the Ubaye and the Tinée rivers. But soon, at the *Tête de Sanguinière* (2,792 m., 9,160 ft.), a short distance N. of its culminating point, the *Pointe Côte de l'Ane* (2,931 m., 9,617 ft.), it is split into two important ranges. One runs S.E., and divides the Tinée valley on the E. from the Var valley on the W., but at the belvédère of the *Mont Monnier* (2,818 m., 9,246 ft.) breaks up into several minor ridges; the other main ridge sinks to form the broad opening of the Col de la Cayolle, the main route from the Var valley to that of the Ubaye, and then, after rising in the *Mont Pelat* (3,053 m., 10,017 ft.), runs nearly due S. between the valleys of the Var and of the Verdon. It will be observed that both these last-named streams are turned from their southward course by the low ranges of limestone hills which run from W. to E. across the French Department of the Var: the Verdon is diverted to the W. at Castellane, and joins the Durance, while the Var, near Entrevaux, makes a wide bend to the E., till it unites, first with the Tinée, and then with the Vésubie, before entering the Mediterranean not far from Nice.

It is not easy to determine where the limit between the Maritime Alps and the Ligurian Appennines should be fixed. That great master of practical geography, Napoleon, placed the boundary at the *Colle d'Altare*, or *di Cadibona* (470 m., 1,624 ft.), under which now passes the railway line from Turin and Alessandria to Savona, and this opinion was endorsed by the Italian Geographical Congress in 1892, on the ground that this pass is the best defined depression in the mountain ranges round the Gulf

of Genoa. This division is now generally recognised in Italy, and there are also geological reasons which favour it, as it corresponds to the limit between the Miocene and Triassic, or somewhat later, rocks. But in this work it has been thought better to regard the wants of the class of travellers for whom it is intended, rather than any scientific definition. Accordingly, that portion of the mountain chain only is included which, in common parlance, may be called *Alpine* in character—namely, that where the height of the mountains is sufficient to maintain considerable masses of perpetual snow. The limit to which this division applies is exactly fixed by the *Col de Tenda*, traversed by the direct route from Turin to Nice. E. of that pass the mountains (of which the highest is the wild and savage *Cima Marguarais*, 2,649 m., 8,691 ft.) are soon quite *Appennine* in character, being covered with vegetation to their summits; while in the opposite direction we at once find that combination of rock, and snow or ice, which we are used to associate with the idea of Alpine scenery. Some geographers place the N. limit of the Maritime Alps at the *Col de Longet*, which connects the Varaita and Ubaye valleys. But this pass, though well defined, seems unsuited to form the limit between two of the great divisions of the Alps, for, if adopted, the lofty ranges on the left side of the upper Ubaye valley would be reckoned with the Maritime Alps, while those on the right side would belong to the Cottian Alps, a very inconvenient arrangement from a practical point of view. In every respect a better limit is the well-marked *Col de l'Argentière*, one of the great historical passes of the Alps, which connects the Stura and lower Ubaye valleys, and consequently it is adopted in the following pages. The W. limit of the Maritime Alps is naturally formed by the upper valley of the *Verdon*, whence the main route between Digne (14 miles by rail from St. Auban,

on the main line from Grenoble to Marseilles) and Puget Théniers (37 miles by rail from Nice) may be gained either at St. André de Méouilles (27 miles by narrow-gauge railway from Digne), or close to Annot, further E. Digne, the capital of the Department of the Basses Alpes, is 56 miles by rail and high road from Puget Théniers.

Section 1 of this Chapter describes the main S.E. ridge mentioned above, with its various spurs, &c.—that is, the Italian bit of the Maritime Alps, together with the French valley of the Vésubie, which naturally belongs to this part of the range. It may appropriately bear the name of the *Argentera District*, as it includes the monarch of the chain, as well as almost all its highest peaks. Section 2 takes in the three valleys of the Tinée, the Var, and the Verdon, which all run towards the Mediterranean, so that this Section may, in default of a better general name, be termed the *Seaward Valleys*.

In 1860, when the county of Nice was ceded to France, the Emperor Napoleon III. allowed Victor Emmanuel II., who already possessed all the hunting rights on the N. side of the chain, to retain the upper bits of the Ciastiglione, Mollières, Boréon, Finestre, and Gordolasca glens, so as to secure on its S. side also the free exercise of those hunting rights. The result is that the frontier is now most irregular and intricate. Of recent years many fortifications have been erected at various points, while the valleys and passes are guarded by French or Italian troops. Travellers are therefore regarded on both sides of the frontier with the greatest suspicion, and certain passes and summits are absolutely closed to them. A passport, viséd by the French and Italian ambassadors in London, is absolutely necessary, while, of course, sketching, photographing, taking notes, or mapping, as well as any conversation with natives on military matters, should be most carefully avoided, under pain of disagreeable

consequences. Even visitors to the two chief resorts of travellers in the Maritime Alps, the Baths of Valdieri and St. Martin Vésubie, would do well to bear these warnings in mind. It is to be hoped that before long the Governments of the two countries will relax their needless and irritating vigilance in the case of travellers who simply seek to explore and admire the beauties of a very interesting part of the Alps.

But, apart from these political obstacles, there is another in the way of mountaineers who meditate a visit to the Maritime Alps—the want of a good guide book to the chain. The first volume (Turin, 1889) of Signori Martelli and Vaccarone's excellent 'Guida delle Alpi Occidentali' is, indeed, very satisfactory for the main chain and its N. spurs; but for the French side, and for the three seaward valleys, there exists only a vast amount (unsorted, save by means of a good index) of valuable rough material in the 17 volumes of the 'Bulletin' (from 1880 onwards) of the Maritime Alps Section of the French Alpine Club. Hence a would-be explorer of this part of the Alps is forced to study for himself the notes and articles describing the three chief early journeys made in the Maritime Alps—viz. those by Mr. Coolidge ('Alpine Journal,' vol. ix.), by Signor Ghigliotti ('Bollettino' of the Italian Alpine Club for 1883), and by Herr Purtscheller (*ibid.* for 1892, also in German in the 'Zeitschrift' of the German and Austrian Alpine Club for 1893). Detailed articles on the general characteristics of the range were published by Signor F. Mader and A. Viglino in the 'Bollettino' for 1895-6, and 1897.

Even now it is not very well known that, in the close neighbourhood of a place so frequented by strangers as Nice, and easily reached on its N. side by railway from Turin *viâ* Cuneo and Limone, there is an Alpine range, not indeed rivalling in grandeur the great snow-clad peaks of the more

northerly portion of the Alps, yet full of wild and varied scenery. Its valleys too possess the great advantage of being accessible some weeks earlier in summer, and at least a month later in autumn, than those districts which are not, as this is, directly within the influence of the Mediterranean climate; but experience has shown that the winter snow remains on its higher peaks quite as late as in other portions of the Alps. All the sheets of the French  $\frac{1}{80000}$  and  $\frac{1}{100000}$ , and of the Italian  $\frac{1}{50000}$  and  $\frac{1}{25000}$  Government surveys for this district have now been issued.

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### SECTION I.

#### ARGENTERA DISTRICT.

THE town of **Cuneo** (or **Coni**) stands at the S.W. corner of the great plain extending through Piedmont, Lombardy, and Venetia, from the foot of the Cottian and Graian Alps to the shores of the Adriatic, and is situated on a high terrace at the confluence of the rivers Stura and Gesso. The *Stura* descends E. from the Col de l'Argentière, and drains the N.E. slope of the Maritime Alps; the *Gesso*, with its affluent the *Verme-nagna*, carries down the waters from the N. side of the chain rising S. and S.W. of Cuneo. Corresponding to the Gesso and the Verme-nagna on the N. side of the chain are the *Vésubie* and the *Roja* streams on its S. side; but these do not unite their waters, for the *Roja*, after a short course of about 35 miles, falls into the Mediterranean at Ventimiglia, while the *Vésubie*, bending to the W., joins the *Var* under *Levens*, some distance N. of *Nice*.

As pointed out in the Introduction to this Chapter, this Section describes the main range of the Maritime Alps, which runs S.E., then E., from the *Rocher*

*des Trois Evêques*. This portion of the Alpine chain is traversed by a single carriage road (soon to be replaced by a railway), that across the *Col de Tenda*. The only other pass that is at all frequented is that of the *Col delle Finestre* (traversed by a bad mule track), about 13 miles W. of the *Col de Tenda*, but there are many other passes which offer no difficulty to mountaineers. The principal summits of this portion of the Maritime Alps are (reckoning from the N.W., the *Clai Supérieur* (2,990 m., 9,810 ft.), the highest wholly within the borders of the French Department of the Alpes Maritimes, the *Mont Tinibras* (3,032 m., 9,948 ft.), the *Monte Matto* (3,087 m., 10,128 ft.), the *Punta dell' Argentera* (3,317 m., 10,883 ft.), the culminating point of the entire range of the Maritime Alps, the *Cima dei Gelas* (3,135 m., 10,286 ft.), and the *Mont Clapier* (3,046 m., 9,994 ft.) The *Cima Mercantour*, to which the height of 3,167 m. (10,391 ft.) was attributed on the old Sardinian map, has been reduced by the most recent observations to only 2,775 m. (9,105 ft.)

Excellent headquarters are found at the Baths of *Valdieri*, and *Limone*, on the N. side of the chain, and at *St. Martin Vésubie*, the *Madonna delle Finestre*, and *San Dalmazzo di Tenda*, on its S. slope. *St. Etienne de Tinée*, at the head of the *Tinée* valley, is the most convenient starting point for the *Tinibras* and its neighbours. There is now a Club hut at the S.E. foot of the *Argentera*, as well as a cave hollowed out in the rock, which serves as a Club hut (now in very bad condition), in the *Gordolasca* glen, between the *Tenda* high road and *St. Martin Vésubie*.

Apart from the advantage of being accessible at seasons when travellers are for the most part shut out by climate from many other portions of the Alps, this region offers special attractions to the naturalist. Within a narrow range may be found a considerable number of very rare plants,



several of which are not known to exist elsewhere. The geology also is interesting, and would probably repay further examination. A crystalline axis is flanked on both sides by highly-inclined and much-altered sedimentary rocks, which probably include the entire series from the Carboniferous to the Cretaceous rocks, in some parts overlain by Eocene deposits.

ROUTE A.

TURIN AND CUNEO TO NICE OR VENTIMIGLIA BY THE COL DE TENDA. PESIO GLEN.

	M.
Borgo San Dalmazzo	8 (from Cuneo)
Limone . . . . .	20
Tenda . . . . .	33½
San Dalmazzo di Tenda . . . . .	36
Giandola . . . . .	46
Sospel . . . . .	58½
L'Escarène . . . . .	71½
Nice . . . . .	84

Railway from Turin to Cuneo (55 m., 2¼-3 hrs.) and Limone (20 m., 1½ hr. more). Carriage road thence to Nice, 64 m.: diligences in c. 20 hrs. from Cuneo to Nice, or *vice versa*, starting from Cuneo daily at 9.30 A.M., and from Nice daily at 8.30 P.M. From Tenda (13½ m. from Limone) a mail cart runs twice daily in about 6 hrs. by the Roja valley to Ventimiglia (27 m. from Tenda, and 22 m. by rail from Nice).

The railway from Turin runs nearly due S. along the almost level plain, skirting the base of the Cottian Alps, and frequently commanding fine views of the lofty range crowned by the peak of the Monte Viso, till it reaches the little town of

**Cuneo** (French, **Coni**). This lies nearly at the head of a narrow inlet from

the great plain of the main valley of the Po, which is enclosed on the S. and W. by the outlying ridges of the Maritime and Cottian Alps. It is the meeting place of roads from the Val Maira, from the Val Grana, from the Col de l'Argentière through the Stura valley, and from Valdieri by the Gesso valley, besides that through the Vermenagna valley from the Col de Tenda. The fortifications of Cuneo, once thought very strong, and dating from the sixteenth century, were razed in 1800 by order of the French.

The railway is carried along the narrow tongue of land separating the Stura and the Gesso, at the N. extremity of which Cuneo is built, past *Boves* through level, richly cultivated ground to (8 m.) *Borgo San Dalmazzo*, a large village at the very foot of the mountains, and at the junction of the Gesso, flowing from the S.W., with the Vermenagna, coming in from the S.E. The line crosses the Gesso, and then ascends the picturesque valley of the *Vermenagna*, passing *Roccavione*, and *Rohilante*, and mounting 1,237 ft. from the Borgo before reaching (20 m. from Cuneo)

**Limone** (1,009 m., 3,310 ft.), the present terminus of the railway, though it is hoped to carry it on in a few years through a tunnel to Tenda, and ultimately to Ventimiglia. Limone is the best headquarters for any one wishing to explore this neighbourhood, and, besides the other rare plants mentioned below, the botanist may find near the village, *Arabis serpyllifolia*, *Genista cinerea*, *Astragalus purpureus*, and *A. depressus*, *Lamium longiflorum*, &c.

Three specially interesting excursions may be made from Limone, each of which affords a means of reaching Tenda otherwise than by the high road.

(a) On September 26, 1852, the writer (J. B.) followed the main stream of the Vermenagna S.W. to its source at the head of the wild *Abisso Glen*, under the peak of the *Rocca dell' Abisso*. On the way are many

interesting plants—e.g. *Silene campanula*, *Primula marginata*, *Satureja piperella*, *Achillea herba rota*, and *Saxifraga pedemontana*. At the head of this glen there is a depression in the chain, S.E. of the Rocca, and approached through a hollow filled with huge fallen rocks and patches of snow. Clouds having come on, the writer was unable to ascertain whether the descent on the S. side of this wild pass is practicable, though it probably is. But to reach Tenda thence proved not difficult, for, on returning for less than an hour towards Limone, the *Col della Margheria* is seen on the right, or S.; it is approached by steep grass slopes, crosses the main chain, and leads down to the high road at the S. foot of the Col de Tenda. A mountaineer would naturally be tempted to climb the Rocca, accessible by this glen in 5 hrs. from Limone, or in 3 hrs. by mule path to the summit from the top of the Col de Tenda; but, as it commands a view of the forts on that pass, access to it is strictly prohibited.

(b) A pedestrian may vary the way to Tenda by mounting S.E. from Limone, through the *San Giovanni* glen to the *Col della Boaira* (2,105 m., 6,906 ft.), at its head, whence he descends into the very head of the long glen of *Rio Freddo*, which joins the Roja glen close to Tenda. A bad mule track traverses this pass, which takes 6 hrs. Besides other rarities, such as *Iberis garrexiana*, *Phyteuma Balbisianum*, &c., the botanist may find the extremely scarce *Moehringia papulosa* on the limestone rocks by a house (? hermitage) scooped out of the face of the mountain on the left side of the valley, about 2 miles above Tenda.

(c) The most beautiful excursion near Limone is, however, that over the *Besimaudda* to the *Certosa di Pesio*, whence an easy pass leads the next day over to Tenda. Mounting first the stony ravine of *Armellina*, then flower-sprinkled grassy slopes, the traveller gains in  $2\frac{1}{2}$ –3 hrs. from

Limone the crest of the broad grassy ridge separating the Vermenagna and Pesio glens, at a point called 'Il Colle' on the Italian map. The mule path descends direct to Pesio in 2 hrs., but in fine weather no traveller should omit to walk in a N. direction along this grassy crest for about  $1\frac{1}{2}$  hr. to its highest point, known as the *Besimaudda* (2,404 m., 7,887 ft.), but called *Becca Costa Rossa* by the Italian map, which gives the former name to a lower point still further N. The view from the *Besimaudda* is one of the finest imaginable, including not only the plain of Piedmont, with valleys opening and Alpine ridges breaking down into it, but the whole chain of the Western and Central Alps (save Mont Blanc himself) from the Viso through Monte Rosa to the Disgrazia, while the Mediterranean, and even the city of Genoa, are visible in the opposite direction. The descent direct on the E. to the Certosa takes only 2 hrs. ( $3\frac{1}{2}$  hrs. up). The *Certosa di Pesio* (862 m., 2,828 ft.) is an old Carthusian monastery, founded in 1172, but now secularised, and used as an hôtel, one of the loveliest in the Alps, with its half-mile of cloisters, its quaint two-storied monks' houses, and the wonderful chestnut woods which surround it on every side. From a little chapel, a few steps away, Monte Rosa, the Weisshorn, and the Matterhorn are seen across the shadowy plain. The Certosa is reached in  $2\frac{1}{2}$ –3 hrs. from Cuneo, 10 m. distant, by a good carriage road through a most picturesque glen, with several hamlets nestling in it. Many pleasant excursions may be made from the Certosa, the air in the valley being distinctly Alpine, so that it forms one of the most ideal resting places in the Alps. The head of the Pesio glen is closed by the jagged rock-crest of the *Cima Marguarais* (2,649 m., 8,691 ft.), the highest of the Ligurian Appennines. A practised rock-climber might perhaps scale this great wall direct, but

the ascent is more easily made from the pass of the *Croce di Malaberga* (2,200 m., 7,218 ft.), on the W., by smooth rocks, deep hollows, and a steep rock gully, or from the head of the Rio Freddo valley on the S., the ascent taking  $5\frac{1}{2}$  hrs. from Tenda. The Malaberga Pass, just mentioned, may be reached in 3 hrs. from the Certosa, the descent thence by the Rio Freddo glen to Tenda taking 4 more. A military road runs from the Colle dei Signori, S. of, and  $1\frac{1}{2}$  hr. below, the peak, to the Malaberga Pass, and thence S.W. along the crest to the fort on the Pepino hillock, just E. of the Col de Tenda.]

The road from Limone towards the Col de Tenda mounts in long zigzags by a spur of the mountain which projects between two deeply-cut glens of the main valley. At one point the old mule path (now a cart track) leads to the right, and the old char road is in the centre, but the new road since 1883 mounts to the left, in order to reach (4 m. from Limone) the entrance of the great tunnel, pierced in the eighteenth century by the Duke of Savoy, but only completed in 1883. Its N. extremity is 4,331 ft.; it is 2 miles long, and is lighted by electricity, while its S. issue is 4,196 ft. The Col de Tenda itself is 1,873 m. (6,145 ft.), and the old carriage road leads over it. But of recent years very important fortifications have been constructed by the Italians on the pass itself, so that travellers are no longer permitted to visit it, which is a pity, as from it there is a glorious view of Monte Viso, Monte Rosa, the Matterhorn, the Dent Blanche, the Grand Paradis, &c. (The pass was approached on either side by a very great number of short zigzags, as the continuous slope was very steep.) On issuing from the tunnel the new road descends by some steep zigzags to the level of the Roja, and follows it for several miles through a narrow rocky gorge to ( $13\frac{1}{2}$  m. from Limone)

Tenda (815 m., 2,674 ft.), a small village very picturesquely situated

under a rock, crowned by a fragment of the castle wherein the unfortunate Beatrice di Tenda was done to death by her husband, one of the Visconti Dukes of Milan. The passes and ascents to be made hence have been noticed above, and Tenda is not well situated as headquarters, but the neighbourhood is full of interest to a naturalist or geologist. Among other very rare plants to be found on the rocks over the village, *Silene cordifolia*, *Asperula hexaphylla*, *Saxifraga diapensioides*, and *S. cochlearis*, with *Passerina dioica*, may be specially noticed; the first two are not known to grow out of this district.

$2\frac{1}{2}$  miles below Tenda is an old monastery, now used as an hôtel, called **San Dalmazzo di Tenda** (696 m., 2,284 ft.), in a narrow and confined situation, though affording excellent headquarters for the botanist and the mountaineer. It is, however, cool and pleasant in summer, as there are grounds planted with chestnut trees, many cloisters, and a rushing stream, as well as passing breezes.

[ $2\frac{1}{2}$  m. E. of San Dalmazzo, in a side glen, is the picturesque village of *Briga* (765 m., 2,510 ft.), clustering round a church with a tall campanile and overlooked by the ruined tower of a castle. Briga has of late years become frequented as a summer resort; the valley leading up to it abounds in rare plants.]

[W. of San Dalmazzo a considerable and savage valley descends to join that of the Roja. It is called the **Valle della Miniera**, from some mines of argentiferous sulphide of lead, which have been known for many centuries, and alternately worked or abandoned as circumstances rendered them profitable. A cart track runs up in  $2-2\frac{1}{2}$  hrs. from San Dalmazzo to the buildings used in connection with the mines, which stand at a height of 1,494 m., 4,902 ft., not far W. of the point at which the valley splits into two branches.

The N. branch is the *Casterino* glen, a long, winding valley. Just



where it turns to the W., and takes the name of *Valmasca*, is the easy grass pass—traversed by a mule track—of the *Col del Sabbione* (2,264 m., 7,428 ft.)—splendid edelweiss on its S. slope—by which 9 hrs.' good walking suffice to go from San Dalmazzo by way of Entraque to the town of Valdieri. At the very head of the Valmasca the *Col dell' Agnel* (2,568 m. 8,426 ft.), above the fine Lago dell' Agnel, and N. of the Mont Clapier, gives access to the *Mont Colomb* glen, by which Entraque is also attained; this is the finest of the passes leading in that direction from Tenda. A little S. of the Mont Clapier is the easy *Col della Fous*, leading to the head of the *Val Gordolasca*, whence *Mont Clapier* (3,046 m., 9,994 ft.) is easily ascended. It takes about 3 hrs. from the Club cave or hut, near the *Vastera Barma* (2,160 m., 7,087 ft.), one of the highest chalets in the Val Gordolasca (see Route C).

The W. branch of the Miniera glen is the *Valle dell' Inferno*, and through it, past the *Laghi Lunghi* (2 hrs.), the *Passo del Trem* (2,561 m., 8,403 ft.)—whence the *Cima del Diavolo* (2,687 m., 8,816 ft.), on the S., is accessible in  $\frac{1}{2}$  hr.—and the *Passo d' Arpeto* (2,563 m., 8,409 ft.) lead to the Val Gordolasca: hence a second easy pass can be crossed to the Madonna delle Finestre, or the Gordolasca glen followed to its junction with the Vésubie valley at Roquebillière, 5 m. below St. Martin Vésubie. But the most frequently made excursion in the Valle dell' Inferno is the perfectly easy ascent of the *Monte Bego* (2,873 m., 9,426 ft.), which takes  $1\frac{1}{2}$  hr. from the Laghi Lunghi, or 5–6 hrs. from San Dalmazzo. It is a very fine panoramic point of view, and has been called the 'Rigi of the Maritime Alps.' W. of this summit, and N. of the Laghi Lunghi—about 3 hrs. from the Miniera, or 1 hr. from the Laghi Lunghi—are two solitary mountain tarns called the *Laghi delle Mera-*

*viglie*, from the strange inscriptions and drawings found on the rocks below them. These have given rise to the wildest theories, and many pamphlets, of which Signor Navello, in the 'Bollettino' for 1883, pp. 16–20, gives a full account, with plates. They are most probably the handiwork of shepherds and herdsmen in their idle moments. ]

A few minutes below San Dalmazzo is the Italian custom house, and then the high road passes for several miles through a narrow gorge between steep, massive walls of rock, with here and there an opening which some torrent has cut through the mass, one of these marking the frontier between Italy and France. The bold forms of the rocks, and the luxuriant vegetation, which crowns every height and fills every hollow, make the scenery of this road worthy to compare with that of almost any other Alpine pass. The botanist will remark with interest, beside the saxifrages and other Alpine plants that have descended from the surrounding mountains, many species of warmer latitudes, and especially the *Cineraria maritima*, which, save in gardens, is seldom seen except in the warmest situations on the shores of the Mediterranean. Between the villages of Fontan and Breil is almost the only *habitat* of the curious plant *Ballota spinosa*.

At *Fontan* (5 m. below San Dalmazzo) is the French custom house. A short distance beyond, below the quaint village of *Saorge*, stretching crescentwise on the top of the cliffs, which expand in front of it into an amphitheatre, and leave room for slopes of olives, the *Cairos* glen on the W. joins the Roja valley: through it the *Col de Raus* and the *Baisse de St. Véran* lead over to the Vésubie valley, gained at Roquebillière or La Bollène respectively. The high road enters a narrow defile below Saorge, crosses and recrosses the Roja several times, and then follows that stream to (5 m. from Fontan)



*Giandola*. Hence the Roja runs in a tolerably direct course to Ventimiglia, where it falls into the Mediterranean.

[A fine new carriage road (16½ m., 3¼ hrs.' drive) runs past *Breil*, and through a series of very picturesque gorges down the Roja valley, the vegetation gradually showing the nearness of the traveller to the Mediterranean, to *Ventimiglia* (1 hr. by rail from Nice). This route to Nice is in every way preferable to the long and tedious round by *Sospel*.]

The traveller by the old route to Nice is, however, disappointed to find that he must here leave the Roja valley in order to cross a succession of steep rocky ridges, separating as many short glens which intervene between the Roja and Paillon valleys. The first of these passes is the *Col de Brouis* (838 m., 2,749 ft.), 458 m. (1,503 ft.) above *Giandola*, and 489 m. (1,604 ft.) above *Sospel*, 12½ m. from *Giandola*, and surrounded by fig trees, olives, &c. (Hence a carriage road (14 m.) leads in 2½ hrs. over the *Col de Castillon* to Mentone.) A still steeper ascent of 350 m. (1,148 ft.) over rocky soil, in summer nearly bare of vegetation, leads to the *Col de Braus* (999 m., 3,278 ft.), and so down to *L'Escarène* (13 m. from *Sospel*).

[Hence a very pleasant détour may be made by carriage road to *Luceram* (1 hr.), and on in 2½ hrs. more to *Peira Cava* (1,400 m., 4,593 ft.), a convenient centre for excursions. A good road runs on in 3 hrs. to the *Aulion* (2,080 m., 6,824 ft.), a fine point of view, just S. of the Baisse de St. Véran, and there are many walks in the forest, while a bad mule path leads in 3 hrs. from *Peira Cava*, past *La Croisette*, to *La Bollène*, in the *Vésu-bie* valley.]

Twelve and a half miles more, across a third less lofty and troublesome ridge, bring the traveller along the bank of the *Paillon* torrent to *Nice*.

## ROUTE B.

### CUNEO TO THE BATHS OF VALDIERI. EXCURSIONS AND ASCENTS FROM THE BATHS.

Steam tramway to Borgo San Dalmazzo; thence good carriage road.

The way from Cuneo to Borgo San Dalmazzo has been described in the last Route, but a traveller bound for Valdieri should prefer the tramway to the railway, as there are more frequent trains, and the distance is a good deal shorter (5 m. instead of 8 m.) From the Borgo the road follows the left bank of the Gesso for 11¼ m. from Cuneo to the large village or small town of *Valdieri* (757 m., 2,484 ft.), the last in the main valley, which here expands into a small plain about a mile broad. On the S. side there opens a considerable lateral valley, in which, 3 m. off by a carriage road, stands the village of *Entraque*, whence many passes lead over the neighbouring ranges in various directions (see Routes A and C). After passing the entrance to this glen, the road from Valdieri to the Baths mounts continuously through the narrow and very striking glen of the Gesso, where the stream brawls its way amid huge blocks of gneiss and granite. In the plain of *Sant' Anna*, at the junction of the *Meris* torrent from the W. (which here makes a fine waterfall), there is a royal hunting lodge, together with a few houses clustered round a saw mill. Otherwise scarcely a house is to be seen, and the traveller is surprised to find himself thus near the shores of the Mediterranean, amid scenery as wild as any in the Alps, especially when, as often happens till mid-July, large patches of snow lie unmelted in hollows beside the torrent. A turn of the glen suddenly shows (11 m. from Valdieri) a handsome bridge, and behind it a massive three-storied stone building, with a few houses in the Swiss chalet style about

it. The **Baths of Valdieri** have enjoyed local celebrity in Piedmont since the end of the fifteenth century, but it was after the construction, in 1857, of the present *Stabilimento*, and, in 1859, of the carriage road leading up to it, that the Baths became frequented. They stand at a height of 1,346 m., 4,416 ft., at the meeting of the Lourousa, the Valletta, and the Valasco glens, so that the climate is cool, while the position is very convenient for the mountaineer, although the hôtel is only open from July 1 to September 1. The society is almost exclusively Piedmontese, and in the season is very numerous.

There are many mineral springs here, of which three are used. 1. A very hot sulphureous spring, issuing from the rock at about 145° F. 2. A sulphureous spring containing organic matter, and with a temperature of 95° F. : it is called *Acqua di Santa Lucia*, and is celebrated for its efficacy in ophthalmic complaints. 3. A saline spring, which is a mild purgative. But the most singular curative agent here is a cryptogamic plant—the *Ulva labyrinthiformis* of Allioni—which grows on the surface of the rock over which the thermal waters trickle down to the Gesso. This forms gelatinous masses three or four inches thick, in which, under the microscope, minute insects are seen to thrive at a temperature of 135° F. Large strips of this matter are taken off and applied to the body, being found very useful in some cases of internal disease, for old wounds, &c. For further details as to the treatment at Valdieri see the little works published by Signori Lace and Varalda.

This branch of the Gesso valley, as well as that of Entraque (see next Route), is the favourite resort of the King of Italy for the sake of the hunting, as the game in these parts is preserved by him, so that mountaineers should be careful not to disturb it. He has several small hunting lodges scattered about, while, to suit his convenience, many mule

paths (as in the Cogne district) have been constructed. These are very handy for the mountaineer, who should be warned, however, that they often end in some wild spot, whence there is no other apparent exit.

The neighbourhood of the Baths has long been celebrated for the beauty and rarity of its flora, and even the least botanically inclined visitor is attracted by the variety and brilliancy of the flowers which may be found within a short stroll of the *Stabilimento*. Conspicuous among these are *Lychnis flos jovis*, *Saponaria ocymoides*, *Potentilla valderia*, *Viola cenisia*, *Paradisialia liliastrium*, *Lilium bulbiferum*, *Achillea herba rota*, *Nasturtium pyrenaicum*, and several Alpine species of *Primula*. The Alpine laburnum, *Cytisus alpinus*, is extremely common, and ascends beyond the limit of other trees to a great height on the mountain-sides, gilding the dark rocks with its profuse masses of bright yellow flowers. In mossy places *Cardamine asarifolia* and *Tozzia alpina* are abundant. The Valasco glen, which is also interesting through its memorials of former glacial action, is particularly rich. On the rocks and slopes on either side may be found *Arabis allionii*, *Silene cordifolia*, *Saxifraga florulenta*, and *S. pedemontana*, *Cephalaria alpina*, *Pedicularis incarnata*, and other very rare plants.

A pleasant excursion may be made up the most westerly of the three glens which meet close to the Baths. It is called the *Valasco*, and is traversed by a cart track, which mounts in 1 hr. to one of the King's hunting boxes, beyond which a footpath leads up by many zigzags in 1½ hr. more to the fine *Laghi di Valscura*, (not far below the Bassa di Druos (Rte. E), over which the valley of the Tinée is easily reached. Another walk is by the mule path up the S. glen, the *Valletta*, on the way to the Col de la Ciriegia (Rte. D). Yet a third excursion may be made to the *Lourousa* glen on the S.E. : a royal

hunting path leads all the way up it in  $3\frac{1}{2}$  hrs. to the *Col de Chiapous* (2,520 m., 8,268 ft.), at its head, giving access to the Rovina glen. The Lourousa glen is striking in itself and commands a fine view of the precipices of the Punta dell' Argentera, and of the steep snow couloir leading up them, the latter being also seen, though of course not so well, from the bridge over the Gesso, just below the *Stabilimento*.

The Baths are also the most convenient starting point for several ascents. The chief is that of the **Punta dell' Argentera** (3,317 m., 10,883 ft.), the monarch of the Maritime Alps. This was first climbed in 1879 by Mr. Coolidge, who mounted by the Lourousa glen, the steep snow couloir just mentioned, and the N. ridge more or less: the time taken was about 5 hrs.' walking from the Baths, and it was ascertained that the most southerly summit was the highest. Since 1879 two other routes have been struck out, in order to avoid step-cutting up the steep snow couloir. One mounts the Valletta, and, after climbing up by a long gully of shifting stones to the highest depression on the S. shoulder of the peak, above the gap between it and its next neighbour to the S., then follows either the S. ridge or a ledge on its E. side and a crack to the summit (5-6 hrs. from the Baths). The other starts from the Col de Chiapous (see above) and traverses the great E. face until it rejoins the route of 1879 (6 hrs. from the Baths). The route by the E. face or ledge is best suited for those who spend the night at the new '**Genova' Club hut**, built in 1897 at a height of about 2,000 m. (6,562 ft.), and about 200 yds. from the Monighet hut (1,960 m.), near the point where the track from the Col de Chiapous reaches the Rovina glen. This hut is about 4 hrs. distant from Entraque by way of the Rovina glen. A party coming over from St. Martin Vésubie can best reach this hut by way of the Ciriegia

inn and the Col delle Rovine, while from the Madonna delle Finestre the most convenient route is by the Col delle Finestre and the Passo di Fenestrelle. The ascent from the Club hut takes about 3 hrs. Once on or near the N. ridge of the Argentera, it is but an easy scramble of a few minutes to gain the N. extremity of the range, now called *Gelas di Lourousa* (3,260 m., 10,696 ft.), but formerly Monte Stella: its two points are divided from the Argentera by a depression formed by the head of the steep snow couloir descending to the small glacier in the Lourousa glen. The *Cima di Nasta* (3,108 m., 10,197 ft.) is best ascended by its S. face, while Herr Purtscheller has shown that an active climber may in a single day from the Baths climb successively the *Cima del Baus* (3,068 m., 10,066 ft.), the *Cima Brocan* (3,054 m., 10,020 ft.), the *Cima Balma Ghilié* (3,010 m., 9,876 ft.), and the *Cima Mercantour* (2,775 m., 9,105 ft.), all of these peaks rising near the S.E. corner of the Valletta.

The favourite ascent (mule path to within 20 min. of the summit) from the Baths is that of the **Monte Matto** (3,087 m., 10,128 ft.), which rises very steeply in a great wall on the N. of the *Stabilimento*. The ascent is best made by way of one of the royal hunting paths, which branches off from that in the Valasco nearly 1 hr. from the Baths, and then mounts N. till it gains the ridge separating the glen which has been ascended from that of Meris, leading down to Sant' Anna. Hence an easy walk over stones brings the traveller to the summit of the lower and E. peak,  $4\frac{1}{2}$  hrs. from the Baths. It commands an extensive view, which is still finer from the higher W. peak, gained in 20 min. by steep but good rocks. From both points the *Stabilimento* is seen in the gorge immediately at the spectator's foot. The return may be made by the Meris glen, or by a steep rock descent of



2 hrs. down the S. wall of the peak.

For the passes from the Baths in various directions, see Rtes. C, D, and E.

### ROUTE C.

VALDIERI TO ST. MARTIN VÉSUBIE AND NICE BY THE COL DELLE FINESTRE. EXCURSIONS AND ASCENTS FROM THE MADONNA DELLE FINESTRE AND ST. MARTIN VÉSUBIE.

Mule path to St. Martin; carriage road (and railway for a bit) thence.

As mentioned in Route B the main valley of the Gesso receives a considerable affluent a little above the town of Valdieri. This is called the *Gesso a' Entraque*, and is formed by the union of the numerous torrents which drain the N. slope of the extensive glacier-clad protogine mass of the Cima dei Gelas, and Mont Clapier, the highest in this portion of the Maritime Alps. A char road runs up in 3 m. from Valdieri to *Entraque*, a large village placed, as the name indicates, at the junction of two mountain torrents. Through the glen to the S.E. lies the way by the Col del Sabbione to San Dalmazzo di Tenda, noticed in Route A. The glen on the S. is itself formed higher up by the union of two minor glens.

One is that of *Rovina*, through which leads the unfrequented pass of the *Col delle Rovine* (2,726 m., 8,944 ft.), the route over which, after traversing the upper Boréon glen, joins that from the Col de la Ciriegia (Rte. D) above St. Martin Vésubie (reached in 10 hrs. from Valdieri): on the way the track crosses the King's hunting path which leads from the Baths of Valdieri over the Col de Chiapous to the *Rovina* glen, and then crosses the *Passo di Fenes-*

*trelle* to the foot of the last ascent to the Col delle Finestre.

The other glen forks at the spot where one of the King's hunting lodges is placed. The S.E. arm leads by the Col dell' Agnel to San Dalmazzo di Tenda (Rte. A), and also by the *Passo del Pagarin* (2,815 m., 9,236 ft.), practically the only glacier pass in the entire range, in 7-8 hrs. from Valdieri to the head of the Val Gordolasca (see below).

The most frequented route to St. Martin Vésubie (mule path all the way) lies through the S.W. arm, after passing the King's hunting lodge. The path is here and there damaged by rocks which have fallen from the neighbouring slopes, but there is no difficulty, and, in 5 hrs. from Valdieri, the traveller finds himself on the *Col delle Finestre* (2,471 m., 8,107 ft.), the most frequented path across the Maritime Alps, with the sole exception of the Col de Tenda. (The name should properly be 'della Finestra,' as it probably comes from a single 'window' formed by the rocks on the steep slopes of the Caire della Madonna (2,531 m.), to the E. of the inn, from which the opening is perfectly visible.) From the Col both the Mediterranean and Monte Rosa are seen in opposite directions. A good hour below the pass is the Sanctuary and Inn of the *Madonna delle Finestre* (1,886 m., 6,188 ft.), gained after passing the Finestre lake, and the mule track which leads over the *Passo del Ladro* to the Boréon valley.

[This mountain inn is the best headquarters for a mountaineer in this district, as the accommodation is very fair (the inn is crowded only in the middle of August), while it lies 3,071 ft. higher than St. Martin Vésubie, and far nearer the great mountains. Many rare flowers are found here, especially the remarkable *Saxifraga florulenta*, which grows on the ridges of rock above the Sanctuary.

The *Cima Agnelliera* (2,699 m.,



8,855 ft.), N.W. of the Madonna, is a fine view point, and is accessible thence in  $2\frac{1}{2}$  hrs. or so. The snows of the **Cima dei Gelas** (3,135 m., 10,286 ft.)—first ascended by Count Paul de St. Robert in 1864—are seen from the inn, the highest summit being the left-hand one of the two cairn-crowned peaks visible to the right of the Col delle Finestre. Its ascent is the chief expedition to be made from the Madonna, whence it takes 4 hrs. or less by way of the S. slope, and a steep snow couloir on the E. (that on the W. has also been scaled) leading up to a notch between the two highest points, that to the N.E. being the loftiest. The view is most magnificent, including the sea, the Lérins islands, near Cannes, Antibes, and the mouth of the Var, near Nice, as well as a wide mountain panorama in other directions and even Corsica. The peak can also be gained from the *Maledia* ice field (which, forming six small glaciers, stretches for  $2\frac{1}{2}$  m. along the N. foot of the range from the Gelas to the Mont Clapier), but some steep rocks above that glacier must be scaled before attaining the ridge E. of the Gelas.

Separated from the Finestre glen by a jagged chain on the E. is the long and winding **Val Gordolasca**, the passes from which towards the Tenda road have been indicated in Rte. A. Several other passes lead into it from the Col delle Finestre track, that most convenient for climbers being the *Passo di Mont Colomb* (2,540 m., 8,334 ft.), by which, in  $2\frac{1}{2}$  hrs. from the Madonna, the traveller may gain the *Club Cave* (reported now to be in a very bad condition), near the Vastera Barma (2,160 m., 7,087 ft.) This poor shelter is admirably placed for the exploration of the neighbouring summits, of which it may suffice to name two. The *Mont Clapier* (3,046 m., 9,994 ft.) is thence accessible in 3 hrs. without the slightest difficulty—also by its W. face in 1 hr. from the Passo del Pagarin—while the view it commands cannot be excelled even by that from

the Gelas. The *Punta della Maledia* (formerly called Caire Cabret) (3,004 m., 9,856 ft.) is a fine rock tower, N.W. of the Passo del Pagarin, and can be ascended from the Club cave in 3 hrs. by way of the Lago Lungo, and the N. face of the peak, the last scramble taking  $\frac{1}{4}$  hr. The cave may also be used as the starting point for many ascents in the range E. of the Val Gordolasca, between it and the Valle della Miniera.]

A mule path along first one, then the other bank of the stream leads in  $2-2\frac{1}{2}$  hrs. from the Madonna (the frontier being passed two-thirds of the way down) to **St. Martin Vésubie** (formerly called St. Martin Lantosse) (950 m., 3,117 ft.)

This little town (the walls of which are gradually disappearing before modern needs) is a mass of richly coloured stone walls and roofs, capped by two church towers, and stands on a promontory between two brawling Alpine torrents descending from the Cols delle Finestre and delle Rovine. It has now become a favourite summer resort for the Niçois and others, but it lies too low for a mountaineer, and is very hot in summer. At that season many French Alpine troops are encamped around, and the scene is a gay one. As to the Vésubie valley and St. Martin, M. F. Noetinger's article in the 'Annuaire du Club Alpin Français' for 1896, and chapter 23 of vol. xii. (1897) of M. Ardouin-Dumazet's 'Voyage en France,' should be consulted.

[The best view in the immediate neighbourhood is that commanded by the *Tournairet* (2,085 m., 6,841 ft.), nearly due S. of the town. A carriage road leads up in 2 m. to the picturesque village of *Venanson*, perched on a rock, whence a charming walk through woods and over Alpine pastures brings the traveller to the depression between the *Tournairet* on the W. and the *Pointe de Siruol* (2,018 m., 6,621 ft.) on the E. The latter point is easily gained in 1 hr., but the *Tournairet* is still nearer, and

commands an even finer view (4 hrs. from St. Martin). The *Cîme de la Palù* (2,131 m., 6,992 ft.), on the E. of St. Martin, is a fine belvédère, reached in 3 hrs. over pastures and through forests.

Another pleasant excursion from St. Martin is to follow the char road and mule path up the Boréon glen (Rte. D) as far as the inn of Ciriégia ( $1\frac{3}{4}$  hr.), thence to ascend the *Cîme de Piagù* (2,338 m., 7,671 ft.), a glorious view point, reached without any trouble in  $2\frac{1}{2}$  hrs., and to descend from the ridge E. of it to the path from the Madonna, and so up to the Madonna, or down again to St. Martin.

The shortest way from St. Martin to the Tinée valley is by *Valdeblore*, reached from St. Martin by a rough mule path over the *Col de St. Martin* (1,508 m., 4,948 ft.), whence the *Balme de la Frema* (2,242 m., 7,356 ft.) can be easily ascended. The hamlet of St. Dalmas is  $1\frac{3}{4}$  hr. from St. Martin. Thence there is a carriage road, whence several villages are seen in most extraordinary situations, and by it St. Sauveur, in the Tinée valley (§ 2. Rte. A), is reached in 2- $2\frac{1}{2}$  hrs.' walking from St. Dalmas. A more interesting though longer way to St. Sauveur or Isola is by the Col de Salèses (Rte. D).]

There is a good carriage road all the way from St. Martin to Nice (37 m.), but at St. Jean de la Rivière (15 m. from St. Martin) a traveller may drive for 5 m. by a new road through the fine gorge of the Vésubie to the *Vésubie* station on the railway (§ 2. Rte. A) to Puget Théniers (from St. Martin  $3\frac{1}{4}$  hrs. down by diligence,  $4\frac{1}{2}$ - $4\frac{1}{2}$  hrs. up) and by it reach Nice (16 m. distant) in  $1\frac{3}{4}$  hr. more.

The road from St. Martin passes through very picturesque scenery. In 4 m. a road branches off to the left by which the *Baths of Berthemont*, near some mineral springs of local celebrity, and commanding a fine outlook over the Vésubie valley, are gained in  $2\frac{1}{3}$  m. One mile further on the main road is *Roquebillière*

(578 m., 1,896 ft.), at the junction of the Val Gordolasca (see above and Rte. A) with the Vésubie valley.

[Twenty-five min. above the village by road is the hamlet of *Belvédère* (835 m., 2,740 ft.), on a hill covered with splendid chestnut trees. It is now much frequented in summer.]

The road passes below *La Bollène* (1 m. above), whence the Baisse de St. Véran (Rte. A) leads over to Saorge, on the Tenda road. Between Roquebillière and *Lantosque* (4 m. distant) the change of climate becomes manifest in the more and more southern character of the vegetation. Cistuses, Centaureas, and other Mediterranean species make their appearance, and the jube tree, *Zizyphus vulgaris*, appears perfectly wild on the slope of the valley. Below Lantosque the Vésubie has cut a deep channel, with vertical walls of calcareous rock, in which a fortified post, to command the passage, has been excavated.

[Near the road through this gorge to the railway the botanist may find *Potentilla saxifraga* and *Saxifraga lantoscana*—plants known only in two or three spots in this neighbourhood—along with *Plagiis agerati-folius*, *Genista cinerea*, *Juniperus phoenicea*, and other rarities.]

Hence at *St. Jean de la Rivière*, a group of houses, with a church, forming an effective feature in the landscape, the main road ascends above the left bank of the Vésubie.

[From St. Jean a new carriage road leads up by many zigzags in  $1\frac{1}{2}$  hr. to the curious little town of *Utelle* (800 m., 2,625 ft.), in the midst of wild hills dominating deep and picturesque valleys. It has a very remarkable church, said to have been founded in the sixth century, with a curious Gothic porch, supported by four pillars of grey granite, while in the apse, behind the high altar, is a fine carved wooden panel, of the thirteenth century, representing the life and deeds of St. Véran, the reputed founder of the church.]

The precipitous wall on the right hand, near Duranus, is called the 'Saut des Français,' from a tale that in 1800 some enraged peasants of that village here threw some French soldiers over the precipice, 1,200 ft. high.

The road winds upwards to the picturesquely scattered houses of *Duranus* (10 m. from Lantosque), and then descends again to *Levens* church and inn (4 m.), the village itself being on a hill-top to the right. Not very far below is the junction of the Vésubie with the Var. The road now quits the former river, above which it has run since St. Martin, takes a S.E. direction, crosses a low col, and passes by *Tourette* and *St. André*, before reaching (14 m. from Levens) **Nice**.

#### ROUTE D.

##### BATHS OF VALDIERI TO ST. MARTIN VÉSUBIE BY THE COL DE LA CIRIEGIA.

This is not an interesting pass, though leading through fine scenery, but is the shortest way to St. Martin. It is traversed by a mule path throughout, 6 hrs. being ample for the distance.

From the Baths of Valdieri the path mounts steeply by the right bank of the stream to the level floor of the *Valletta*, the glen which opens just S. of the *Stabilimento*. In less than 1 hr. from the start a spot is passed where Victor Emmanuel used frequently to pitch his tent when on a hunting expedition. Near this, on the bank of the torrent, *Senecio balbisianus* grows abundantly. The upper end of the *Valletta* glen is bare and wild.

[Soon after crossing the stream to its left bank a mule track mounts to the S.W. to join the great mule path which, starting from the King's

hunting lodge in the Valasco, is carried across the *Col de Fremamorta* (2,648 m., 8,688 ft.) to the Mollières glen, and so to the path from the Col de Salèses, see below, towards the Tinée valley.]

At the head of the *Valletta* glen rises the partly snow-covered *Cima Mercantour* (2,775 m., 9,105 ft.—not 3,167 m., 10,391 ft., as stated on the old maps), with a depression on either side: that to the E. is the *Col de Mercantour* (2,606 m., 8,550 ft.), a mere variation of the Col de la Ciriegia (from it the Mercantour peak can be climbed in 40 min. by a steep snow-covered rocky slope), while that to the W. is our pass. Crossing to the left bank of the torrent the track mounts by a steep rocky slope, and among huge fragments of rock, till it attains a wild hollow, enclosed on either side between steep rocks, and mounting for a considerable distance in a direction somewhat E. of S. When the writer (J. B.) passed (July 17, 1860), and also when the present Editor (W. A. B. C.) crossed the pass (August 19, 1879), the bottom of this hollow way was filled with snow for its entire length, but, of course, this depends on the heat of the summer. On the rocks and steep slopes of débris to the W. are many rare plants, e.g. *Viola nummulariaefolia*, *Saxifraga retusa*, &c. In about 3½ hrs. from the Baths the Col (2,551 m., 8,370 ft.) is attained. From it the Monte Matto and part of the Argentera range are seen.

The descent on the S. side, far steeper than the ascent on the N. side, lies down a ledge against the face of the rock, and soon attains a little tarn, on a shelf in the mountain-side. The effect of southern exposure is seen in the abundant vegetation which flourishes at this considerable height, while on the N. side a few peculiar species can alone manage to exist amidst the almost perpetual snow. Some herdsmen's huts are seen, and a steepish descent by a rude path leads down (bearing



slightly to the left) through bushes and stones, then through a thick pine forest (it is very easy to lose the way here), to a beautiful upland glade, where bright green pastures, rich in flowers of every hue, are here and there broken by rock and pine forest. Here, above the junction of the *Boréon* torrent, flowing from the Col delle Rovine, and of the *Salèses* stream, coming from the pass of that name, is a little inn (1,470 m., 4,823 ft., 1½ hr. from the Col) which is a pleasant halting place, and one of the favourite excursions from St. Martin Vésubie. From it the *Cime de Piagnù* (2,338 m., 7,671 ft.) may be ascended in 2½ hrs. Near the inn the Boréon forms a fine waterfall, called the **Cascade de la Ciriegia**.

From the inn it is an agreeable expedition to cross the *Col de Salèses* (2,020 m., 6,628 ft.) to the Tinée valley, an easy walk of 4 hrs. by a mule path. The track passes the abandoned mines of Salèses, and then traverses splendid pine forests to the charmingly situated chalets at the foot of the last ascent. The pass is gained in 1½ hr. from the inn. The descent on the other side is a lovely walk through the *Mollières* glen. Some way below the pass the mule path from the Col de Fremamorta falls in, and later the way from the Col delle Portette, while near the hamlet of *Mollières* (where the glen bends from W. to S.W.) another mule path mounts to the *Col della Mercera* (2,336 m., 7,664 ft.), which leads to the track over the Bassa di Druos, described in the next Rte. The position of Mollières (less than 1 hr. from the pass) is one of the most delightful in the Maritime Alps. The inhabitants, though politically Italian, are closely connected with the villages in the French valley of the Tinée, and are chiefly woodcutters. Below the hamlet a fine gorge is traversed, and in 1½ hr. from the village the junction (also the political frontier) of the stream with the Tinée is reached. Hence it is

1½ hr.'s walk (4 m.) by the carriage road down to St. Sauveur, or 2 hrs.' walk (5 m.) up to Isola, both described in § 2. Rte. A.]

In descending from the Ciriegia inn the mule track becomes a char road on crossing the frontier, and 3 m. further (1½ hr. from the inn) is *St. Martin Vésubie*.

### ROUTE E.

#### BATHS OF VALDIERI TO THE TINÉE VALLEY BY THE BASSA DI DRUOS.

In the last Rte. we described the chief passes leading through the more southerly of the three glens which meet near the Baths of Valdieri. In this Rte. we must consider those which branch off from the most westerly glen, that of *Valasco*, the main pass being the **Bassa di Druos**, leading to Isola, in the Tinée valley.

There is a char road up the left bank of the torrent, which mounts first to a lovely green basin, and then to a smaller one, in which stands the King's hunting lodge, 1,768 m., 5,801 ft. (1 hr.) On the way a fine waterfall is seen, while the mule path leading towards the Col della Valletta, and Monte Matto, is left on the N. A short distance beyond the mule path splits into several branches. One leads S. over the Col de Fremamorta (see last Rte.), a second S.W. over the Col delle Portette (both passes giving access to the Mollières glen), while a third mounts N.W. towards our pass. A number of zig-zags through scattered pines bring the traveller to the *lakes of Valscura*, that being the name of this arm of the Valasco, and then the mule path mounts past them to the Col, 2,630 m., 8,629 ft. (2¼ hrs. from the hunting lodge). The pass is also called the *Col de Valasco*, or *di Valscura*, and *Col des Laus* (Lacs), and is just S. of the *Tête de Malinvern* (2,939 m.,



9,643 ft.), which is, doubtless, accessible hence. (N.E. of it the rough Col de Malinvern leads over to Vinadio, in the Stura valley.) There is a great cairn on the Bassa.

On the other side the mule path makes a great round to the S. to the *Col della Mercera*, leading into the Mollières glen ( $\frac{3}{4}$  hr.), then bends N.W. and descends the *Ciastiglione* glen to Isola. Soon the mule path to Vinadio by the *Col della Lombarda* strikes away to the N.W., and lower down (where the glen bends S.W.) another branches off to the *Col di Sant' Anna*, also leading to Vinadio, while still further down the glen the footpath to the Baths of Vinadio by the *Col di Guercia* is left (like the others) on the right. The lower part of the Ciastiglione or Chastillon glen is picturesque, the frontier being crossed at the entrance to the gorge which forms its lower reach. *Isola* (described in § 2. Rte. A) is gained in  $3\frac{1}{2}$  hrs. from the pass, many chalets having been passed on the way.

#### ROUTE F.

##### VALDIERI, OR THE BATHS OF VALDIERI, TO THE STURA VALLEY.

The most convenient way by which to go from the Gesso valley to that of the Stura is, of course, to drive down to Borgo San Dalmazzo, near the junction of the Gesso and Stura valleys. But a traveller may sometimes find it more in accordance with his plans to cross one or other of the easy passes which connect these two valleys.

The easiest and shortest is the *Col della Madonna del Colletto* (1,291 m., 4,236 ft.), over which a mule path leads in 3 hrs. from the town of Valdieri to Demonte. There is a Sanctuary on the pass, whence

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its name. Thence the Mont Clapier range is well seen. This pass is much frequented by the country folk. A steep zigzag road leads from the bridge over the Stura up to the flourishing little town of Demonte.

If the start be made from the Baths of Valdieri, the traveller may choose between several passes. The most direct is the *Col della Valletta* (2,488 m., 8,163 ft.), reached from the Valasco by the mule path used for the ascent of the Monte Matto (Rte. B), which is joined before the pass by another mounting from Sant' Anna di Valdieri by the Meris glen. The mule track is left above the *Lago Soprano della Sella*, the pass being rather to the N.W. On the other side the *Lago Soprano della Valletta* is passed, and the *Valletta* glen descended to *Aisone*, in the Stura valley,  $2\frac{1}{2}$  m. below Vinadio (7 hrs. from the Baths). Vinadio itself may be gained direct in 8-9 hrs. from the Baths either by the *Passo della Paur*, through the Valrossa, or by the *Col de Malinvern*, not far from the Bassa di Druos (Rte. E): the routes (fit only for pedestrians) over both passes meet in the *Rio Freddo* glen, which is followed to Vinadio (9 hrs. at least from the Baths by either route).

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#### SECTION 2.

##### THE SEAWARD VALLEYS.

As noted in the Introduction to this Chapter this section includes the description of the three valleys of the **Tinée**, **Var**, and **Verdon**, all, save one side of the first-named, now included in French territory. The three rivers which run through them all flow roughly in a southward direction, but, as has been stated above, the Var is diverted to the E., so as to join the Tinée, while the Verdon is bent to the W. till it unites with the Durance. All three

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valleys are now traversed by excellent carriage roads, which in the case of the Var and Verdon glens reach or cross the divide to Barcelonnette. Easy passes lead in the same direction from the head of the Tinée valley, which in many respects is the most interesting region for the mountaineer, despite the military and political obstacles which must be overcome. Yet these three valleys, with the mountain ranges which close them in, still belong to one of the least known districts in the Alps, save, perhaps, to botanists, who may there reap a rich harvest. Much useful information relating to them is contained in a series of articles published in the 13th, 14th, 15th, 16th, and 17th 'Bulletins' of the Maritime Alps Section of the French Alpine Club; see also chapters 24-26 of vol. xiii. of M. Ardouin-Dumazet's 'Voyage en France,' already mentioned. Now that an observatory has been constructed on the *Mont Monnier* that fine point of view will become better known, especially as it is easily accessible even on mule-back.

#### ROUTE A.

##### NICE TO BARCELONNETTE BY THE VALLEY OF THE TINÉE.

Railway to La Tinée (18 m.); carriage road to St. Etienne (37 m.); thence mule or foot paths.

Unlike the Var and the Verdon, whose general course is serpentine, the *Tinée* flows for many miles in a nearly straight channel a little E. of S. The upper portion of the valley runs parallel to the great mass of metamorphic rock (gneiss, mica-schist, &c.) which extends from the Mont Enchastraye nearly to the Col de Tenda. In the southern part of its course, between St. Sauveur and its junction with the Var, the *Tinée*

traverses a succession of conglomerates, more or less altered limestones, and schistose argillaceous rocks, referred by geologists to the Lias, Jura limestones and the inferior members of the Cretaceous series. The valley is very deeply cut into these strata, so that the villages which occur at extremely long intervals are, with the exception of St. Sauveur, Isola, and St. Etienne (all of which stand at the union of a lateral torrent with the *Tinée*), perched on the steep mountain slope.

Since the opening some years ago of the narrow-gauge 'Chemin de Fer du Sud' from Nice to Puget Théniers (later to be extended towards St. André) it is in every way better for a traveller to make use of it, so as to escape the first hot rise from the sea level. It is remarkable for its 17 viaducts and 9 tunnels.

On leaving Nice the line runs W. across some low ridges till, at the station of *St. Isidore* (4 m.), it gains the valley of the Var, which it henceforth follows to Puget Théniers. At *Colomars* (4 m.) the line to Grasse branches off to the left, and 5 m. further is *St. Martin du Var*, at the junction of the Estéron with the Var. In  $2\frac{1}{2}$  m. the station of *Vésubie* is reached at the union of that stream with the Var (for the route hence to St. Martin Vésubie see § 1. Rte. C. and another  $2\frac{1}{2}$  m. (18 m. from Nice) brings the traveller to the *Tinée* station, about half-way between Nice and Puget Théniers, and not far from the junction of the *Tinée* with the Var. Here travellers leave the train (rather than at *La Mescla*, 2 m. on, at the actual junction of the two rivers) for the high road up the *Tinée valley* (37 m.) to St. Etienne. Diligences traverse the whole distance in about 10 hrs., a private carriage taking 8 hrs., as the rise is very considerable.

From *La Mescla* the road mounts through a succession of fine gorges, a branch road (2 m. from *La Mescla*) leading up by many zigzags to the prettily situated village of *Clans*, above

a side valley, through which a torrent descends from the Tournaire, on the S. of St. Martin Vésubie. Soon after, another side road mounts to *Marie*, with a picturesque church spire, and then the carriage road from Valdeblore (§ 1. Rte. C) falls in. The rocks for 3 m. below St. Sauveur are of a deep violet hue, turning sometimes to purple and carmine; the schist slabs are very rotten, and many falls on to the road have taken place, with some fatal accidents, so that after heavy rains this portion of the route is not very safe. On the mountain spur between the Bramafam glen, leading up to Valdeblore, and the Tinée stands *Rimplas*, the path from which joins the high road a little before the latter reaches

*St. Sauveur* (18 m. from La Mescla), the first village actually in the valley of the Tinée which is on the high road, and so a place of some commercial importance.

[Here the *Roubion* torrent joins the Tinée, and through the fine gorges of that glen it is easy to gain on foot or on mule-back in 6-7 hrs. the splendid belvédère of the *Mont Monnier* (2,818 m., 9,246 ft.): it is also accessible from Isola on the N.E., and from Péone on the S.W., and is more fully described in the next Rte., as the new mule path from Beuil on the S. is now the favourite mode of approach.]

The road then enters a deep gorge, and after passing (4 m.) the mouth of the Mollières glen (for the routes through it to St. Martin Vésubie, and the Baths of Valdieri, see § 1. Rte. D), forms, with the Tinée, the frontier between France and Italy. About 9 m. from St. Sauveur is

*Isola* (882 m., 2,894 ft.), most picturesquely situated at the foot of a high rock wall, in the midst of fine chestnut trees, and with pretty waterfalls on every side, that of the *Louch*, to the S., being the most remarkable. At the end of the Tinée valley is seen the *Bonnet Carré*, described below. Isola is already frequented by tourists,

though for mountaineers St. Etienne is better situated.

[N.E. of Isola the *Ciastiglione* or *Chastillon* glen joins the Tinée. The passes through it to the Baths of Valdieri, and the Mollières glen, have been noticed in § 1. Rte. E. Over the range on its N. or right side several passes lead towards the Stura valley. The most frequented of these is the *Col di Guercia* (2,451 m., 8,042 ft.), by which Vinadio is gained by a footpath in 8-9 hrs. past the Baths of Vinadio. Higher up the valley is the *Col di Sant' Anna* (2,318 m., 7,605 ft.), over which a frequented mule track gives access to the *Sanctuary of Sant' Anna*, rebuilt after a great fire in 1888 (4 hrs. from Isola), which is about 2 hrs. above Vinadio. Many paths branch from the Sanctuary in every direction, one of which, a mule path, gives access in 3 hrs. by the *Col de Bravarria* to the Baths of Vinadio. Near the head of the *Ciastiglione* glen a mule path leads over the *Col della Lombarda* (2,395 m., 7,858 ft.) to the Sanctuary, but this route is most convenient for a traveller coming from the Baths of Valdieri over the *Bassa di Druos*.

S.W. of Isola is the *Mont Monnier*, already mentioned. It is best reached from Isola either by the *Col de la Vallette* and the hamlet of *Vignots* (6 hrs.), or by mounting in 3 hrs. through the fine *Roja* gorge—which joins the Tinée half-way between Isola and St. Etienne, and is on the way to *Guillaume*s by the *Col de Crous* (see next Rte.)—to the hamlet of *Roja* (1,475 m., 4,839 ft.), from which it is an easy 3½ hrs. to the top by the *Sellavieille* glen and the easy W. slope. Rough direct descents, not recommended, may be made from the summit to Isola due N. by the *Col de Gipes* and the *Burenta* glen, or N.E. by the *Varelios* and *Inferné* glens.]

The Tinée valley between Isola and St. Etienne presents a series of steep and bare mountain slopes, torn



by the rain-swollen torrents on either side, and is diversified by only a few green and fresh oases. The *Roja* glen is the only one of any size. Soon after passing its mouth the mule track from Vinadio over the *Passo di Collalunga*, 2,600 m., 8,531 ft. (8 hrs.), joins the high road. Nearly 8 m. from Isola is

**St. Etienne de Tinée** (1,141 m., 3,744 ft.), a small and very ancient town, with a large modern parish church, a splendid house, formerly belonging to the Knights of the Temple, and an old Trinitarian convent, in a picturesque position, and containing a chapel with good carvings in wood, and some frescoes, now much injured by damp. It is the best quarters for a mountaineer in the Tinée valley. While the range to the N.W. is altogether composed of gneiss, the mountains on the opposite side of the Tinée show a succession of newer strata from the Lias to the nummulitic limestone.

[To the N.E. are several of the higher summits of the Maritime Alps. The **Mont Tinibras** (also called *Ténibres*), 3,032 m., 9,948 ft., was ascended from here in 1865 by Count Paul de St. Robert, but had been previously ascended in 1835 by the Sardinian engineers. It is best climbed ( $4\frac{1}{2}$  hrs.) by way of the Tinibras lakes—whence the *Passo della Ciausa*, properly the *Pas de la Lausa* or *du Piz* (2,900 m., 9,515 ft.), leads over to the Stura valley—and the S.W. rock ridge. The view is very fine, taking in Monte Rosa and a small bit of the sea. The return to St. Etienne may be made by the *Lac Fero* and the (now dried up) *Lac Petrus*, but it is a rough way. A better route is to go down by a long couloir of débris to the considerable *Rabuons* lake, and to follow that glen to the Tinée valley. A party approaching the peak from the Italian side should go from Vinadio to the *Col du Vallonet* (2,975 m., 9,761 ft.), on its N.W. From the large *Rabuons*

lake,  $2\frac{1}{2}$ –3 hrs. from St. Etienne—which is worth a visit in itself, and for the sake of the splendid waterfall formed by the torrent flowing from it—the ascent may be made in about 2 hrs. of the *Grand Chignon* (or *Simon*) *de Rabuons*, or *Becco Alto dell' Ischiator* (3,000 m., 9,843 ft.), a fine rock tower, or of the *Cima della Rocca Rossa* (3,000 m., 9,843 ft.), between it and the Tinibras. Both summits are more difficult of access on the Italian side, while it is easy to go from the former to the Tinibras by way of the smaller and upper *Rabuons* lakes and the N.E. ridge of the Tinibras. S. of the Becco is the rough *Passo dell' Ischiator*, leading to the Baths of Vinadio, while some way below St. Etienne the mule path over the *Passo di Collalunga* leads in the same direction. From the former pass the *Cima di Corborant*, or *Cîme de Cialancias* (3,011 m., 9,879 ft.), is accessible in  $\frac{3}{4}$  hr. by its N. rocky face.]

In less than 1 hr. above St. Etienne the Tinée valley divides into two branches, by either of which the traveller may pass into Provence. The good mule path runs through woods high above a very picturesque narrow gorge to the stone *Pont Haut*, thrown across it at the bifurcation.

(a) That to the W. leads in 1 hr. by a mule path to the hamlet of **St. Dalmas sur Tinée** (formerly 'Le Sauvage' or 'Selvage'), 1,494 m., 4,902 ft., charmingly placed amidst trees, with the stream roaring beneath in a narrow gorge. (It may also be reached in  $1\frac{3}{4}$  hr. from St. Etienne over the low *Col d'Anelle*.) This village is built at the junction of the *Jallorgues* and *Sestrières* glens. Through the former (very pretty and famed for its flora) the *Col de Jallorgues* (2,529 m., 8,298 ft.) leads over, in 5 hrs., to Esteng, at the very head of the Var valley, the more direct way from St. Etienne to the lower part of that valley (see next Rte.) being by the *Col de Pal* (2,218 m., 7,277 ft.), 6 hrs. from St.



Etienne to Guillaumes, less to Entraunes. At the head of the wild Sestrières glen is the *Col de la Moutière*, or *de Planton* (2,446 m., 8,025 ft.), 3 hrs. from St. Dalmas, a very easy grass pass (foot path only), by which the *Bachelard* or *Fours* valley is attained at *Bayasse*, and therein the routes from the *Cols de la Cayolle* (Rte. B) and *d'Allos* (Rte. C), both bringing the traveller to *Barcelonnette*.

(b) The main valley of the Tinée, however, continues from the *Pont Haut* by the N. branch. In  $\frac{1}{2}$  hr. by the mule path the bridge over the *Vens* torrent is reached.

[Hence the fine *Vens* waterfall and lakes may be visited in  $1\frac{3}{4}$  hr., and the *Col du Fer* (2,550 m., 8,366 ft.) reached in  $\frac{3}{4}$  hr. more: it is the direct way from the Tinée valley to *Berzesio*, in the *Stura* valley.]

Another  $\frac{1}{2}$  hr. brings the traveller to *Le Pra*, a small hamlet at which the main valley forks once more.

The N. branch leads in  $\frac{3}{4}$  hr. to the *Salsa Morena* huts (a favourite resort of botanists), whence a mule track over the *Col de Pourriac*, 2,506 m., 8,222 ft. ( $3\frac{1}{2}$  hrs. from St. Etienne) leads to *Argentera*, the highest village in the *Stura* valley: from this pass the *Mont Enchastraye* (2,955 m., 9,695 ft.) is accessible in  $1\frac{1}{2}$  hr., as well as from the true *Col du Lauzanier*, or *de l'Enchastraye* (2,656 m., 8,714 ft.), at its N. foot, while the *Rocher des Trois Evêques* (2,862 m., 9,390 ft.), the topographical importance of which has been pointed out in the Introduction to this Chapter, may be easily reached in 40 min. from the *Pas de la Cavale* by skirting a ravine under the first peak. S.W. of the last-named summit is the *Pas de la Cavale*, or *Pas de la Mule* (2,671 m., 8,763 ft.), a rough pass by which *Larche* is gained in 6-7 hrs. from St. Etienne. S.W. again of this pass is the striking and characteristic point known as the *Bonnet Carré* (2,868 m., 9,410 ft.), and popularly called the *Chapeau de*

*l'Evêque*, from its form; it is best reached from the *Pas de la Cavale* by easy rocks, or in 1 hr. from the *Col des Fourches* (2,242 m., 7,356 ft.), which crosses in about 1 hr. the spur dividing the *Salsa Morena* glen from that of *Bousiejas*.

The hamlet of *Bousiejas* (c. 1,900 m., 6,234 ft.), in the W. branch, and a short hour by mule path above *Le Pra*, is notorious for its charnel-house, 100 m. (328 ft.) above the village, and used till 1893 as the common burial place of all the inhabitants of the hamlet. N.W. of the hamlet, and  $1\frac{1}{2}$  hr. from it, is the *Col des Granges Communes*, *de Pelouse*, or *de Vermillon* (2,512 m., 8,242 ft.) This pass is traversed by a mule path in bad repair, and is the easiest and most direct way from St. Etienne to the *Ubaye* valley, reached (7-8 hrs. from St. Etienne) at *Jausiers*, 6 m. by high road from *Barcelonnette* (§ 3, Rte. A).

## ROUTE B.

### NICE TO BARCELONNETTE BY THE VALLEY OF THE VAR.

Railway to *Puget Théniers* (37 m.); carriage road and good mule trace thence (57 m.)

From the junction of the *Var* and *Tinée* at *La Mescla* (see last Rte.) the first-named stream preserves a nearly straight direction from W. to E. for about 25 miles, flowing parallel to the general strike of the strata through a narrow defile which it has excavated in the Cretaceous and nummulitic rocks. The railway is now open to *Puget Théniers*, but is soon to be extended to *Annot*, on the *Vaire*, and later to *St. André de Méouilles*.

The line from *Nice* to *La Mescla* (20 m.) has been described in the last Route. The valley gradually be-

comes wider before the station of *Malaussène* (24 m.) is reached.

[Hence a good path leads in 3 hrs. to the *Col de Vial*, whence 1 hr. more by rocks is required to gain the summit of the *Mont Vial* (1,551 m., 5,089 ft.), on the S.E. This point is nearly isolated in the centre of the Department of the Maritime Alps, and commands a very fine view of the peaks and valleys of that chain. The descent may be made in 2 hrs. down the S.E. slope past *Revest* and *Gilette* to the *Pont Charles Albert* station, 14 m. from Nice.]

Six miles beyond Malaussène is the station of *Touët de Beuil* (30 m.), a village picturesquely perched on the side of a rocky wall.

[This is the best starting point for the ascent of the panoramic *Mont Monnier* (2,818 m., 9,246 ft.) A wonderful new carriage road, in many places cut out in the living rock, mounts through the magnificent red defiles of *Cians* in 16 m.—5 hrs. by carriage—from *Touët de Beuil* to the village of *Beuil* (1,454 m., 4,771 ft.), at the S. foot of the *Monnier*. It is overlooked by the ruined castle of the powerful *Grimaldi* family, through whom the county of Nice came to the House of Savoy, of which the Counts of *Beuil* were alternately allies and foes. Their power was so considerable that it was said of one of them :

'Io son conte di Boglio,  
Che faccio quel che voglio.'

From *Beuil* the newly constructed mule path leads the traveller without any difficulty in 3 hrs. to the summit of the *Monnier* (sometimes erroneously called *Mounier*, but the name really comes from 'Mont Noir,' owing to the black soil of which it is composed). The prospect extends from the *Viso* and the great peaks of *Dauphiné* to the sea. In 1893 M. *Bischoffsheim*, the founder of the Observatory at *Nice*, built another Observatory on the *Monnier*, the spot chosen being on the minor summit (2,760 m., 9,055 ft.), to the S.W. of

and about  $\frac{1}{4}$  hr. from the sharp highest point. Travellers should be informed that the small house near the Observatory is reserved for the staff of the Observatory, unless special permission is obtained from the Director. Easy mule paths lead from *Beuil* in  $2\frac{1}{2}$  hrs. to *St. Sauveur*—for the routes up the *Monnier* thence and from *Isola* see last Route—and in 2 hrs. to *Péone* (whence the ascent is easy, though longer than from *Beuil*), which is  $1\frac{1}{2}$  hr. by a carriage road above *Guillaumes*.]

The railway passes by the station of *Cians*, 1 mile from *Touët*, at the entrance of the gorges of that name, and continues to run through the valley of the *Var*, which becomes quite broad before arriving at (37 m. from *Nice*)

*Puget Théniers* (559 m., 1,834 ft.), a small walled town, which in 1388 came into the possession of the House of Savoy. It is the present terminus of the railway. Hence there is a direct route (only partly a carriage road) over the *Col de la Roua* to *Guillaumes*, but most travellers will prefer to follow the main road from *Puget Théniers* towards *Digne* by the strongly fortified town of *Entrevaux* (4 m.), passing half-way into *Provence* or the Department of the *Basses Alpes*, to the bridge of *Gueydan* over the *Var* (4 m. ; for the road onwards to *Annot* and *St. André de Méouilles* see next *Rte.*), near its junction with the *Coulomp*. There is a service of diligences thrice a day between *Puget Théniers* and *Guillaumes* in  $4\frac{1}{2}$  hrs.

At this bridge the *Var* makes a rapid bend, now flowing from the N.E. A narrow defile is traversed by the fine new road, and then a series of small basins, each connected with the other by a deep gorge. But it is beyond *Daluis* that the most striking gorge occurs, enclosed between friable, vertical rocks of a deep carmine hue, through which the new road threads its way by means of many tunnels and cuttings. In 12 m. from the *Pont de*

Gueydan the traveller attains *Guillaumes*, dominated by a ruined castle. The valley here broadens for a little while.

[To the N.E. a char road leads up in 4 m. to *Péone*, a mining hamlet clinging to a great rock, and in a desolate position. Hence Beuil may be gained by a mule track in 2½ hrs., or the *Mont Monnier* in 5 hrs., while due N. the *Col de Crous* (2,206 m., 7,238 ft.) leads in 6 hrs. from *Péone* by the *Roja* glen either to *St. Etienne*, or to *Isola*, in the *Tinée* valley. To the N. of *Guillaumes* the *Col de Pal* (2,218 m., 7,277 ft.) leads direct to *St. Etienne*.]

Above *Guillaumes* the *Var* valley bends slightly to the N.W., and a grand view of the three gaunt and riven *Aiguilles de Pelens* (2,685 m., 8,809 ft.) (as yet untrdden by the foot of man) is gained before attaining (7 m.) the village of *St. Martin d'Entraunes* (1,055 m., 3,461 ft.), prettily situated in park-like scenery, and shaded by fine chestnuts. On the E. the *Col de Pal* (2,218 m., 7,277 ft.) leads over to *St. Etienne* (6 hrs.), and on the W. a carriage road runs in 5 hrs. over the *Col des Champs* (2,191 m., 7,189 ft.) to *Colmars*, in the *Verdon* valley (see next *Rte.*) Four miles higher up the valley is *Entraunes* (1,280 m., 4,200 ft.), amid thoroughly Alpine scenery.

A fresh series of gorges, in which larches gradually make their appearance, lead up to *Esteng*, 1,780 m., 5,840 ft. (4 m.), the highest hamlet in the *Var* valley, and in a picturesque position, 1 m. below the *Sources* of the *Var*, which may be visited on the way over the *Col de la Cayolle*. The *Col de Jallorgues* (5 hrs.) hence to *St. Dalmas* was noticed in the last *Rte.* The *Pas de Lausson* (2,609 m., 8,560 ft.), on the W. (2 hrs. up from the *Laus* 'maison forestière'), gives access in 2 hrs. to the *Lac d'Allos* (see next *Rte.*), the *Mont Pelat* (3,053 m., 10,017 ft.) being accessible in 2 hrs. from the *Pas*: the return from the peak to *Esteng* may

be made (in 2¾ hrs.) by the easier *Col de la Petite Cayolle*, 2,643 m., 8,672 ft. (2 hrs. from the *Laus* 'maison forestière'). The last-named pass is ½ hr. above the lakes in the broad opening of the *Col de la Cayolle* (2,352 m., 7,717 ft.), which is a short hour from *Esteng*. Here the *Viso* comes into sight. This pass is destined since the scheme for the new carriage road across it to be the main means of communication between *Nice* and *Barcelonnette*, as it was already much frequented by foot passengers, and is very direct. E. of it the wide glen of *Sanguinière* leads over by the pass of that name to the *Fours* valley, or by combining it with the *Col de la Braisse* *St. Dalmas sur Tinée* may be gained.

The good mule track descends the *Bachelard* glen to *Bayasse*, 15 m. from *Entraunes* (hence the *Ventebrun*, 2,873 m., 9,426 ft., on the N., is accessible in 3-4 hrs. by the *Julien* glen and the N. face), at the junction of the track from *St. Etienne* and *St. Dalmas* by the *Col de la Moutière* (see last *Rte.*) The path then bends W. with the valley, and passes along its right side through the many hamlets which make up the *commune* of *Fours*.

[From that of *Les Maurels Allos* may be gained in 5 hrs. by the *Col du Talon* (2,387 m., 7,832 ft.), or *Barcelonnette* in 4 hrs. by the *Col de Fours* (2,319 m., 7,609 ft.), the latter traversed by a mule path. E. of the former pass is the rarely visited summit of *Le Cimet* (3,022 m., 9,915 ft.), which may be ascended in 3-4 hrs. from the 'maison forestière' of *Talon*, which is in the *Bouchiers* glen, and 2 hrs. from *Allos*.]

The path crosses to the left bank opposite *La Malune*, where it becomes a carriage road, recrosses at *Uvernet* (9 m. from *Bayasse*), and 1 m. further joins the road from *Allos* by the *Col d'Allos* (see next *Rte.*), reaching *Barcelonnette* (§ 3. *Rte. A*) in 1 m. more (94 m. from *Nice*).



## ROUTE C.

## NICE TO BARCELONNETTE BY THE VALLEY OF THE VERDON.

Railway to Puget Théniers (37 m.); thence carriage road.

The upper valley of the Verdon forms the W. limit of the Maritime Alps as described in this work. But to mountaineers, as to geologists, and to botanists, who may reap a rich harvest in this little-known district, it is only the head of this valley that presents any great interest, particularly the environs of *Allos*, 6 m. by high road above the small fortified town of *Colmars* (1,259 m., 4,131 ft.), and 22 m. from Barcelonnette.

There are at least three ways of going from Nice to Colmars, the first being the most roundabout, while the second is to be preferred to the third (the most direct) only by those who have not yet seen the upper valley of the Var.

(a) *By Puget Théniers and St. André de Méouilles.*—The route towards Digne, described in the last Rte., is followed for 4 m. from the Pont de Gueydan to *Les Caffarels* (a little above the junction of the *Vaire* with the *Coulomp*), and for 17 m. further towards Digne as far as *St. André de Méouilles*, on the Verdon itself (St. André is 27 m. by a narrow-gauge railway from Digne, the capital of the Department of the Basses Alpes). The course of the Verdon is thence followed in a northerly direction by a good carriage road past *Thorame Haute* to Colmars, 20 m. from St. André, or 86 m. from Nice.

(b) *By Annot and La Colle St. Michel.*—This route branches off from *a* at *Les Caffarels* (see above). It is 1 m. further to *Annot*, whence the road mounts along the *Vaire*, and then to (8 m.) the hamlet of *La Colle St. Michel* (1,506 m., 4,941 ft.), perched on the crest of the ridge between the *Vaire* and *Verdon* valleys.

The descent on the other side leads to the road between St. André de Méouilles and *Thorame Haute*, at a point 5 m. below the latter place. By this route *Colmars* is 73 m. from Nice.

(c) *By Entraunes and the Col des Champs.*—This way was noticed in the last Rte.

*Allos* (1,425 m., 4,675 ft.) is a large village (formerly a Gaulish hill fort) at the end of a long tongue of land running down to the Verdon. Near it there is the curious twelfth-century church of *N.D. de Valvert*, well worth a visit.

[*Allos* is admirably situated as a centre whence to make many pleasant excursions and ascents, but it is as yet hardly known to tourists of any nationality. Lately the Forest administration has built 'maisons forestières' (all between 1,900 m., 6,234 ft., or 2,000 m., 6,562 ft.), connected with each other by mule paths, in various spots near *Allos*, such as *Laus*,  $\frac{1}{2}$  hr. from the *Lac d'Allos*, *Talon* in the *Bouchiers* glen (2 hrs. from *Allos*), *Preinier* ( $1\frac{1}{2}$  hr. from *Allos*), and *Valdemar* ( $2\frac{1}{2}$  hrs. from *Allos*); a mule path leads up to each, and it is easy to obtain permission to sleep in these houses, which are very convenient for travellers wishing to make excursions or ascents in the neighbourhood of *Allos*. The highest summit in the range on the W. (which separates it from the *Bléone* glen, by which Digne is easily reached over the mountains from the *Ubaye* valley) is the *Trois Evêchés* (2,927 m., 9,603 ft.), W. of the watershed, but accessible in 5 hrs. from *Laverq*, on the N., in the *Rion de la Blanche* glen, so that it can be taken on the way from *Barcelonnette* to Digne by *Mariaud*, but the direct descent to the head of the *Bléone* glen is difficult. The *Mourre Gros* (2,652 m., 8,701 ft.), more to the S., is an agreeable excursion (5 hrs.) by way of the 'maison forestière' of *Valdemar*. But most travellers who find their way to *Allos*



do so, whether as botanists or as admirers of the beauties of nature, in order to visit the **Lac d'Allos**, on the E., and reached in 2 hrs. by a fair mule path up a rather dreary glen. This lake is situated at a height of 2,173 m. (7,130 ft.), in a stony depression, surrounded on all sides by low ridges of crumbling rock. There are two boats on the lake, and a 'maison forestière' not far from it. S. of it rises the *Grandes Tours* (2,745 m., 9,006 ft., accessible hence in 2 hrs. with a little trouble), and the *Tête de Valplane*, 2,626 m., 8,616 ft. (2 hrs. from the lake, or 4 hrs. direct from Allos by the *Valplane* glen), while W. of the latter point is *Roche Clive* (2,418 m., 7,933 ft., 5 hrs. from Allos, and very accessible direct from the lake). 2 m. to the N., but separated from the lake by a deep hollow, is the *Mont Pelat* (3,053 m., 10,017 ft.), the highest summit in the Maritime Alps W. of the Tinée valley. The lake is remarkable for its size (155 acres), which is greater than that of any other lake in the Maritime Alps, and, it is said, is excelled by but few Alpine lakes in the entire chain of the Alps, for its depth (50 m., 164 ft.), and for the fact that it has no visible outlet, the stream flowing for some distance underground. From the lake the *Mont Pelat* can be climbed (there is said to be now a mule path up it) in 2½-3 hrs., the view of the Dauphiné, Viso, Chambevron, and Argentera groups being

very fine, though it is believed that the sea is not visible: the climb from the Cayolle glen on the N.E. is difficult, as the rocks on that side are very steep. For the Pas de Lausson, and the Col de la Petite Cayolle, leading from the lake respectively to the head of the Var valley and to the Col de la Cayolle, and for the Col du Talon, giving access to Fours, see last Rte.]

From Allos the high road mounts N.W. along the Verdon, but 2 m. beyond *La Foux* (4 m.) turns abruptly to the E. in order to gain (12 m.) by a series of zigzags the **Col d'Allos** or *de Valgelaye* (2,250 m., 7,382 ft.) 300 yards on the other side is a small inn or 'Refuge,' with rooms, &c., commanding a very fine view of the Chambevron group on the N.E.

[In 1½ hr. from the Refuge the *Sestrière* (2,518 m., 8,262 ft.), on the N.W., may be ascended, while an even finer view is obtained from the more distant *Grande Siolane* (2,910 m., 9,548 ft.), accessible in 4-5 hrs. from the Refuge.]

Two great zigzags lead down the slopes and through the fine forest of *Gâche* past *La Malune* to the *Bachelard* glen, the level of which is reached at *La Maure*, beyond which that stream is crossed, and its right bank, and then the left bank of the Ubaye, followed to *Barcelonnette* (22 m. from Allos), described in § 3. Rte. A.









## CHAPTER II.

### COTTIAN ALPS. I.

#### SECTION 3.

##### CHAMBEYRON DISTRICT.

Route.

- A. Cuneo to Barcelonnette and Embrun by the Col de l'Argentière.
- B. Barcelonnette to Guillestre by the Valley of the Ubaye. Ascents from Maljasset.
- C. Barcelonnette to Casteldelfino by the Valley of the Ubaye.
- D. Cuneo to Barcelonnette by the Val Maira.
- E. Cuneo to the Stura or Maira Valleys by the Val Grana.

#### SECTION 4.

##### VISO DISTRICT.

Route.

- A. Saluzzo to Guillestre by the Val Varaita.
- B. Turin or Saluzzo to Guillestre by the Valley of the Po.
- C. Ascent of Monte Viso.
- D. Crissolo to the Val Varaita and the Val Pellice.

#### SECTION 5.

##### WALDENSIAN VALLEYS.

Route.

- A. Pinerolo to Abriès by the Val Pellice.
- B. Pinerolo to Césanne by the Col de Sestrières.
- C. Torre Pellice or Bobbio to Perosa.
- D. Perosa to Abriès by the Germanasca Valley.

Route.

- E. Perosa to Césanne by the Rodoretto Valley.
- F. Perosa to Pragelas or Fénestrelles by the Massello Valley.

#### SECTION 6.

##### GENÈVRE DISTRICT.

Route.

- A. Oulx to Briançon by the Mont Genève.
- B. Abriès to Césanne.
- C. Abriès or Château Queyras to Briançon.
- D. Briançon to St. Michel by the Clairée Valley.
- E. Briançon to Bardonnèche by the Col des Echelles. Ascent of the Mont Thabor.

#### SECTION 7.

##### AMBIN DISTRICT.

Route.

- A. Chambéry to Turin by the Fréjus Tunnel.
- B. Modane to Turin by the Mont Cenis.
- C. Modane to Bardonnèche. Ascent of the Aiguille de Scolette.
- D. Bramans to Bardonnèche, Exilles, or Susa by the Ambin Group.
- E. Bramans or the Mont Cenis to Susa by the Col de Clapier. Ascents of the Roche and the Dents d'Ambin.

THE Cottian Alps rise between the Maritime and the Graian chains, so that they are limited on the S. by the Col de l'Argentière, and on the N.E. by the Mont Cenis Pass. It might at first sight seem more natural to select as their N. limit the pass of the Mont Genève, as it is the lowest pass across the main chain

of the Alps traversed by a carriage road between the Mediterranean and the Maloja. But, besides the historical grounds which combine to fix that limit farther to the N., there are two reasons of practical convenience which make it undesirable to choose the Mont Genève. One is that it is so closely connected

# III. THE COTTIAN ALPS.

(1) Monte Viso and its neighbours.



SCALE 1:250,000, 1 ENGLISH MILE 5 1/2 INCH (NEARLY)



LONDON: LONGMANS & CO.

Geographical Institute, Frankfurt am Main.





with the Mont Cenis that it is impossible to separate the two passes very widely in any description, for the route up to each on the Italian side is for a considerable distance the same. The other is that the space between the Maritimes and the Graians is not occupied alone by the watershed, with its spurs and valleys, for to its W. we find the great mountain mass of the Central Dauphiné Alps, which is quite isolated from the watershed by the Durance valley and its tributary the Guisane, and is, indeed, only connected with other ranges by the narrow isthmus of the Col du Lautaret. This great mass is, strictly speaking, part of the Cottian Alps, but, as it is thus isolated from the main chain, it is most convenient to place it in Chapter III., together with certain ranges to the N. which practically form part of it. The Col du Lautaret is hence more convenient than the Mont Genève as the limit between the two bits of the Cottians, and, as the road over the Col du Galibier leads over the N. range from the Col du Lautaret itself to the Arc valley, this road may be taken as the W. limit of the main chain of the Cottians, with its spurs. The position of the Central Dauphiné Alps with regard to the main ridge of the Cottians corresponds precisely to that of the Western Graians with regard to the main chain of the Graians, the Col du Lautaret answering to the Col d'Iseran (see Chapter V.), though in the case of the Cottians there is no mass similar to that of the Grand Paradis on the E. side.

In this Chapter, therefore, we have to describe the main chain of the Cottians, extending from the Col de l'Argentière to the Mont Cenis, bounded on the E. by the Piedmontese plain, and on the W. by the Durance and Guisane valleys and the Col du Galibier, while the valley of the Arc from St. Michel de Maurienne to Lanslebourg forms its

N. limit. The best known, and also the loftiest, peak on or near the main ridge of the Cottians is **Monte Viso** (3,843 m., 12,609 ft.) Seen from the Superga, or any other point near Turin, or from any of the higher summits of the Graian and Pennine ranges, this splendid mountain towers up in a singularly solitary fashion, apparently far exceeding in height all its neighbours. This isolated position, owing to which Monte Viso is so well seen from the Piedmontese plains, has caused it to be one of the best known mountains in the Alps, at least by name, and it is said that it is the only *peak* in the Alps which is expressly mentioned in the works of the writers of classical antiquity. But though the most conspicuous and loftiest peak of the Cottian main ridge, it is far from being the only prominent elevation on or near that ridge, for the *Aiguille de Chambeyron*, to the S., is 3,400 m. (11,155 ft.) and the *Aiguille de Scolette* (or *Pierre Menue*), to the N., is 3,505 m. (11,500 ft.) Another point of comparison between the Cottian main ridge and the Graians is that in neither case does the watershed run either roughly N.W. and S.E., as in the case of the Maritimes, or roughly from W. to E., as in the case of the Pennines, but first in one direction, then in the other. Thus we find that from the Col de l'Argentière to the Mont Thabor the Cottians run nearly N.W. and S.E., as do the Graians from the Levanna to the Little St. Bernard. But from the Mont Thabor to the Levanna the direction is nearly W. and E., so that, as the Mont Cenis Pass crosses the divide about midway between these two peaks, a portion of the Cottians, as of the Graians, runs nearly at right angles to the rest of the chain. If we adopt the common simile which likens the Alps to a rampart between France and Italy, Monte Viso and the Rochemelon, just E. of the Mont Cenis, may be considered as the



salient angles of two great bastions, whose re-entering angle, looking from the side of France, is the Mont Thabor. But in the case of the Cottians the direction of the valleys (particularly those of the Ubaye and of the Chisone), on both sides of the chain, is very irregular, evidencing the action of complicated causes in the elevation of the mass, though the predominant forces, especially on the French side, seem to have operated along the line from N.W. to S.E.

The main ridge of the Cottians is described below in five Sections, the divisions between each of which are somewhat arbitrary, and based solely on practical convenience. The upper valley of the Ubaye, from Barcelonnette to the *Tête des Toillies*, at its head, is thrust up like a wedge into the main ridge, causing it to split as it were into two ridges, enclosing that valley. Sect. 3 therefore describes these two ridges, two of the highest summits on or near which, the *Aiguille de Chambeyron* (3,400 m., 11,155 ft.) and the *Brec de Chambeyron* (3,388 m., 11,116 ft.) (the second is the *Grand Rubren*, 3,396 m., 11,142 ft.), entitle it to be called the *Chambeyron District*. N. of this region is the *Viso District* proper (Section 4), wherein are described not merely that great peak and its neighbours, but the many historical passes leading from the Varaita and upper Po valleys to the long and sinuous valley of the Guil, a tributary of the Durance valley. Next, in Section 5, it is proposed to describe a district lying entirely on the Italian slope and possessing an historical unity—namely, the *Waldensian Valleys* of Piedmont—its culminating peaks being the *Rognosa de Sestrières* (3,279 m., 10,758 ft.), above the pass of that name. Section 6 has no unity at all of its own, but includes the valleys on the French slope, lying N. and S. of the Mont Genève pass, whence it may be called the *Genèvre District*, the *Mont Thabor* (3,182 m., 10,440 ft.)

being its best known peak, though the *Roche du Grand Galibier* (3,242 m., 10,637 ft.) in the N., and the *Rochebrune* (3,324 m., 10,906 ft.) and the *Bric Froid* (3,310 m., 10,860 ft.) in the S., are its highest summits. Finally, the country between the Fréjus Tunnel (wrongly called the Mont Cenis Tunnel) and the Mont Cenis pass forms the subject of Section 7, under the name of the *Ambin District*, that being its principal snow-clad mass, though the highest summits, the *Aiguille de Scolette* (3,505 m., 11,500 ft.) and the *Rognosa d'Etache* (3,385 m., 11,106 ft.) rise to its W.

The Italian slope of the main ridge of the Cottians is fully described in vol. i. of Signori Martelli and Vaccarone's excellent 'Guida delle Alpi Occidentali' (Turin, 1889). The French slope is described in Joanne's new 'Dauphiné,' (1898), while the same writer's 'Savoie' (1895) is very useful for the Savoyard portions of the regions described in Sections 6 and 7, but otherwise for the moment information must be sought in many scattered articles, the more important of which will be mentioned in the Introductions to the several Sections. M. Tivollier's mainly historical 'Monographie de la Vallée du Queyras' (Gap, 1897) and the 'Guide du Touriste dans le Briançonnais' ('Guides Miriam' series, 1898) describe a considerable portion of the French slope, but the ranges round the Ubaye valley have hitherto been strangely overlooked by travellers and writers, perhaps because they happen to be in the French Department of the *Basses Alpes*, a name which has caused their height to be underestimated.

As a curiosity it may be stated here that the Chambeyron and Ambin groups alone present the character of glacier-clad mountain masses; elsewhere, in this portion of the Cottians, even round the Viso, ice and snow are found but rarely.

As in the case of the Maritimes, all

the sheets of the French and Italian Government Surveys representing the Cottians have been published, while the remarks as to passports, sketching, photographing, &c., made with regard to the Maritime Alps, apply also to the Cottians, save perhaps as regards Crissolo, the usual starting point for the ascent of Monte Viso, and as regards the frequented portions of the Waldensian valleys.

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### SECTION 3.

#### CHAMBEYRON DISTRICT.

IN this district we include the two ridges enclosing the valley of the **Ubaye** above Barcelonnette, which are crowned by many peaks, while passes lead across them on the one hand to the *Guil* valley, and on the other to those of the *Stura*, *Maira*, and *Varaita*. The principal summits are the *Aiguille de Chambeyron*, 3,400 m., 11,155 ft. (the loftiest peak between the Mediterranean and the Viso), the *Grand Rubren* (3,396 m., 11,142 ft.), the *Brec de Chambeyron* (3,388 m., 11,116 ft.), the *Pointe de la Font Sancte*, 3,370 m., 11,057 ft. (probably Baron Zach's 'Pointe des Orches,' though far from attaining the height of 3,995 m. (13,107 ft.), which he attributes to it), *Panestrel* (3,253 m., 10,673 ft.), *Péou Roc* (3,231 m., 10,601 ft.), the *Pic du Pelvat* (3,218 m., 10,558 ft.), the *Pointe Haute de Mary* (3,212 m., 10,539 ft.), and the most northerly peak of all, the *Tête des Toillies* (3,179 m., 10,430 ft.) All these fine summits (save the Brec, best taken from St. Paul) are most conveniently attacked from **Maljasset**, the highest hamlet in the Ubaye valley. Its position is one of the finest in the Alps so far as climbers are concerned, and it may be ranked in that respect with La Bérarde,

Bonneval, and Val d'Isère, in the S.W. Alps, but as yet the accommodation is not good, though doubtless at some future day, when the possibilities of Maljasset as a 'centre' come to be realised, it will be improved, as it deserves to be.

The passes from the upper Ubaye valley to the neighbouring glens are described in Rtes. A, B, and C, below. The most frequented to the Guil valley are the *Cols de Vars* (char road), and *Girardin* (mule track), while the *Col de Maurin* or *de Mary* (mule track) leads to the Val Maira, and the *Col de Longet* (also a mule track) to the Val Varaita. But by far the easiest pass over the ridges enclosing the upper Ubaye valley is the *Col de l'Argentière*, traversed by a carriage road, and one of the historical 'Passes of the Alps,' though but little known to foreign travellers. The ranges separating the valleys of the *Stura*, *Maira*, and *Varaita* are of considerable height, but are traversed in most directions by passes of no difficulty.

The fullest information as to the peaks of this district is to be found in an article on the Chambeyron district in the tenth volume of the 'Alpine Journal,' by Mr. Coolidge, the principal explorer of the group, as well as in that mountaineer's contributions to the sections on 'New Expeditions' in the same periodical for 1879, 1881, 1888, and 1890.

## ROUTE A.

 CUNEO TO BARCELONNETTE AND  
 EMBRUN BY THE COL DE  
 L'ARGENTIÈRE.

	M.
Borgo San Dalmazzo . . . . .	8
Demonte . . . . .	19
Aisone . . . . .	23
Vinadio . . . . .	25½
Pianche . . . . .	28½
Sambuco . . . . .	31½
Pietraporzio . . . . .	34
Ponte San Bernardo . . . . .	35
Berzesio . . . . .	39
Argentera . . . . .	41
Col de l'Argentièrre . . . . .	45½
Larche . . . . .	49
Meyronnes . . . . .	53
La Condamine . . . . .	57
Jausiers . . . . .	60
Barcelonnette . . . . .	66
Le Martinet . . . . .	74
Le Lauzet . . . . .	79
Ubaye . . . . .	85
Prunières . . . . .	92
Embrun . . . . .	101

Railway to Borgo San Dalmazzo; good carriage road thence to Prunières. Diligences run up to Vinadio and Argentera, and down (once a day) from Larche to Barcelonnette (3 hrs.), and thence (thrice a day) to Prunières (3½ hrs.); railway thence to Embrun (½ hr.)

The *Col de l'Argentièrre*, also called the *Col de Larche*, and the *Col della Maddalena* (Madeleine), is the only main pass between the Col de Tenda and the Mont Genève which is traversed by a carriage road. It shares with these two passes, the Lukmanier and the Maloja, the distinction of being one of the five carriage passes W. of the Brenner, but across the main chain of the Alps, the height of which is yet under 2,000 m. (6,562 ft.), though it is the highest of the five. It is not mentioned in the Itineraries, but the inscriptions, antiquities, and ruins found on either side seem to prove satisfactorily that it was known to the Romans, and even to the Celts. Mr. Freshfield, indeed, has (in the 11th

and 13th volumes of the 'Alpine Journal') made an attempt to prove that it was the pass crossed by Hannibal, but it is far more certain that it was the passage of Francis I. in 1515 with a large army that first brought it into historical prominence. It was later traversed by French and Spanish armies in 1692, 1710, and 1744. Napoleon ordered a road to be made over it bearing the proud title of 'Route Impériale d'Espagne en Italie,' and even now (though that project has not yet been fully carried out) it is styled the road 'from Montpellier to Coni' (Cuneo). It is, perhaps, the gentlest and easiest pass in the whole of the Western Alps, and has been compared to the road between Keswick and Ambleside.

The way as far as *Borgo San Dalmazzo* (8 m.) has been described in § I. Rte. A. The traveller bound for the Col de l'Argentièrre here leaves on the S. the railway to Limone and the road to Valdieri, and turning to the W. enters the valley of the *Stura di Demonte*, so called to distinguish it from the *Stura di Lanzo*, N.W. of Turin. Soon after, the *Stura* appears in its deep course in the valley, and beyond it, rising abruptly amidst some pinnacled rocks and precipices, lies the village of *Roccaparvera*. A little farther on the road winds down to the river, crosses it to *Gajola*, and continues on its left bank almost throughout the rest of the valley. The cultivated land which borders the *Stura* is very rich and luxuriant, and the forms of the adjoining mountains highly picturesque. 11 m. from the Borgo is

**Demonte** (778 m., 2,553 ft.), the principal town in the lower portion of the valley, and at the junction of the Arma torrent with the *Stura*.

Through the Arma glen runs the mule path to the *Col del Mulo* (2,401 m., 7,878 ft.), a plain which forms a triple pass leading to Sambuco, and the head of the Val Grana, as well as, in 9 hrs., to Prazzo, in the Val Maira. But a much shorter way



to the Val Grana is by the mule path over the *Col dell' Ortiga* (1,763 m., 5,801 ft.), by which Monterosso is reached in 4½ hrs. from Demonte. On the other side of the Stura the *Col della Madonna* (1,291 m., 4,236 ft.) leads over in 3 hrs. to the town of Valdieri (§ 1. Rte. F).]

On a mound between Demonte and the Stura are the ruins of a fort, once considered very strong, which guarded this entrance into Piedmont. It was dismantled in 1744 by the French troops, after their failure to take Cuneo, and finally destroyed in 1801, when Piedmont for a time became part of France.

The scenery of the valley, rich in fine timber, and backed by bold rocky summits, continues to preserve the same character as it ascends past *Aisone* (whence the *Col della Valletta*, 2,488 m., 8,163 ft.—§ 1. Rte. F—leads in 8 hrs. to the Baths of Valdieri) to

**Vinadio** (920 m., 3,018 ft.), the principal place in the valley, and a very strongly fortified little town, so that strangers are regarded with great suspicion, as being possibly Frenchmen. It is in a very picturesque position.

[A short distance above the little town, on the right bank of the Stura, two converging lateral valleys pour their torrents into that river at nearly the same point. Through the more easterly of these—the *Rio Freddo* glen—two rough passes, the *Passo della Paur* and the *Col de Malinvern*, give access to the Valasco, and so to the Baths of Valdieri (10 hrs.; see § 1. Rte. F), while at the very head of the glen the *Col della Lombarda* (2,395 m., 7,858 ft.) leads by a mule path to the upper part of the *Ciastiglione* glen, through which Isola, in the Tinée valley, is reached in 9 hrs. from Vinadio. The other lateral glen, that of *Sant' Anna*, affords a more direct communication, also by a frequented mule path, past the Sanctuary of Sant' Anna, and over the *Col di Sant' Anna* (2,318 m., 7,605 ft.), with Isola, 8 hrs. from

Vinadio to Isola. For both passes see § 1. Rte. E, and § 2. Rte. A. From Vinadio it is easy to gain the track from Aisone over the *Col della Valletta* to the Baths of Valdieri.]

The Stura valley becomes wilder and narrower before the road reaches the hamlet of *Pianche*.

[At this hamlet a ravine opens to the S.W., through which, past many fine waterfalls, a carriage road mounts for 3 m. to the **Baths of Vinadio** (1,275 m., 4,183 ft.), frequented by Italian visitors, especially wounded soldiers. Its situation in a narrow glen is cold and comfortless, except in the finest weather. Hence the *Col di Guercia* (2,451 m., 8,042 ft.) leads over to Isola, in the Tinée valley, while the rough *Passo dell' Ischiator*, and the mule path over the *Passo di Collalunga* (2,600 m., 8,531 ft.), give access to the same valley, higher up, and nearer St. Etienne de Tinée. For all these passes see § 1. Rte. E, and § 2. Rte. A.]

Above Vinadio the scenery becomes more and more wild and Alpine, while the geologist will not fail to observe that in this part of the valley the Stura follows pretty closely the line of junction between the gneiss and the Secondary slates. Three miles beyond Pianche is the hamlet of *Sambuco* (1,133 m., 3,717 ft.), whence the *Col del Mulo*, as noted above, leads either to Demonte, or to Prazzo in the Val Maira.

Higher up the valley three small villages are passed, *Pietraporzio*, *Ponte Bernardo*, and *Preinarào*, each at or near the mouth of a narrow glen, through which respectively the *Col du Vallonet*, 2,975 m., 9,761 ft. (whence the *Mont Tinibras*, 3,032 m., 9,948 ft., can be climbed), the *Passo della Ciausa* (2,900 m., 9,515 ft.), and the *Col du Fer* (2,550 m., 8,366 ft.) lead over the main chain of the Maritime Alps to St. Etienne de Tinée, or to the Tinée valley, a little above (see § 2. Rte. A). From Ponte Bernardo the *Col de Servagno*,



2,578 m., 8,458 ft. (bad mule path), leads over in 7-8 hrs. to Prazzo, in Val Maira. Between Ponte Bernardino and Preinaro is the famous defile of the **Barricate**, in which the road is carried along a shelf cut in the precipices. The 'Barricades' were forced with great difficulty by the French army in 1515, but turned (as they may easily be) by a path on the hill-side on the S. in 1744. They are not nearly as impressive as the traveller would gather from the notices in the older writers. Between Pietraporzio and Preinaro the road crosses the Stura several times, but returns finally to the left bank before reaching *Berzesio* (1,625 m., 5,332 ft.) Opposite Preinaro, high above the left bank of the Stura, is the village of *Servagno*, whence a bad mule track leads over the pass of that name (2,578 m., 8,458 ft.) in 8 hrs. to Prazzo, in the Val Maira. The head of the valley of the Stura here presents very wild rock scenery. On the W. the *Mont Enchastraye* (2,955 m., 9,695 ft.) is seen, while on the N. the *Monte della Scaletta* (2,839 m., 9,315 ft.) rises near the point whence streams flow down in different directions to the Val Maira and the Ubayette, as well as towards the Stura. 2 m. beyond Berzesio is *Argentera* (1,690 m., 5,545 ft.), the last village in the Stura valley, and so naturally the site of the Italian Custom House.

[Hence a mule track over the *Col de Pourriac* (2,506 m., 8,222 ft.) leads in 5½ hrs. to St. Etienne de Tinée, and from the pass the *Mont Enchastraye* can be climbed in 1½ hr. N. of that peak is the *Col du Lauzanier* (2,656 m., 8,714 ft.), which leads from the head of the Pourriac glen to the magnificent pasture hollow of Lauzanier, and so to the high road on the French side of the Col de l'Argentière, a little below the pass itself. To the E. of the Col de l'Argentière there is a smugglers' pass, the *Col de Roburent* (2,494 m., 8,183 ft.), over which a mule track

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leads in 5 hrs. from Argentera through the *Oronaye* glen to the same point on the high road from the Col de l'Argentière. At some distance to the N. of the Col de Roburent, and on the frontier ridge, rises the fine rock peak of the *Tête de Moïse*, or *d'Oronaye* (3,110 m., 10,204 ft.), which may be scaled by means of a great gully in the S. flank, and steep, brittle rocks. From the Roburent lake on the way up to the Col of that name a mule path crosses the ridge N.W. of the *Monte Scaletta* (2,839 m., 9,315 ft.) by the *Col della Scaletta* (2,614 m., 8,576 ft.), which gives access in 6½ hrs. from Argentera to Acceglio, the highest village in the Val Maira.]

From Argentera the road climbs by a series of zigzags to the high plateau of the **Maddalena**, along which it mounts nearly at a level past the *Maddalena lake* (the source of the Stura, and perhaps also of the *Ubayette*, which bursts out from the mountain-side on the French slope a short distance below the summit of the pass; there is a small inn near the lake) to the **Col de l'Argentière**, (1,995 m., 6,545 ft.)

The view from the pass includes on the Italian side the Punta dell' Argentera, the Monte Matto, and other of the peaks round Valdieri, and on the French side the dark mountain chain N. of Barcelonnette. Many rare plants are found in the immediate neighbourhood of the Col, including *Eryngium alpinum*, *Brassica Richeri*, and *Dracocephalum ruyschianum*.

The road descends on the French side over gently inclined and flowery pastures forming part of the great plateau, and then by two great zigzags gains the first French village, *Maison-méane*, 2 m. beyond which is the principal village in the *Ubayette* valley, that of *Larche*, 1,697 m., 5,568 ft., where the curious traveller may find a Greek motto on a sundial.

[On the way from the Col here falls in the path over the rough pass of the *Pas de la Mule*, or *de la Cavale*

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(2,671 m., 8,763 ft.), by which and through the *Lauzanier* glen Larche is gained from St. Etienne de Tinée in 6-7 hrs. The ascent of the *Rocher des Trois Evêques* (2,862 m., 9,390 ft.), a very important topographical point, just S. of the Mont Enchastraye, may be combined with the pass (see § 2. Rte. A). N.E. of Larche two passes lead over to Acceglio, in the Val Maira, in about 5 hrs. There is a bad mule track over the lower and more southerly of these, the *Col des Monges*, or *delle Munie* or *Monie* (2,545 m., 8,350 ft.) The more northerly is the more frequented *Col de Sautron* (2,689 m., 8,823 ft.), the track over which is marked by poles at regular intervals. The latter is commanded on the W. by the *Fort of Viraysse*, the existence of which will probably now hinder the wanderer or geologist from taking the following charming walk along the French side of the frontier from the Col de l'Argentière to St. Paul sur Ubaye: from the Col gain over pastures the Oronaye glen, and then bear always to the N.W. over the depression marked 2,506 m. on the French map, the narrow window of the *Col de la Portiolette*, the rounded ridge of the *Col du Vallonnet*, and so to the hamlet of *Fouillouze*, whence the high road in the Ubaye valley—see next Rte.—may be gained in  $\frac{1}{2}$  hr. at *Grande Serenne*,  $\frac{3}{4}$  hr. above St. Paul.]

The road descends along the right bank of the Ubayette, past (4 m.) the hamlet of *Meyronnes* (whence the *Col de Mirandol* leads over in  $3\frac{1}{2}$  hrs. to St. Paul), beyond which the river is crossed before descending to a stony basin (to the right is the hamlet of *Gleisolles*) at the junction of the Ubayette with the Ubaye. This important strategical point is dominated by the remarkable *Fort of Tournoux* on the W., which blocks the way to the Col de Vars (see next Rte. 1), as well as those to the Col de l'Argentière and to Barcelonnette. It is hewn out of the living rock, and is one of the most noteworthy of the

fortifications on the Franco-Italian frontier, though older than most of these.

The road now turns S.W. and beneath the Fort crosses to the right bank of the Ubaye, which is followed henceforth to Barcelonnette. At the hamlet of *La Condamine* (4 m.) there branches off on the W. the new military road by a tunnel under the *Col de Parpaillon*, and the *Crévoux* glen, to Embrun, in the Durance valley. A narrow gorge leads from La Condamine to the prosperous-looking village of *Jausiers* (3 m.), where are many villas built by natives who have returned hither during the past 50 or 60 years after making their fortunes in Mexico, and are called here 'les Américains.'

[For the mule path over the *Col des Granges Communes* (2,512 m., 8,242 ft.) hence to St. Etienne de Tinée see § 2. Rte. A *ad fin.*]

The valley of the Ubaye widens and the scene becomes more and more smiling and fertile as the traveller gradually approaches *Barcelonnette*, 1,133 m., 3,717 ft. (6 m.) This well-built little town of 2,000 inhabitants is situated in a charming position in an open and very fertile basin and on the right bank of the Ubaye. It was refounded 'in 1231 by leave of Raymond Bérenger IV., Count of Provence and Barcelona (whence the name of the town). It passed into the possession of Savoy in 1388, being formally ceded in 1419, and was often attacked and sacked by the French, though it was only in 1713 that, by the Treaty of Utrecht, this valley on the W. slope of the Alps was acquired by France in exchange for her possessions on the E. slope, Exilles, Fénestrelles, and Casteldelfino' (M.) (for these places see the later Sections of this Chapter).

[For the routes to Nice by the Var and Verdon valleys, see § 2. Rtes. B and C. It is 53 m. by high road from Barcelonnette past *Seyne* to Digne (11 hrs. by diligence).]

The Ubaye joins the Durance at

a point about 12 m. below Embrun, flowing during the last part of its course through a narrow ravine. This is at the W. end of the mountain chain between the lower reach of the Ubaye and the valley of the Durance near Embrun. There are several rough passages for pedestrians across this chain, nearer Barcelonnette, but most travellers will prefer to drive to Embrun.

Below Barcelonnette the scenery of the Ubaye valley is of a bare and somewhat dreary character, owing to the rapid disintegration of the Jurassic rocks. The road runs along the right bank of the Ubaye and passes below the village of *St. Pons*, where a church and the ruins of a castle are finely placed. It is then carried by a dyke through a torrent-swept plain. The village of *Les Thuiles* ( $4\frac{1}{2}$  m.) is traversed; *Méolans* ( $2\frac{1}{2}$  m.) is seen on the opposite bank. At the hamlet of *Le Martinet* (1 m.), where the road crosses to the l. bank of the Ubaye, there opens out on the S. the glen (nummulitic rocks) of *St. Barthélemy*, or of the *Riou de la Blanche*, through which Digne may be reached either by the *Col des Têtes* or *de Mariaud* and the *Garèbre* glen, or across the peak of the *Trois Evêchés*, 2,927 m., 9,603 ft. (see § 2. Rte. C) and by the *Bléone* glen. 13 miles from Barcelonnette is **Le Lauzet**, the most picturesque spot in the lower Ubaye valley. Close to it is a small lake, abounding in carp and tench, and surrounded by wooded slopes and patches of cultivated ground. Below this point the valley resumes its natural wild and barren aspect, which it maintains all the way to its junction with the Durance. Below Le Lauzet the Ubaye passes through a narrow defile 1 m. from Le Lauzet, the high road to Digne by Seyne and the *Col de Labouret* (1,216 m., 3,990 ft.) mounts to the left and passes through a tunnel pierced through the spur on which is built the Fort of St. Vincent. But our road descends to cross back to the

right bank of the Ubaye. Six miles from Le Lauzet, after a rapid descent, is the village of *Ubaye*, whence a road crosses the *Col de Pontis* (1,218 m., 3,996 ft.) to Savines in the Durance valley. But the main carriage road now runs from Ubaye along the *right* bank of the Ubaye for 4 m. to the bridge over the Durance, a little above its junction with the Ubaye and 3 m. below the station of *Prunières* (7 m. from Ubaye or  $25\frac{1}{2}$  m. from Barcelonnette), on the railway from Gap to Briançon (described in § 9. Rte. Q), 9 m. below **Embrun** (see § 9. Rte. Q).

#### ROUTE B.

BARCELONNETTE TO GUILLESTRE  
BY THE VALLEY OF THE UBAYE.  
ASCENTS FROM MALJASSET.

Char road to St. Paul (diligence in  $2\frac{1}{2}$  hrs.) and to Maljasset, then mule or foot paths.

The **Ubaye** is formed by the union of many torrents, and descends between two high ranges, in a S.W. direction as far as Barcelonnette, and then in a W. one, till, after a course of about 50 miles from its source, it unites with the Durance. It is a pastoral valley, which in summer supports a vast number of sheep, that are pastured in the winter on the plains of Provence, especially that of La Crau, near Arles. This poor mountain district has been the scene of many encounters between the troops of the Duke of Savoy and those of France, but (as stated in the last Rte.) was finally ceded to France in 1713 by the Treaty of Utrecht. It is celebrated for the fine green marble quarries found at its head, which to a certain extent are worked.

It was pointed out in the Introduction to this Chapter that the valley of



the Ubaye is thrust up like a wedge into the main range of the Alps, with which it runs parallel, and which it thus splits into two ridges. That on the S.E. is the watershed of the Alpine chain, and will be described in the next Rte. That on the N.W. separates the Ubaye from the Durance valley; its lower portion was described in the foregoing Rte., so that in the present Rte. we may confine ourselves to the upper part of the valley, above its junction, near Gleisolles, with that of the Ubayette, descending from the Col de l'Argentière. It will be most convenient to also include in this Rte. a brief enumeration of the principal ascents which may be made from the admirably situated centre of Maljasset.

The way from Barcelonnette as far as the meeting of the Ubaye and the Ubayette was described in the last Rte. The char road then crosses the latter, and very soon after the former stream, and is carried under the fortifications of Tournoux, leaving on the left, above the road, the hamlet of *Tournoux* and its fine woods. The road runs above the river, which it crosses twice to avoid a dangerous slope, and traverses the narrow and savage gorge of *Reyssole*, on emerging from which it enters the well-cultivated hollow in which (14 m. from Barcelonnette) is **St. Paul sur Ubaye**, a considerable village built at a height of 1,470 m. (4,823 ft.), at the junction with the Ubaye valley of the narrow glen leading up to the Col de Vars (see below). (For the Cols de Mirandol and du Vallonnet to Larche and the Col de l'Argentière see last Rte.) From St. Paul just the tip of the *Brec de Chambeyron* (3,388 m., 11,116 ft.) is visible.

[The ascent of that fine summit is the only attraction to the mountaineer to make a day's halt at St. Paul; it was first conquered in 1878 by two men of Fouillouze, the ascent being repeated next year by Mr.

Coolidge. It is made in 1 $\frac{3}{4}$  hr. from the *Col della Gippiera* or *Cuppiera* (2,918 m., 9,574 ft.)—at its N. foot, by the easy rocks of its E. or Italian face, a conspicuous snow ridge, not far from the S. arête, and a gully closed by a huge boulder; over which it is necessary to scramble. The Col may be gained in 4 $\frac{1}{2}$ –5 hrs. from St. Paul by way of the hamlet of Fouillouze (see below) and a steep stony track which leads past several small lakes to the pass, which is also accessible in 5 hrs. from Acciglio, in the Val Maira, by the route of the Col de Stroppia (see Rte. D). It is from Fouillouze or from Grande Serenne, in the main Ubaye valley; that the Brec is most majestic. The summit consists of a spacious plateau, sloping gently towards the W. The expedition offers but little difficulty, though it is rather long if taken in one day from St. Paul and back.]

The road continues along the right bank of the Ubaye all the way to Maljasset. Two miles from St. Paul is the hamlet of *Grande Serenne*, dominated by the Brec, and at the entrance of the *Fouillouze* glen, the chief hamlet therein being gained in under an hour by a zigzag and stony track, though the char road thither crosses the bridge over the Ubaye to be mentioned presently. Grande Serenne is at the foot of the great rocky barrier (89 m., 292 ft., in height) of the *Châtelet* or *Castellet*; which seems to entirely block the valley. The road mounts round it on the W. On attaining its upper edge some old fortifications are seen, while the Ubaye roars at a great depth below in a narrow gorge, through which a glimpse is gained of the smiling basin of St. Paul, a great contrast to the dreary character of the valley beyond the Châtelet. At the point where the gorge is narrowest a bold bridge has been thrown across it at a height of 110 m. (361 ft.) above the stream, and thus gives access to the char road to Fouillouze (2 $\frac{1}{2}$  m.) Some way up the Ubaye



valley (3 m. from Grande Serenne) is the *Pont Vouëté*, over which passed the old path. The scene is now dreary and desolate in the extreme, the precipitous rocks on either side being torn and seamed by many torrents. One mile from the Pont Vouëté is the delicious green oasis of *La Blachière*, but beyond desolation reigns once more. A short ascent leads up at length to the hollow of *Maurin*, in which are three hamlets: the first is *La Barge*, the next *Maljasset*, between which and the third, *Combe Bremond*, is the parish church, with an inscription above the door recalling its destruction by an avalanche in 1531, while in the churchyard wall is a niche destined to hold the coffins of those inhabitants who die during the winter, as it is impossible here to dig a grave till the return of spring. Maljasset is 8 m. from St. Paul, and may be reached thence in  $2\frac{1}{2}$ –3 hrs.' walking.

**Maljasset** (1,910 m., 6,267 ft.) is often called *Maurin* (perhaps a form of *Mary*), as it is the chief hamlet of that beautiful green valley, the S.E. slope of which is clothed with fine timber, and partly quarried out into a marble quarry. From the village only Panestrel and the cairn on the Grand Rubren are visible, but a buttress called the *Tête de Miéjour* (2,689 m., 8,823 ft.) of the Aiguille de Chambeyron on the S., and another on the N., make a grand show. Opposite is the broad opening of the *Combe de Mary*, through which several passes lead to the Val Maira (see below and Rte. D). Maljasset, as has been pointed out in the Introduction to this Chapter, is one of the finest mountaineering headquarters in the S.W. Alps, and lacks only a good inn to be properly appreciated, a want which it is to be hoped may soon be supplied.

¶The belvédère of Maljasset is the *Pointe de Mary* (Maurin) (3,129 m., 10,266 ft.), on the S.E. side of the valley, and easily reached in 3 hrs. or less past the marble quarry oppo-

site the village, and by the W. ârête. The view includes the Matterhorn and the Viso, as well as all the neighbouring peaks, which can be very well studied hence. The monarch of the group, and indeed of all the ranges between the Viso and the Mediterranean, is the **Aiguille de Chambeyron** (3,400 m., 11,155 ft.), to the S. of Maljasset. It was first scaled in 1879 by Mr. Coolidge, who from the Marinet lakes took a circuitous route round its W. and S.W. spurs, so as to gain the S. face, which led to the top in  $6\frac{1}{2}$  hrs. from Maljasset. But in 1883 M. J. Nérot, when making the second ascent, discovered a much better route from the N. by way of a broad snow couloir leading up to the gap between the peak and the frontier ridge (for the Aiguille is wholly in France), whence a descent and reascent led to the final red rocks of the S. face (climbed in 1879), so that by this route the summit may be reached in 6 hrs. or less from Maljasset. In 1893 Signor P. Gastaldi from the Col de Marinet (N.E. of the peak; see Rte. D), climbed up the E. arête to a point S. of and 20 m. (66 ft.) lower than the highest summit, thence descending on to the S. face, and re-mounting by the red rocks to that summit, while in 1894 the same mountaineer mounted in  $4\frac{1}{4}$  hrs. direct to the top from the Col della Gippiera (see above under the Brec), by way of the great rock couloir in the steep S. face and the rocks to its W. The latter route enables a traveller to take either the Aiguille or the Brec on the way from Acceglio, in the Val Maira, to St. Paul, but a party starting from Maljasset should follow M. Nérot's route, which offers no serious difficulties, save when there is ice in the couloir. Two other peaks S.E. of Maljasset, and opposite the Aiguille, may be dismissed more briefly. The *Pointe Haute de Mary* (3,212 m., 10,539 ft.) was gained by Mr. Coolidge in 1879 in  $5\frac{1}{4}$  hrs. from Maljasset by a rather difficult route up the W. face to a

snow field lying S. of the three-pronged summit, while the *Dents de Maniglia* (3,177 m., 10,424 ft.) are easily reached in 1 hr. from the Col de Roure or de Ciabrieria to the S. (see Rte. C). Finally the *Pic du Pelvat* (3,218 m., 10,558 ft.), N.W. of the Col de Lautaret (see Rte. C, below), was climbed in 1881 by Mr. Coolidge in  $4\frac{1}{2}$  hrs. from Maljasset by way of the rocks on the left bank of the great central couloir in its E. face.

On the N.W. side of the Maurin valley the loftiest summit is the **Pointe de la Font Sancte** (3,370 m., 11,057 ft.), the name being probably connected with the Chapel of St. Anne at its N.E. foot (see below under the Col Girardin), or possibly with the word 'Sanctio,' the old name for the Ubaye river. It was first climbed in 1878 by Signor E. Novarese from the W. or Escreins side (the best way is by the more southerly of two great snow couloirs), while in 1879 Mr. Coolidge ascended it in  $5\frac{1}{2}$  hrs. from Maljasset by the rock-girt hollow of the Vallon Claus, and the E. ridge, a very convenient snow-filled couloir being taken on the descent, which led in 50 min. from the very base of the final peak back to the Vallon Claus. The view from the summit is extremely fine. The Vallon Claus is shut in by a splendid rock wall, at the S. end of which (the Font Sancte rising at its N. end) is the grand rocky peak of *Fanestrel* (3,253 m., 10,673 ft.), accessible in less than  $\frac{1}{2}$  hr. from the *Col de Panestrel*, described below under the heading of the Col des Houerts (2.). From the summit both Maljasset and Escreins are seen. To the N.E. of Maljasset is the double-peaked *Pèou Roc*, 3,231 m., 10,601 ft. (the N. point is the highest), first scaled in 1888 by Mr. Coolidge. It is accessible from Maljasset in about 5-5 $\frac{1}{2}$  hrs. by way of the W. ridge and its S. slope, and is best taken in connection with the Col du Tiéouré, (3. below). The *Tête des Toillies*

(3,179 m., 10,430 ft.), at the very head of the valley, is best gained in  $\frac{1}{2}$  hr. or less from the Col La Noire (see below) by a short scramble of 10 min. up the rocks of its S.W. flank, the deep notch just S. of the last peak being also accessible in about 1 hr. from either the Col de Longet, on the S.E., or from the Col Blanchet, on the N.E. The peak commands a very fine view, as it rises at the junction of the Ubaye, Varaita, and St. Véran valleys.

But perhaps an even finer view of the Viso is gained from the **Grand Rubren** (3,341 m., 10,962 ft.), S. of the Col de Longet, and crowned by a great cairn, visible from Maljasset. The ascent takes only  $4\frac{1}{2}$ -5 hrs. thence, and is as easy as possible. The Col La Noire route (see 4. below) is followed to the Blavettes huts (marked 2,353 m. on the French map) on the Col La Noire route, and then grass and stones lead E. to the great stony basin S. of the lower summit (3,341 m., 10,962 ft.) The latter may be easily reached hence, but it is worth while to push on from that basin over the S. ridge to the N.E. arête (over which leads the *Passo del Lupo*), along which the higher and E. summit (3,396 m., 11,142 ft.) (the *Monte Salza*, 3,326 m. of the Italian map) is attained. This point commands an even finer view than the other, as it juts out towards Monte Viso, which rises opposite, separated only by the deep cleft of the Val Varaita. This higher point, reached by Mr. Coolidge in 1879, may be gained from Casteldelfino, in the Val Varaita, by the Bellino and Rouiglens (see Rte. C), the *Passo del Lupo* (3,202 m., 10,506 ft.), between the two points, being thus attained (7-8 hrs. from Casteldelfino). The Rubren is one of the four points whence the finest views of the Viso are obtained, the others being the *Pelvo d'Elva* (Rte. D), the *Pointe Joanne* (§ 4. Rte. A. i. b), and the *Monte Meidassa* (§ 4. Rte. B).

This necessarily brief notice of the

peaks round Maljasset shows that this spot has great attractions for the mountaineer, while from what has been and will be said it is clear that almost any of these summits may be taken on the way from Maljasset to one or other of the surrounding valleys. ]

We must now proceed to give a short account of the principal passes which lead from the upper valley of the Ubaye (all, save two, from Maljasset itself) to that of the Guil, across the range which divides those two valleys. Two only of these passes can be said to be frequented, the char road over the Col de Vars and the mule path over the Col Girardin, but there are many other passes which are of interest to mountaineers and which deserve at least a slight mention. A glance at the map will show that, while on the Ubaye side the lateral glens are unimportant, on the other side there are no less than four glens which descend to the Guil valley between Guillestre and Abriès, and it may help the reader to obtain a clear idea of the rather intricate topography if we group these passes according to the glens on the Guil side into which they lead.

1. *By the Vars Glen.*—Char road (17½ m.), 4½–5 hrs. on foot. This is the easiest and most direct way from the Ubaye to the Guil valley, for the *Col de Vars* road passes mainly over very fine pastures, and has been used by all the armies which have crossed the Col de l'Argentière, to which it is the gate, as the lowest gorge of the Ubaye, near its confluence with the Durance, was till recently impracticable. The ascent from St. Paul to the Col is rather steep, the road winding high above the left bank of the stream. The summit, 2,115 m., 6,939 ft. (4 m.), has a small lake which is reached by a pedestrian in 2 hrs. or less from St. Paul. The slope on the other side is much gentler. Less than ½ hr. below the pass is one of the 'Refuges Napoléon,' a sort of modest inn, beyond

which a most charming walk over grass slopes and through woods leads the traveller in 1 hr. more to the first hamlet, that of *Ste. Marie*. ¼ hr. on is that of *Vars* itself. (Hence the easy *Col de la Coulette* (2,365 m., 7,760 ft.) leads over to Escreins. See 2. below.) Another forest is traversed, and then the road runs along a promontory between the *Chagne* stream on the left and that of the *Rioubel* on the right, splendid views of the Pelvoux and its neighbours, seen across the Durance valley, diversifying the way. The Rioubel (flowing from the valley of Escreins—see 2. below) is crossed just before entering (1½–2 hrs. from Vars) the large village of *Guillestre* (950 m., 3,117 ft.), at the entrance of the glorious Queyras valley (§ 4. Rte. B), and 3 m. by road from the Montdauphin-Guillestre station on the railway from Briançon to Grenoble (§ 9. Rte. Q).

2. *By the Escreins Glen.*—This is one of the most unknown glens in the Alps, and has been but rarely visited by travellers of any nationality. It is traversed by the *Rioubel* torrent, which flows past Guillestre to join the Durance under the fortress of Montdauphin. Near the solitary hamlet in the valley, *Escreins*, c. 1,700 m., 5,578 ft. (which about 1890 was sold—houses, church, fields—to the commune of Vars for pastures, and is now entirely abandoned by its inhabitants), two glens unite, that to the S. being the *Vallon Laugier*, and that to the S.E. the *Rioubel* glen: higher up the latter splits into two branches, those of *Salettes*, or *Houerts*, and *Font Sancte*. It is possible to go from Maljasset to Guillestre through any of these glens. The best route for a mountaineer is to cross the fine peak of the *Font Sancte*, 3,370 m., 11,057 ft. (see above), which is well seen from the hamlet of Escreins. The most direct pass is the *Col des Houerts*, which might, no doubt, be reached from the Ubaye valley past the Lacs Bleu and Vert. But if starting from Maljasset it is better to



mount to the rock hollow of the Vallon Claus, at the S.W. corner of which there is a great rocky gully, by a rocky ridge in the centre of which the *Col de Panestrel* can be attained in 4-4½ hrs. from Maljasset. This pass is at the S. foot of *Panestrel* (3,253 m., 10,673 ft.), accessible thence in under ½ hr. A traverse of about an hour in a N.W. direction through a wild upland glen leads to the Col des Houerts, whence Escreins is reached through the Salettes glen in 1¼ hr. more. Yet another pass is the *Col du Vallon Laugier*, which leads from the village of Grande Serenne, between St. Paul and Maljasset, past the Lac des Neuf Couleurs, over the ridge W. of *La Mortice* to the Vallon Laugier, and so to Escreins in 5-6 hrs. from the Ubaye valley, there being no difficulty, as the pass is well known locally, and preferred to the Col des Houerts: it was crossed in 1879 by Mr. Coolidge. (From the Lac des Neuf Couleurs the *Col de Serenne* leads over to Vars, 5-6 hrs. from Grande Serenne, while from the Vallon Laugier the easy *Col de la Coulette* (2,365 m., 7,760 ft.) gives access to the same place.)

[From the hamlet of Escreins two ascents may be made besides those mentioned above, both achieved for the first time in 1881 by Mr. Coolidge. One is that of the *Pic Signalé*, 3,236 m., 10,617 ft. (also called *Pic des Houerts* and *Aiguille de Jean Rostan*), which rises in solitary fashion between the Cols des Houerts and du Vallon Laugier; it is accessible in 5 hrs. or less from Escreins by the Salettes glen, the great snowfield at the N. foot of the peak, and the rotten rocks of its N. face. The other is the *Pointe des Henvières* (3,273 m., 10,739 ft.), N.W. of the Font Sancte, and part of a superb rock and snow ridge (the N.W. point of which, the *Pointe de la Saume* (3,203 m., 10,509 ft.), seems to be still unclimbed), separating the Escreins and Tronchet glens. The

Henvières may be reached in 4-5 hrs. from Escreins by the Font Sancte glen, a hollow at the S.W. foot of the peak, and a gully of shifting débris which leads from the upper edge of the snow band at the S.W. base of the final peak to the S. summit, whence the higher N. one is soon gained. The first party ascended by the N.W. ridge and W. face, but discovered this curious gully (by which the return was very much shortened) on the descent.]

A mule path leads from Escreins along the right bank of the *Rioubel* torrent to *Guillestre* in 1½ hr. The upper valley is fairly broad and well wooded, and thence zigzags lead down through a rock gorge past several fine 'earth pillars.' The last bit is by a path through an avenue of poplars.

It is to be hoped that in the future mountaineers will more frequently visit this remote Alpine valley than has been the case in the past.

3. *By the Ceillac Glen.*—The village of *Ceillac* (1,630 m., 5,348 ft.) stands in a large open valley, which is apparently the bed of an old lake. It takes about 1½ hr. to descend thence (the distance is 5 m.) through a picturesque narrow gorge to the *Maison du Roi*, on the high road in the Queyras valley (§ 4. Rte. B), 3 m. above *Guillestre*. *Ceillac* is built at the meeting point of the *Tronchet* and *Cristillan* torrents, so that there are several ways of reaching it from Maljasset.

Through the *Tronchet* glen two passes lead over from the Ubaye valley. The easiest and shortest is probably the middle one of the three, the *Col Tronchet* (2,666 m., 8,747 ft.), traversed by a mule path, by which 4-4½ hrs. suffice to go from Maljasset to *Ceillac*. Rather longer, but far more picturesque is the path (also a mule track) over the *Col Girardin* (2,699 m., 8,855 ft.), which passes close under the cliffs of the Font Sancte and of the Henvières. The way mounts from the valley just below Maljasset by many zigzags up



a steep slope, and then through a stony hollow to the pass. Most of the Chambeyron peaks are visible hence, while a glimpse is gained of some peaks of the Pelvoux group. A short descent leads down to the lake of Ste. Anne, near which is the *Chapel of Ste. Anne*, whither the inhabitants of Maljasset and of Ceillac come on a pilgrimage on St. Ann's Day (July 26) each year. The position is a dreary one, but the reflection of the great peaks on the W. in the still waters of the lake lends a certain charm to the scene. The lake is sometimes still frozen at the end of June. There is a steep descent on the N.E. direct to the main Tronchet glen. But it is in every way preferable to follow the path in a N.W. direction from the lake, so as to gain the little lake of *Près Soubeyrans*, set in a frame of green pastures and overhung by the fine chain on the W. A steep descent, partly along the stream from the lake (which descends on the E. to form the magnificent cascade of *Pisse*, opposite the Mélézet chalets, in the main Tronchet glen), then far to the left, leads down from this high pasture shelf to the huts of *Rua des Reynauds*, in the main Tronchet glen. Hence there is a char road, by which Ceillac is reached in 20 min. more, this delightful walk from Maljasset requiring about 4½-5 hrs. without hurrying.

Of the two passes which descend into the *Cristillan* glen on the Ceillac side the more southerly, the *Col du Tiéouré*, will be taken only by a party desirous of climbing the *Péou Roc*, 3,231 m., 10,601 ft. (see above) *en route*. The foot track mounts from the Paroird lake (see under 4. below, 50 min. above Maljasset) by a steep glen to the reddish brown rocks of the pass, which contrast strongly with the white rocks of the peak. The Col may be attained in 3 hrs. from Maljasset, and thence stones lead down to the head of the *Cristillan* glen, by which Ceillac

is attained in 2½ hrs. from the pass. The more northerly, the *Col de Cristillan*, is more useful, for when combined with the Col de Longet, (see next Rte.) it affords a direct route by which it is possible to go in one day from Casteldelfino, in the Varaita valley, to Guillestre. 'To reach the Col de Cristillan from the Col de Longet you descend, passing on the right of the Lac de Longet, to the chalets at the junction of the Cula glen with the main Maurin glen. Here turn to the right up the Cula glen to the point where it forks. The right-hand branch leads to the *Col de la Cula* (see under 4. below), giving access to St. Véran. Follow the left-hand branch, ascending over steep pastures, until you reach a waste tract covered with mica-schist. Thence, bearing rather to the left, you gain a flat upland valley, with scattered blocks of iron-stained serpentine, wherein there is a small pool. The *Col de Cristillan* (9,771 ft., W. M.) is at the head of this valley, and a faint track leads to it. The views from the Col are very fine, including the Chambeyron and Dauphiné peaks, besides Mont Blanc. The descent from the Col is over a steep slope of loose stones, but when once the pastures are reached the path is good, and the walking very easy' (T. G. B., revised). Many huts and small hamlets are passed on the way down. Two hrs. or so should be reckoned from one pass to the other, and 2¼ hrs. more from the second pass to Ceillac.

Just before gaining the hamlet of *Le Villard* on the descent the *Cristillan* glen turns from a N.W. course to a slightly S.W. direction. From this turn two passes lead over to other glens. That on the N.E. is the *Col des Estronques* (c. 2,600 m., 8,531 ft.), by which St. Véran may be gained in 3½ hrs. from Ceillac; the ascent by many zigzags is steep, but easy. On the other side the track runs through a desolate glen, for long high up on its left side, the village

of St. Véran being always seen straight ahead. The other pass is the *Col Fromage* (c. 2,319 m., 7,609 ft.), reached in  $1\frac{1}{2}$ –2 hrs. from Ceillac. The way continues for  $\frac{1}{2}$  hr. to the N. over stony pastures, amid which rises a single giant pine tree, to the *Petit Col Fromage* (2,269 m., 7,445 ft.), while on the right hand there rise the two strange pointed rock summits known as the *Mamelles*. (The lower of these (2,618 m., 8,590 ft.) is much easier than the more southerly (2,722 m., 8,931 ft.), which can be scaled with difficulty by way of the S. ridge, gained through the hollow S.E. of the Petit Col, or better from the Col de Fromage by crossing the gap between these two peaks, and then skirting the base of the higher.) From the Petit Col the traveller may go along the E. side of the charming *Bramousse* gorge direct to Château Queyras (? 1 hr.), but it is better to bear N.E. through forests and over a low depression (the *Col St. Simon*) to Molines (2 hrs.), 3 m. above Ville Vieille, which is 2 m. by road above Château Queyras, or 14 m. above Guillestre (§ 4. Rte. B).]

4. *By the St. Véran Glen*.—The extreme head of the Ubaye valley is formed by a short ridge running E. and W., in the midst of which rises the peak of the *Farnareita* (3,134 m., 10,283 ft.), which separates the *Col de la Cula*, on the W. (6 hrs. from Maljasset to St. Véran), from the *Col La Noire*, on the E., the latter being the most convenient route by which to go from Maljasset by St. Véran to the Guil valley.

From Maljasset the rough char road (full of deep ruts) to the marble quarries is followed along the right bank of the Ubaye. It mounts over a great spur formed by fallen rocks from beyond Combe Bremond, the last hamlet, till a point is reached above the considerable *Lac du Paroird* (50 min.), at the junction of the glens leading to the Cols du Tiéouré (3. above) and de Lautaret (next Rte.)

with the main valley. It is often stated that this lake is due to a great landslide, or to a barrier formed by the moraine of an old glacier, but it really owes its origin to a movement in the earth itself. Formerly the lake was a pretty sight, with the pine forest on its S. shore reflected in its still waters, but since 1887 great landslips have reduced it to a muddy pool of small extent. The road passes above its N. shore to the chalets of *Ga* (2,065 m., 6,775 ft.), 15–25 min. (for the way to the Col de Lautaret see next Rte.), and thence mounts first on the left, then on the right, bank of the Ubaye through a narrow gorge to the fine pastures of *Blavettes*, with chalets (2,353 m., 7,720 ft.),  $\frac{1}{2}$  hr. On the E. is the glen leading up to the Grand Rubren, while near the main path is the chief quarry of the celebrated green marble of Maurin, specimens of which are to be seen scattered about from Maljasset upwards. Hence a mule path mounts gently over pastures to the highest chalets, at the meeting of the glens from the Cols de la Cula and de Longet (20 min.) The track to the latter pass is followed for some time, and then it is necessary to gradually bear (hardly any track) towards the N., so as to gain the *Col La Noire*, 2,999 m., 9,839 ft. (about 3 hrs. from Maljasset), at the N. edge of a wild, stony tract. Hence the *Farnareita* on the W., or the *Tête des Toillies* on the E. (see above), may each be ascended in  $\frac{1}{2}$  hr. or less. St. Véran is seen from the pass, as well as many of the Dauphiné peaks, but the panorama may be much extended by mounting either summit, the Toillies being specially recommended. The first part of the descent on the N. is stony, though not difficult, and soon the mule track from the Col Blanchet (see § 4. Rte. A) is joined. At a large chapel a char road commences, and runs above the right bank of the torrent to *St. Véran*, 2,009 m., 6,592 ft. ( $2\frac{1}{2}$  hrs. from the Col.)

This village is a long straggling hamlet built along the hill-side, and forming but one street, and is picturesque, though dirty. It is *not* the highest permanently inhabited hamlet in France, as is often asserted, this being L'Ecot (2,046 m., 6,713 ft.), near Bonneval, in the Maurienne (§ 13. Rte. I), while several villages in the Swiss and Italian Alps are even higher than L'Ecot. St. Véran is 3 m. by a char road along the Aigue Blanche from *Molines*, where this route joins that from Casteldelfino over the Col dell' Agnello (§ 4. Rte. A), *Molines* being 3 m. above Ville Vieille, in the Guil valley, which is itself 2 m. from Château Queyras or 14 m. from Guillestre (§ 4. Rte. B).

### ROUTE C.

#### BARCELONNETTE TO CASTELDEFINO BY THE VALLEY OF THE UBAYE.

In the preceding Rte. we described the ridge which separates the upper Ubaye valley from that of the Guil, on the N.W. To complete our account of the upper Ubaye valley the present Rte. should describe the ridge enclosing it on its S.E. But while in the case of the N.W. ridge all the lateral glens are tributaries of one and the same principal valley, we find on consulting a map that two quite distinct valleys flow down from the S.E. ridge of our valley, the Val Varaita running N. of the Val Maira. It is more convenient, therefore, to include in this Rte. only the N. part of the boundary ridge, that over which the Val Varaita may be reached, reserving to the next Rte. our notice of the Val Maira and the various passes at its head.

The most direct way from Maljasset to *Casteldelfino*, at the head of the Val Varaita, is by the *Col de Roure* or *de Ciabriera* (2,825 m., 9,269 ft.),

which may be attained in 4 hrs. from Maljasset by following first the track over the Col de Mary or de Maurin, then bearing gradually S.E. past the *Roure* lakes to the Col. It is just S. of the *Dents de Maniglaa* (3,177 m., 10,424 ft.), which are easily ascended hence in 1 hr. This pass naturally leads into the head of the Val Maira, but it is perfectly easy to traverse from it to the S.E. in  $\frac{1}{2}$  hr. to the *Colletta di Chiapera*, 2,799 m., 9,183 ft. (aim at a point S.E. of the apparently lowest depression), which connects the head of the Val Maira with the Bellino glen of the Val Varaita;  $\frac{1}{4}$  hr. more suffices to gain the mule track of the Col de Lautaret (see below), at the chalets of that name. But the more usual ways from Maljasset to Casteldelfino are the mule paths over the Col de Lautaret or the Col de Longet.

1. The path to the *Col de Lautaret* quits the Ubaye valley at the *Ga* huts,  $1\frac{1}{4}$  hr. from Maljasset, and at the E. end of the Paroird lake (see last Rte., 4. under the Col La Noire), and then turns S.E. up the splendid pasture valley of *Lautaret*. The track runs at a considerable height above the right bank of the torrent, crossing to the other bank higher up, and mounting by the sinuous path (ill-marked and not good for mules) known as the *Pas des Marchands* to a level plain,  $1\frac{1}{4}$  hr. from *Ga*.

[Here there opens out on the N. a hollow through which the fine peak of the *Pic du Pelvat* (3,218 m., 10,558 ft.) may be scaled without any difficulty in 2 hrs. by way of the rocks on the left bank of the central couloir in the E. face, the view from the summit being most magnificent.]

Three-quarters of an hour more suffices by a zigzag path up loose stones to gain the pass (2,873 m., 9,426 ft.), which is thus  $3\frac{1}{4}$  hrs. from Maljasset. It is a mere ridge marked by a cross and a boundary stone, dated 1824, with the cross of Savoy and the fleur de lys of France. The view includes many summits of the



Pelvoux group, including the Aiguilles d'Arves, as well as most of the nearer peaks.

More stones lead down on the Italian side in a due S. direction (notice this) in  $\frac{1}{2}$  hr. to the *Lautaret* huts, in a wild basin surrounded on all sides by rugged summits, whence on looking back there seems no visible means of exit. The path now turns sharply to the N.E. along the left bank of the torrent, and in 20 min. attains the edge of the 'Barricata,' down which it descends in zigzags to the pasture plain of *Cejol* ( $\frac{1}{2}$  hr.) This is surrounded on all sides by precipices, and is at the junction of the *Rouï* glen leading up to the Grand Rubren. Thence the *Bellino* glen runs in a due E. direction, the path following one or other bank of the stream, past the principal hamlet of *Bellino-Chiesa* ( $1\frac{3}{4}$  hr.), to its union with the Varaita valley at *Casteldelfino* (1 hr.), which is thus gained in about 4 hrs. from the pass (see § 4. Rte. A).

2. The way over the **Col de Longet** is even easier, for the mule track is much better traced, and more frequented. The way from Maljasset as far as the highest chalets has been described in Rte. B. 4. Here our path bears due E., and traverses a bare, stony plateau, whereon are several tarns and the more considerable *Lac de Longet*, which is the true source of the Ubaye, to the Col (about 3 hrs. from Maljasset), 2,672 m., 8,767 ft. It is marked by a boundary stone, dated 1823, and bearing the cross of Savoy, and the fleur de lys of France, placed here, as on so many of the frontier passes, by the Commission for the Measurement of an Arc of the Mean Parallel. The pass commands a fine view of the Viso, and of the numerous tarns on the Italian side. The path descends in an E. direction past the highest and most picturesque of these, and below the second winds down steeply, and unites successively with the paths from the Cols Blanchet and de St.

Véran (§ 4. Rte. A. 1. a), finally reaching a hollow wherein the way from the Col dell' Agnello (§ 4. Rte. A. 1. c) is joined, a little above La Chianale ( $1\frac{1}{2}$  hr. from the Col de Longet). *Casteldelfino* is hence gained by the last-mentioned route in 2 hrs. or less.

#### ROUTE D.

##### CUNEO TO BARCELONNETTE BY THE VAL MAIRA.

Steam tramway to Dronero; carriage road thence to Acceglio; thence mule paths.

Whoever has looked across the plain of Piedmont from an Alpine eminence must have noticed the range of the Montferrat Hills (rising immediately E. of Turin), on one of the outliers of which stands the famous Church of the Superga. At a not distant period—as geologists reckon time—when the valley of the Po was a gulf whence the waters were slowly retiring towards the Adriatic, these hills formed a group of low islands; and at a still later period, when the sea had quitted the surrounding plains, they served to separate the streams poured out from each of the main valleys of the neighbouring Alps, forcing them into two main channels—one flowing to the S., and the other to the N., of these hills. The first of these is that in which the united waters of the Stura, Tanaro, and Bormida, with their numerous affluents, roll towards the Adriatic beneath the walls of Alesandria. The other, and more considerable, channel is that of the Po, which, issuing from its source under the Viso into the plain, receives a number of affluents equal to itself in volume, and passing Turin, sweeps round the northern base of the Montferrat range, till all these waters are

finally united a few miles E. of Valenza.

The Maira, and its affluent the Grana, although they enter the Piedmontese plain very near Cuneo, and for some distance run parallel to the Stura, mingle their waters with those of the Po. If the rule which attributes to the longest branch of a great river the distinction of bearing its name were constantly observed, the source of the Po would be sought at the head of the Val Maira, and that valley would not have been so much, and so undeservedly, neglected by geographers and travellers as it has hitherto been.

From Cuneo to the fine, cheerful country town of *Dronero* (8,000 inhabitants) the steam tramway (11 m.) runs over a tolerably level stretch of country, skirting the hills, and crossing the Grana torrent at *Caraglio* (7 m.) at the opening of the Val Grana (see next Rte.)

6 m. W. of Dronero is *San Damiano*, a commune composed of no fewer than fifty-two hamlets. The chief of these is finely situated, in the lower open part of the Val Maira, surrounded by rich cultivation and fine trees.

☐Hence the mule path leads in a N.W. direction in 5 hrs. to Sampeyre, in the Varaita valley, passing over the *Col de Biron* (1,692 m., 5,551 ft.)☐

Above the village the valley contracts, and speedily assumes the character which it maintains for the greater part of its length—that of a deep narrow trench cut into sedimentary rocks. The similarity of character between the main valley and many of its tributary glens shows that their actual form is due to the mode of disintegration of the strata through which they pass. The torrent of the Maira in most places runs in a mere cleft at the bottom of the trench, between walls of rock nearly vertical, so that it is scarcely anywhere accessible. But the hill-sides above are very lovely, especially in the early summer. The road leading to Stroppo

is carried along the steep N. side of the valley, and is exposed to the full force of the sun in a hot narrow valley, so that it is oppressively hot in summer, and should be traversed either in early morning or towards evening. 4 m. from San Damiano is *Alma*, and 3 m. further, past the opening of the *Albaretto* glen (see Rte. E), as the valley becomes still narrower and wilder, is *Stroppo* (944 m., 3,097 ft.)

☐For the *Col della Cavallina* to the village of *Elva* see below.☐

Beyond Stroppo, on the S. side of the valley, is the opening of the *Marmora* glen, through the S. branch of which the *Col del Mulo* leads to Sambuco, or Demonte, in the Stura valley, and the *Col de Sibolet*—see next Rte.—to the Val Grana, while through the S.W. branch it is possible to cross over to Ponte Bernardo, in the Stura valley, by the *Col de Servagno* (2,578 m., 8,458 ft.) Among débris above Prazzo is found the extremely rare *Artemisia pedemontana*. 4 m. beyond Stroppo, and 28 m. from Cuneo, is *Prazzo* (1,030 m., 3,379 ft.), in a picturesque position above the left bank of the Maira.

☐Hence the *Col della Bicocca* (2,289 m., 7,510 ft.) leads over to Casteldelfino. The ravine descending from the pass towards the Val Maira is so steep and precipitous as to be utterly impassable. For this reason the mule paths from Stroppo and Prazzo wind respectively over the mountain slopes on the E. and W. to gain the upper basin, by which the Col is attained. The track from Stroppo, after a rather long and steep ascent, gains the *Col della Cavallina* (2,088 m., 6,851 ft.), very fine views being obtained of the higher peaks of the Maritime Alps, seen over the nearer range separating the Maira and Stura valleys. Hence there is a gentle descent to the village of *Elva* (2½ hrs. from Stroppo), situated in a wide and smiling hollow. *Silene Vallesia* and *Saxifraga diapensioides*, with

other rare plants, are found hereabouts. The Elva basin can also be gained from Prazzo past *San Michele*, and over the *Colle San Michele* (1,902 m., 6,240 ft.), by a mule path which traverses opposite Elva high above the right side of the gorge, and finally crosses the stream at *Chiosso* ( $3\frac{1}{2}$  hrs. from Prazzo), so as to join the direct path coming from Elva. It is possible to ascend hence direct by a steep track to the Col in  $1\frac{1}{2}$  hr. or so, but it is best to follow the path which zigzags round the hill-side to the E., thus gaining the Col in 2 hrs. from Elva,  $4\frac{1}{2}$ – $5\frac{1}{2}$  hrs. being thus required for the ascent from the Val Maira. From the Col, near which there are remains of old entrenchments, there is a very fine view of the S. face of Monte Viso, which rises above all intermediate objects in successive tiers of rock and ice slope, while the great summits of the Maritime Alps are also seen to the S. To the S.W. of the pass is the steep peak of the **Pelvo d'Elva** (3,064 m., 10,053 ft.), the ascent of which is much recommended, as it is one of the most magnificent belvédères in the district. Elva is the local name for the *Pinus Cembra*. 1 hr. suffices to go from the Col along the undulating ridge to the foot of the Pelvo, whence 2 hrs. more are required by either the easy E. face, N.E. ridge, S. face, or (the easiest route of all) the high S.W. shoulder, to gain the great cairn on the summit. No traveller passing this way in fine weather should neglect to make this ascent. By bearing to the N.W. from the Col it is easy to gain in  $1$ – $1\frac{1}{2}$  hr. the principal hamlet in the Bellino glen, which is 1 hr. from Casteldelfino. But it is shorter to descend slightly N.E. through the forest direct to Casteldelfino, though it is better to take a good path which traverses far to the N.E. to the *Peyron* huts, and then zigzags down through the forest, the village being thus attained in  $1\frac{1}{2}$  hr. from the pass.]

Beyond Prazzo the road mounts along the left bank of the Maira,

passes below the hamlet of *Ussolo*, perched on a rock above, and enters a pretty basin, in which is *Acceglio* (1,265 m., 4,150 ft.), the highest village of any size in the Val Maira. It is 4 m. from Prazzo, or 32 m. from Cuneo.

Many passes lead from the head of the *Val Maira* in various directions. To the S.W. the *Col della Scaletta* gives access to Argentera, in the Stura valley, while to the W. the *Cols des Monges* and *de Sautron* (all three noticed in Rte. A) lead to Larche, in the Ubayette valley. The *Col della Gippiera*, on the N.W. between the Brec and Aiguille de Chambeyron (both summits may be ascended hence), to St. Paul sur Ubaye, is described in Rte. B, and the *Colletta di Chiapera* to Casteldelfino by the Bellino glen in Rte. C, as well as the *Col de Roure* to Maljasset. The *Col de Vers* (2,860 m., 9,384 ft.) leads to the Bellino glen, and so to Casteldelfino (8 hrs.) The *Col de Stroppia*, or *della Nubiera* (2,842 m., 9,325 ft.), is, however, the most direct way ( $6\frac{1}{2}$  hrs.) to St. Paul sur Ubaye, as it descends through the Fouillouze glen, while similarly the **Col de Mary**, or *de Maurin* (2,654 m., 8,708 ft.), is the best route (for it is traversed by a mule track) from Acceglio to Maljasset. The way mounts the Val Maira to the houses of *Saretto*, and then turns N.W. with the Maira stream, which is followed, gradually bearing due N., past many chalets. At those of *Gardetta* (2,153 m., 7,064 ft.) the way to the *Colletta di Chiapera* branches off to the N.E., while higher up on the way to our pass there is a military shelter hut near the small lake of *Sagro del Colle*. The Col de Mary is attained in about 5 hrs. from Acceglio, and thence 2 hrs. or less suffice to reach Maljasset. The mule path runs through the broad Combe de Mary direct to that village, the tracks from the *Col de Marinnet* on the W. (at the foot of the Aiguille de Chambeyron) and the Col de Roure on the N.E. falling in on the way.



## ROUTE E.

## CUNEO TO THE STURA OR MAIRA VALLEYS BY THE VAL GRANA.

Steam tramway to Caraglio; char road to Castelmagno; mule paths thence.

The **Val Grana** is a deep indentation in the range which separates the valleys of the Stura and the Maira, not penetrating, however, to the watershed of the Alpine chain, from which that range projects. At the head of the valley, where the ridges that enclose it on either side converge, there is a slight depression, the *Col de Pra Giordan* (called on the Italian map *Colle Vallonetto*) (2,425 m., 7,956 ft.), which leads to the plain of the *Col del Mulo*, 2,401 m., 7,878 ft. (see Rte. A), whence it is easy to descend either to Demonte or Sambuco, in the Stura valley, on the S., or to Prazzo, in Val Maira, on the N. About 7 hrs. suffice to reach either village from Castelmagno, the highest hamlet in the Val Grana. But this route is here mentioned as merely a topographical curiosity, for, as will be seen below, there are more direct passes from the Val Grana to the two neighbouring glens.

From Cuneo the steam tramway towards Dronero (see last Rte.) is followed as far as *Caraglio* (7 m.) on the *Grana* stream. Hence the carriage road runs W. up the Val Grana, first on one, then on the other bank of that torrent. In 3 m. the chief hamlet, *Valgrana*, is passed, and 3 m. further is the village of *Monterosso*.

[Hence a mule path runs S. over the *Col dell' Ortiga* (1,768 m., 5,801 ft.) to Demonte, in the Stura valley, in  $4\frac{1}{2}$  hrs.]

All this lower portion of the Val Grana is exceedingly picturesque and well wooded. Perhaps the prettiest spot in the valley is the village of

*Pradleves* (816 m., 2,677 ft.), which is 3 m. beyond *Monterosso*, and is reached through a very thickly wooded glen. A pretty wooded and winding glen leads on up the main valley to the narrow and very striking gorge of *Castelmagno*, the hamlet of that name (1,150 m., 3,773 ft.) hanging on the hill-side, being 5 m. from *Pradleves*, or 21 m. from Cuneo. Here the char road comes to an end. The valley above is barren and desolate. Below the *Sanctuary of San Magno*, 1,780 m., 5,840 ft. (the saint was one of the Theban Legion), the paths divide ( $1\frac{1}{2}$  hr. from *Castelmagno*), that to the left (W.) going on towards the *Colle Vallonetto*. Our track climbs steeply up to the *Sanctuary*, passes N.W. over rolling pastures to a green basin, and then mounts by a rocky barrier to an upper basin, at the head of which, and reached by stones and a zigzag path, is the *Col de Sibolet*, 2,561 m., 8,403 ft. (2 hrs. from the bifurcation). On it there is a small lake. The view includes all the *Chambeyron* peaks and some of the *Maritime Alps*, as well as the *Sanctuary of San Magno*.

[By bearing N. just before reaching the pass a path is gained which crosses the *Col Intersile* (2,523 m., 8,278 ft.), and descends by a good path on the left side of the *Albaretto* glen to *Alma*, in the *Val Maira*.]

A steep descent leads due W. down to the mule path in the *Marmora* glen, coming direct from *Sambuco* by the *Col del Mulo* ( $\frac{3}{4}$  hr.) The upper part of this glen is uninteresting. The mule path passes through *Verneti* or *Marmora*, at the junction of the two arms of the valley ( $1\frac{1}{2}$  hr.), opposite *Canosio*, in the S.W. arm, and in a short hour more through a pretty gorge attains the *Val Maira*,  $\frac{1}{2}$  hr.'s walk up which brings the traveller to *Prazzo*, which is thus attained in about 7 hrs. from *Castelmagno*.

## SECTION 4.

*VISO DISTRICT.*

IN the Introduction to this Chapter **Monte Viso** was compared to the salient angle of a bastion projecting from the main watershed of the Alps towards the plain of Piedmont. This angle is so extremely sharp that, if a circle be drawn round the mountain, more than seven-eighths of the circumference will lie on the side of Piedmont, while less than one-eighth will be included in the narrow valley of the Guil. The peak towers up in a singularly solitary fashion, and is therefore well seen from the Piedmontese plain and elsewhere, so that one is not surprised to learn that it is perhaps the single peak mentioned expressly by the writers of classical antiquity, while the name 'Vesulus' or 'Viso' has been explained by the fact that it is visible so far away. It rises a little S.E. of the main watershed, and it is noteworthy that many other of the great peaks of the S.W. Alps stand also apart from that watershed, *e.g.* the Punta dell' Argentera, the Aiguille de Chambeyron, the Ecrins, and the other summits of the Pelvoux Group, the Grande Casse, Mont Pourri, Charbonel, Ciamarella, Grand Paradis, Grivola, &c. The Viso is connected with the watershed by a range of shattered peaks, which include the two summits of the *Visolotto*, and the *Punta Gastaldi*, or *Visoulet*, the exact point of junction being just N. of the last-named peak. Hence the Viso is a wholly Italian mountain, and it is misleading to speak, as has been done, of its French slope. The E. face fronts the valley of the Po, and the W. face overlooks the head of the Vallante valley, the S. face (that usually ascended) rising above the Forciolline glen of the last-named

valley. The N. face is divided into two facets as it were, the N.W. of which dominates the head of the valley of the Guil, and the N.E. that of the Po at its source. More precise topographical details will be found in Rte. C. below. The peak itself is composed of hornblendic and other green schists, the summit being a glaucophane schist; but with these serpentine and euphotide are associated, and it is possible that the whole mass consists of igneous rocks intrusive in the older mica schists and gneiss, their schistose structure being due to pressure. Monte Viso is the culminating point of a long ridge, which runs S.E. from the main watershed, and separates the Varaita and upper Po valleys, which, together with that range, form the subject of the present Section.

A summary of the history, &c., of the Viso up to the end of 1881 is given in Mr. Coolidge's monograph on the peak in the tenth volume of the 'Alpine Journal,' which needs to be supplemented by Signor G. Rey's account (in the 1887 'Bollettino' of the Italian Alpine Club) of the convenient route he discovered in 1887 up the E. face of the peak. Further information may be sought in Signor Isaia's 'Al Monviso per Val di Po e Val di Varaita' (Turin, 1874), though more recent explorations have caused certain portions of this work to be out of date. For the most interesting history of the fifteenth-century tunnel under the Col de la Traversette (sometimes called the 'Col du Viso') Signor L. Vaccarone's admirable historical monograph 'Le Pertuis du Viso' (Turin, 1881) should be consulted, particularly the appendix of original documents, a model work of its kind.

**Crissole** is the best headquarters for explorers of the Viso, as it has now a fair inn and guides, and is close to the foot of the peak. Casteldelfino does not possess the former two requisites, while Abriès lacks the last-named.

## ROUTE A.

SALUZZO TO GUILLESTRE BY THE  
VAL VARAITA.

Steam tramway to Venasca; carriage road to Casteldelfino; thence mule paths or foot paths with a char road at the end.

The three bustling little Italian towns of Cuneo, Saluzzo, and Pinerolo are built on the W. edge of the Piedmontese plain, so as to command one or more of the valleys descending from the main ridge of the Alps. Saluzzo itself is rather nearer the mouth of the upper valley of the Po than that of the Val Varaita, but, as the former valley is now most easily approached from Turin without passing through Saluzzo (see Rte. B), **Saluzzo** (French *Saluces*) may be best included in the present Rte. It is close to the foot of the great ridge on which rises Monte Viso, and which descends from the main watershed of the Alps, and it is placed midway between the streams of the Varaita and the Po, which issue from the two valleys on either side of that ridge. It is 38 m. from Turin *viâ* Airasca (on the Pinerolo railway, § 5. Rte. A), and 42 m. *viâ* Savigliano, on the Cuneo line (the journey in each case taking  $2\frac{1}{4}$  hrs.), while it is the centre of many steam tramways.

To reach the opening of the **Val Varaita** the line runs S. from Saluzzo to *Verzuolo* and *Costigliole*, along the base of the range between the two valleys named above, and then bends to the W. to *Piasco*, to which there is a shorter direct carriage road from Saluzzo past *Villanovetta*. 4 m. beyond Piasco is *Venasca*, where the tramway line ends ( $10\frac{1}{2}$  m.) Here a glimpse of the Viso is obtained. The carriage road crosses to the left bank of the Varaita, and begins to ascend. On the N.W. near *Brossasco* (2 m. from Venasca) is seen the opening of the *Girba* glen, by which Paesana, in the valley of the Po, may be gained in 6 hrs. by the *Col di Girba* (1,525 m.,

5,003 ft.) The road crosses and re-crosses the Varaita several times before reaching *Sampeyre*, 980 m., 3,215 ft. (11 m. from Venasca), the principal place in the valley (about 6,000 inhabitants), which is made up of many scattered hamlets. (For the Col de Biron to San Damiano, in the Val Maira, see § 3. Rte. D.) The Val Varaita presents a marked contrast to the neighbouring Val Maira (§ 3. Rte. D), being comparatively wide and open, with level ground by the river, well planted with walnuts; while the mountains on either side are of more gentle inclination, and covered with pine forests, that here and there give way to bright green pastures. Some way beyond *Sampeyre* the hamlet of *Villar* is left on the hill-side to the right. It was formerly strongly fortified, so as to defend the upper valley, which (there is a hamlet close by still called *Confine*) was held by France, till by the Treaty of Utrecht, 1713, the French valleys of Casteldelfino (Château Dauphin), Fénestrelles, and Exilles were exchanged for the Savoyard valley of Barcelonnette, the Alpine watershed thus becoming the political, as it is the natural, frontier between France and Savoy. The valley below *Villar* (part of the marquessate of Saluzzo) was held by the French (like that of Crissolo) from 1529 to 1588, and obtained in 1601 by Savoy from France in exchange for Bresse, Bugey, and Gex. 6 m. beyond *Sampeyre*, and  $29\frac{1}{2}$  m. from Saluzzo, is the large village of

**Casteldelfino**, or **Château Dauphin** (1,296 m., 4,252 ft.), which takes its name from the fourteenth-century castle of the old Dauphins (now ruined—it commands a fine view of the Viso, not seen from the village), a few minutes above and to the W. of the village, on a rock at the angle between the two branches into which the Val Varaita here divides. The more westerly of these, the *Bellino* glen, with the passes leading from it, has been noticed in § 3.



Routes C and D, as well as the Col della Bicocca and the Pelvo d'Elva, just S. of the village. In this Section we have to describe only those through the N.W. or main branch of the Varaita valley, which is separated from the other by a ridge descending E. from the Grand Rubren.

Casteldelfino was the starting point for several of the early ascents of the Viso, and the Club hut at its S. foot may be gained hence in about 5 hrs. by way of the Forciolline glen of the Vallante valley (see under 2. below). But Crissolo is now generally selected as headquarters for this expedition, and, with the exception of the ascent of the fine peak of the *Pelvo d'Elva*, 3,064 m., 10,053 ft. (§ 3. Rte. D), there is nothing to detain a traveller at Casteldelfino. Any one, however, minutely exploring the Cottians is bound to halt here, as the village is the starting point for a very great number of passes leading to the Po valley and the Val Maira, and as well as to the valleys of the Ubaye and the Guil. (See § 3. Rtes. C and D, and Rte. B. below.)

The scenery of the lower part of the N.W. or main branch of the Val Varaita (sometimes called 'Val di Chianale') is very pleasing, with bright green pastures enclosed between wooded slopes, but the ridge enclosing the head of the valley is nearly bare. The pleasantest way is by the path on the E. side of the glen, which after a steep ascent passes through meadows, and is joined by the main track (along the other bank of the Varaita) near the picturesque hamlet of *Castelponte*, 1,597 m., 5,340 ft. (1 hr.), perched high above the Varaita valley, and at the entrance to the *Vallante* glen. For here this N.W. branch of the Varaita valley splits into two glens—that of *Vallante*, running due N. along the W. foot of the Viso to the Col de Vallante, and the main glen, which continues in a N.W. direction towards *La Chianale*. Each of these must be described separately, though it is most convenient to include them in

the same Rte., since, with the single exception of the Col de Longet to the Ubaye valley, all the passes from either glen lead sooner or later to the Guil valley, and so to *Guillestre*.

1. *By La Chianale*.—The mule track mounts along the left bank of the Varaita past *Ponte Chianale*, 1,661 m., 5,450 ft. (the chief hamlet is *La Maddalena*), to *La Chianale* (1,799 m., 5,902 ft.), the highest hamlet in the valley ( $\frac{3}{4}$  hr., or  $2\frac{1}{2}$  hrs. from Casteldelfino). On the way is seen the *Tête des Toillies*, 3,179 m., 10,430 ft. (§ 3. Rte. B), which rises in a fine rock tower at the meeting point of the Varaita, Ubaye, and St. Véran glens. The higher or E. peak (3,396 m., 11,142 ft.) of the Grand Rubren is also visible.

At or near *La Chianale* a number of mountain glens unite, so that from this spot many passes may be made in various directions (several traversed by mule paths), which can be only briefly noticed here, with the exception of that which is most frequented, the *Col dell' Agnello*.

(a) *To the St. Véran Glen*.—Two passes lead over in  $4\frac{1}{2}$  hrs. to the village of St. Véran (§ 3. Rte. B. 4), the *Col Blanchet*, or *della Niera* (2,897 m., 9,505 ft.), and the *Col de St. Véran* (2,844 m., 9,331 ft.), which pass S. and N. respectively of the *Rocca Bianca* (3,054 m., 10,020 ft.) Either may be reached in  $2\frac{1}{2}$  hrs. from *La Chianale*, the way, especially for the second pass, being for long identical with that to the Col de Longet (§ 3. Rte. C. 2. to the Ubaye valley), which is finally left on the S. The former pass (which owes one of its names to the white rocks which form its crest) is the more attractive to the mountaineer, as from it the *Rocca Bianca* can be gained in a few minutes, or (better still) the *Tête des Toillies* in 1 hr., the view from the latter being especially fine. On the other side the tracks from the Cols *La Noire* and *de la Cula* (§ 3. Rte. B. 4) are soon joined.

(b) *To the Head of the Guil Valley*.

—Half an hour above La Chianale the fine pasture glen of *Soustra* joins the Varaita valley. Two passes lead in 3 hrs. from its upper end to the very head of the Guil valley, where the route from the Col de Vallante (2. below) is joined—the *Col de Ruines* (3,053 m., 10,017 ft.), and the *Col de Soustra* (also called the *Col de la Lauzette*, or *Col de Ristolas*), 2,854 m., 9,364 ft. Pastures extend high on the Italian slope of both Cols, but the descent on the French side from the former is by a narrow stone-filled gully, with a pear-shaped tarn at its base; while from the second pass snow, rocks, and grass are successively traversed.

From or near the Col de Soustra the ascent of the splendid belvédère of the *Pointe Joanne*, or *Cima di Losetta* (3,054 m., 10,020 ft.) may be made with great ease ( $1\frac{1}{4}$  hr. from the very head of the Guil valley by its N.W. ridge or face, or  $2\frac{1}{2}$  hrs. from La Chianale direct). The easiest way up is from the *Col di Losetta* (2,857 m., 9,374 ft.), to the S.W., the Col de Vallante being gained either direct from the summit or from this Col by a steep rock descent in 40 min.; from the Losetta pass a small path leads S. to a point far down the Vallante glen.]

(c) *To the Agnel Glen.*—Midway between the Longet glen on the N.W., and the Soustra glen on the N.E., the most frequented mule track mounts nearly due N. from La Chianale to the *Col dell' Agnello*, 2,744 m., 9,003 ft. ( $2\frac{1}{2}$  hrs.) After having passed first the opening of the Longet glen on the left, then that of Soustra on the right, the mule track zigzags up the hill-side through a scattered pine wood, and, following the course of an upland grassy valley, mounts the slopes at its head to the pass, the more southerly and lower of two depressions (the other is the Col Vieux d'Agnello). The view of the Viso, the Chambeyron peaks, and the lofty summits of the Dauphiné Alps is extremely fine. The pass has fre-

quently been crossed by armies, and is now much used by the Piedmontese workmen, who seek work in France during the winter, and return home in the spring.

A gentle descent of  $\frac{1}{4}$  hr. or so on the French side leads to one of the 'Refuges Napoléon,' called 'Refuge Agnel' (2,498 m., 8,196 ft.), which was formerly a rough kind of little inn, and convenient as a starting point for several expeditions in the neighbouring ranges, but is now reserved for military purposes.

Half an hour away to the N.E. is the *Col Vieux* (2,738 m., 8,983 ft.), which may also be gained by a traverse direct from the Col dell' Agnello. From the pass the ascent (either by the N.W. or S.W. faces or ridge) of the *Pain de Sucre* (3,202 m., 10,506 ft.) may be effected in less than an hour; the summit is crowned by a great cairn, and commands a very extensive panorama, so that this détour is much recommended, especially as this, like either of the two following ascents, can be taken on the way to Abriès. A longer climb from the Col Vieux is that of the *Grande Aiguillette* (3,297 m., 10,817 ft.), accessible in  $2\frac{1}{4}$  hrs. by traversing to the *Brèche de Ruines*, 2,850 m., 9,351 ft. (whence the chalets of that name in the Guil valley are easily reached), and thence past the lake of the same name attaining the W. ridge of the peak along which the huge cairn on the summit is gained; it is possible to effect a rough descent across the head of the Soustra glen to the Col de Soustra ( $1\frac{1}{2}$  hr.) The view from the summit is remarkable as extending from the Maritime Alps to Monte Rosa.

From the Col Vieux there is a rough but very striking and quaint, descent by a stony footpath past the *Foréant* and *Egourgéou* lakes, then through a forest and past the grassy basin in which are the *Médille* chalets, to the Guil valley ( $2\frac{1}{4}$  hrs.), which is reached at the bridge opposite La Chalp, on the Col de la Traversette

route (Rte. B. below), and about  $1\frac{1}{4}$  hr. from Abriès. The way down this wild glen from the Col Vieux passes at the W. foot of the gaunt smooth slate walls of the *Roche Taillante* (3,200 m., 10,499 ft.); its N. and highest point can be climbed in  $1\frac{3}{4}$ –2 hrs. from the Egourgéou lake, 1 hr. below the Col Vieux, by a deep and well-marked notch—reached from the N.—in the great W. buttress of the peak, and débris gullies between smooth slate slabs. (The S. and lower point is accessible in  $1\frac{1}{4}$  hr. by a very sharp ridge.) This ascent and the peak generally may rank among the oddest in the Alps. It may be of use to mention that from the Foréant lake,  $\frac{1}{2}$  hr. below the Col Vieux, there is a pass across the ridge on the N.W., the *Col du Fond de Ségure*, between the points marked 2,903 m. and 3,006 m. on the French map; it is perfectly easy, and by it a traveller may go in about  $2\frac{1}{2}$  hrs. from the lake to Ristolas, 40 min. above Abriès. ]

From the Refuge Agnel the well-marked mule path descends by a uniform gentle slope above the right bank of the stream in the grassy *Agnel* glen to *Fongillarde* (2 hrs. from the Col dell' Agnello), where is the French custom house. The way would be monotonous if it were not relieved by fine distant views of the great Dauphiné peaks. From *Fongillarde* a char road leads steeply down in  $\frac{3}{4}$  hr. ( $2\frac{1}{2}$  m.) to the village of *Molines*, at the junction of the Agnel glen with the St. Véran glen (§ 3. Rte. B. 4). It is 3 m. more by road to *Ville Vieille*, in the Guil valley (Rte. B. below), which is but 2 m. above *Château Queyras*, or 14 m. above Guillestre.

In a gorge on the left, just before the commencement of the steep descent to *Ville Vieille*, the traveller should notice some fine specimens of what are called 'earth pillars,' or 'colonnes coiffées,' such as may also be seen in the Escreins glen, near Guillestre (§ 3. Rte. B. 1), in that of

Fournel, near l'Argentière, in the Durance valley, near Useigne in the Val d'Hérens, at Oberbotzen, and elsewhere in the Alps. In some of these cases the pinnacles have been produced by the disintegration of superficial deposits of clay and detritus, which, when protected from rain by large blocks of stone resting on the original surface, gradually form pinnacles, each of them capped by the block to which it owes its formation. In the present instance, however, they seem to be formed of a friable limestone, remaining *in situ* where covered by erratic blocks of gabbro, and washed away in the interstices.

2. *By the Vallante Glen.*—Unlike the Chianale basin this glen is very narrow throughout, and communicates with the Guil valley by but a single pass, the *Col de Vallante*, at its extreme head. The scenery of the Vallante glen is throughout very fine, though extremely wild and savage. From Castelponte the path mounts above the right bank of the torrent, and crosses to the left bank opposite the opening of the *Giargiatte* glen (for the Passo di San Chiaffredo, see Rte. D. 1. b), 20 min. beyond which (1 hr. from Castelponte) are the *Soulières* chalets (1,937 m., 6,355 ft.), those of *Chardonney* being just across the Forciolline stream. These huts are situated at the opening of the stony and steep Forciolline glen, through which the Club hut at the S. foot of the Viso, and the Passo delle Sagnette to Crissolo (Rte. C. 3. below, and Rte. D. 1. a), can be reached by a bad track, and one hard to find, in about 3–4 hrs. from the Soulières huts. Near these chalets many rare plants may be found, e.g. *Campanula Allionii*, *Senecio Balbisianus*, *Euphrasia lanceolata*; while higher up are *Primula marginata*, *Ranunculus pyrenæus*, and many others. The ascent from the huts to the Col de Vallante lies through the rocky valley on the W. or right bank of the stream. As the traveller advances the valley



becomes narrowed to a mere gorge, the path disappears, and the last part of the ascent is made by the left side of the glen and a steep couloir, partly filled with snow, which terminates abruptly on the snow-covered ridge forming the **Col de Vallante** (2,825 m., 9,269 ft.), 2-3 hrs. from Soulières.

[For the Pointe Joanne and the Col di Losetta on the S.W., see above, 1. *b.* and for the Col du Visolotto, N.W. of the Visolotto, leading to the Piano del Re inn, see next Rte. The ascent of the Viso itself from the glacier between it and the Visolotto is noticed is Rte. C. 3.]

Corresponding to the Pointe Joanne on the W. of the pass is the *Punta Gastaldi*, or *Visoulet* (3,269 m., 10,726 ft.), on the E. The N. and lower top of the last-named mountain marks the junction of the great spur on which rises the Viso with the main ridge. The Punta itself may be climbed in about 1-1½ hr. from the pass by gaining the frontier ridge at its foot, and then climbing across the W. face beneath some steep reddish pinnacles. The view is fine, though the spectator is too close under the Viso to properly appreciate that magnificent peak.]

The descent on the French side of the col lies down a steep snow slope and rocks. Some way down, at the foot of the final slope, the little *Lestio* lake is passed in a flat, nearly level basin, and in 1 hr. or less from the pass the old Club hut, called the 'Refuge des Lyonnais,' one of the highest chalets in the uppermost hollow of the Guil valley, above the right bank of that stream, and on the left bank of the *Faiteau* torrent, descending from the Col de la Traversette, is attained. On the way the routes to the Col de Soustra (above, 1. *b.*) on the W., and those to the Cols Isaia and del Colour del Porco on the E. (see next Rte.), are passed. From the chalets it is only necessary to follow the track above the right bank of the Guil, the path from the

Col de la Traversette being joined at the conspicuous solitary larch tree. Soon after ( $\frac{3}{4}$  hr. from the Refuge) the beginning of the char road is reached, by which *Abrìs* (19½ m. above Guillestre by road, see next Rte.) is gained in 2½-3 hrs. more.

It is quite easy to traverse N. over stony slopes from the Col de Vallante to the Col del Colour del Porco, or the Col de la Traversette, without descending to the level of the Guil, while on the Italian side it is easy to gain the Col du Visolotto, between the Visolotto and the Punta Gastaldi.

## ROUTE B.

### TURIN OR SALUZZO TO GUILLESTRE BY THE VALLEY OF THE PO.

Railway to Barge or Saluzzo; carriage road to Crissolo; mule path (save upper bit of Col) to Guil valley, whence char road to Guillestre.

It was pointed out at the beginning of the last Rte. that, though Saluzzo is nearer the mouth of the upper valley of the Po than that of the Val Varaita, yet the best way of reaching Crissolo, at the head of the Po valley, from Turin does not now pass Saluzzo.

The quickest way from Turin is to take the line by Pinerolo towards Torre Pellice (§ 5. Rte. A) as far as *Bricherasio* (29½ m., 1½-2 hrs.), whence a branch line leads in 8 m. more (25 min.) to *Barge*, from which place a picturesque road, through wooded hills, and over the *Colletta* (650 m., 2,133 ft.), gives access in 4 m. to *Paesana*.

[A traveller coming from Saluzzo direct takes the steam tramway for 5 m. to *Revello*, whence it is 13 m. by carriage road to Paesana, past the small town of *Sanfront*.]

Paesana is the chief place in the upper valley of the Po, and hence

the easy *Col di Girba* (1,525 m., 5,003 ft.) leads over in 6 hrs. to Brossasco, in the Val Varaita (see Rte. A).

Above Paesana the scenery of the valley itself is very fine, while the peak of the **Viso** becomes a more and more imposing object whenever it comes into view. Nearly half-way to Crissolo the *Lenta*, flowing from the S.W., from its source in some small lakes under the Viso, joins the Po. On the mountain-side, in the angle between the *Lenta* and the Po, is the finely situated village of *Oncino* (1,211 m., 3,973 ft.), which commands a noble view. (It is reached from the Po valley by some steep zig-zags through a fine beech forest, and thence there is a path high up on the hill-side to Crissolo. For the passes from *Oncino* to the Val Varaita, see Rte. D. 1).

The road to Crissolo keeps always to the left bank of the Po, the scenery in the valley changing its character above the junction with the *Lenta*. The chestnut trees which have hitherto shaded the road disappear as it enters a wild gorge, whence it emerges upon green meadows, bordered by willows and alders. Beyond the hamlet of *Ostana* the Po is joined by the *Tossiet* stream, which has run for some distance nearly parallel to it, being separated by a rocky mass crowned by the imposing *Sanctuary of San Chiaffredo*. The road skirts along the S. base of this spur, and soon (6 m. from Paesana) reaches the main hamlet of

**Crissolo** (1,333 m., 4,374 ft.), the best headquarters for a mountaineer in the Viso district, by reason of its position, its inns, and its guides. It is also an excellent station for the botanist, many rare species being found in the immediate neighbourhood, especially on the mountain slopes N. of the village. Amongst others *Campanula elatines*, *Vicia onobrychoides*, *Saxifraga diapensioides*, and *Sedum alsinefolium* may be mentioned.

☐ The Po valley is very narrow, and most of the hamlet is on the left bank, woods coming quite down to the right bank. But the mountaineer will prefer to go on to the inn on the Piano del Re, after he has visited the two sights of Crissolo itself.

One is the aforesaid **Sanctuary of San Chiaffredo** (1,412 m., 4,633 ft.), which may be reached in 10-15 min. from the *piazza* of the village by a good mule path. It dates from 1444, when the bones of the saint (one of the Theban Legion) were miraculously discovered, but the present edifice was built in 1551, after the old one had been destroyed by the Huguenots. It consists of a long plain range of buildings, facing S., with a terrace in front, at the further end of which is the church, filled with ex-votos, and adorned with some poor frescoes. If possible, a traveller should visit this spot in mid-September, on the feast day of the saint, when throngs of pilgrims, in picturesque garb, wend their way from afar to this shrine. But to other than pilgrims the glorious view of the Viso (invisible from Crissolo itself) from the Sanctuary will outweigh all other considerations. From few other so accessible points can this magnificent summit be better seen as it towers up in all its splendour and symmetry of form above the forests and broad bare downs, which serve it as a pedestal.

In the crystalline schists are some extensive masses of dolomite, interstratified with comparatively pure limestone. In one of these layers of dolomite is the celebrated **Caverna del Rio Martino**, which no traveller should neglect to visit. The entrance may be reached in about 20 min. from Crissolo, by a path mounting towards the W. Access to the cavern has been much facilitated by operations carried out by the Italian Alpine Club. A narrow passage leads to a spacious hall, beyond which are several others, lined with

stalactites, to which various fanciful names have been given, while the cavern is closed by a fine waterfall thundering into a lake, contained in a hollow of white marble. The cavern is about 600 m. (1,969 ft.) in length, the mean width and height being about 10 m. (33 ft.) The interior can be seen to perfection only by brilliant illumination, and the traveller will do well to have it lighted up by Bengal lights or magnesium wire, which are provided by the guides. Various marvellous stories as to the origin and history of the cavern are current among the natives. It is needless to say that it is merely a specimen of a class of phenomena common in most limestone districts.

The ascent of *Mont Frioland* (2,720 m., 8,924 ft.), N. of Crissolo, can be made in 4 hrs. or so through the *Tossiet* glen, mainly by grass slopes, and the panorama it commands is most splendid. (See Rte. D. 2. d.)

For the passes from Crissolo to the Varaita and Pellice valleys, see Rte. D, while in Rte. C will be found all particulars as to the ascent of Monte Viso. ]

The mule path up the valley mounts above the left bank of the Po, and passes through several hamlets, and below that of *Borgo*, the white church tower of which is very conspicuous from Crissolo itself. A turn in the valley conceals that village, and the *Viso Mozzo*, 3,018 m., 9,902 ft. (see below), though only the footstool of the monarch, becomes the chief object in view. The valley becomes thoroughly Alpine in character, huge blocks, fallen from the mountains on either side, or borne down by the glacier which once filled the valley, being strewn around in wild confusion. In the midst is the small plain of *Mélèzet*, the name of which preserves the memory of the larches which have long since vanished, while a short distance above is the *Piano Fiorenza*, a small grassy plain, the filled-up bed of an

ancient lake, which in summer produces a rich variety of Alpine plants. The *Viso* now comes into sight in all its majesty, supported by the *Visolotto* on the right and the *Viso Mozzo* on the left. The ascent becomes steeper, the path mounting in zigzags past the first waterfall of the infant Po. Amongst the débris and the crevices of the rocks *Cardamine thalictroides* may be found. Above these zigzags the traveller attains the *Piano del Re*, an irregular plain of some size, covered with stone-strewn grass, above the dark bare rocks of which, interspersed with patches of verdure, the E. face of the *Viso* rises very grandly. It does not present the appearance of a continuous wall of rock, but of a rocky pyramid, seamed by a great snow couloir, and ending in an overhanging glacier, to the N. of which a range of shattered towers and pinnacles, with many intervening gaps and chasms, decreasing gradually in height, leads the eye round towards the Col de la Traversette. These towers and gaps are named as follows, reckoning N. from the *Viso* itself: the *Mano*, the *Visolotto*, the *Col du Visolotto*, the *Punta Gastaldi*, the *Col del Colour del Porco*, the *Roccie Fourioun*, the *Col Isaia*, and the *Monte di Marte*, just N. of which is the Col de la Traversette, with the 'Pertuis du Viso' pierced below it. On a mound in the *Piano del Re* is the small '*Albergo Alpino*', 2,041 m., 6,697 ft. (2 hrs. from Crissolo by mule path), which affords quarters that no mountaineer should despise, and is the best starting point for the ascent of most of the neighbouring peaks.

The name of the *Piano del Re* has been said to be derived from a visit of Victor Emmanuel II., but is much more likely due to the fact that it was often the site of the camps of troops which passed through the *Pertuis du Viso* from the fifteenth century onwards.

[A few minutes W. of the inn is



the *Source of the Po* (2,019 m., 6,624 ft.), a fine spring welling up between two great boulders, and issuing from underneath a huge mass of débris, so that ultimately it probably comes from the overhanging glacier, the butt end of which appears as a high ice cliff between the Viso and the Visolotto.  $\frac{1}{4}$  hr. from the inn, and reached by a zigzag path to the S., is the little *Fiorenza* lake (2,108 m., 6,916 ft.)—quite distinct from the plain of the same name passed on the way up from Crissolo—on which there is a row boat. It is worth while to mount still further to the S. over many stones, and past the *Chiaretto* lake, to the wide depression of the *Col dei Viso*, 2,653 m., 8,704 ft. ( $2\frac{1}{2}$ –3 hrs. from the inn), between the Viso on the W., and the *Viso Mozzo* (3,018 m., 9,902 ft.) on the E. The latter summit, a very fine viewpoint, may hence be ascended over easy stone slopes in about 1 hr. From the Col it is a very short distance down on the other side to the *Lago Grande di Viso* (2,593 m., 8,507 ft.), on the way from the Passo delle Sagnette and the Viso to Crissolo, this village being reached in about 3 hrs. from the pass. This round, much recommended to good walkers, and free from any difficulty whatsoever, is known at Crissolo as the ‘Giro dei Laghi.’

Apart from the ascent of the Viso (see Rte. C) from the E. or the N.E., there are two climbs, best made from the Albergo Alpino, of which a brief notice must here be given. The easier expedition is the **Monte Meidassa** (3,105 m., 10,187 ft.), rather to the N.E. of the Col de la Traversette: it is simply a walk up easy stony slopes on its S.W. or W. flank, and may be gained in  $2\frac{1}{2}$ –3 hrs. or less from the inn, the path being the same as that to the Col de la Traversette as far as the little spring, whence  $\frac{1}{2}$ – $\frac{3}{4}$  hr. easy ascent to the N. suffices to gain the cairn on the summit. The panorama extends from the Maritimes to Monte Rosa,

and includes the Albergo Alpino, Crissolo, and Paesana; but the chief feature is the almost unrivalled view of the Viso itself, this being one of the four most favourably situated points whence to admire the monarch of the Cottians. (Between this peak and the Monte Granero to the W. is the *Col Luisas*, by which the Val Pellice can be easily reached (see Rte. D. 2. a), or by a descent, a traverse, and a reascent the first chalet—the *Bergerie du Grand Vallon*—on the French side of the Col de la Traversette, attained by way of the *Col de Seylières* (2,826 m., 9,272 ft.),  $2\frac{1}{2}$ –3 hrs. from the Meidassa, and  $\frac{1}{2}$  hr. down to the chalet.)

The chief attraction (next, of course, after the Viso) for a mountaineer who makes a halt at the Albergo Alpino is the **Visolotto**, the fine rock peak, which rises just N. of the Viso, and stands to it as the Klein Schreckhorn in the Bernese Oberland does to the Gross Schreckhorn. Its lower and S. point (3,346 m., 10,978 ft.) was first scaled in 1875 by Signor F. Montaldo by the S.E. ridge, but the higher or N. summit (3,353 m., 11,001 ft.) was not reached till 1881, when Mr. Coolidge climbed it by a great zigzag across the E. face over good though steep rocks, the highest ridge being struck at a point 15 min. from the N. summit, and 25 min. from the S. summit, both being visited. A point on the highest ridge rather nearer the N. summit was gained in 1892 by Signor Lanino from the Col du Visolotto by way of the N.W. arête, and a traverse over the E. face ( $4\frac{1}{4}$  hrs.) Mr. Coolidge took  $2\frac{1}{4}$  hrs. from the inn to the extreme N. end of the snow band at the E. foot of the peak, and 1 hr. 50 min. more to the highest ridge,  $\frac{1}{4}$  hr. S. of the N. summit: the descent was effected down the S. face, mainly by a great couloir descending directly from the N. summit, the party thus gaining the glacier between the peak and the Viso in  $2\frac{1}{4}$  hrs. from the S. summit,

some time (perhaps  $\frac{3}{4}$  hr.) having been lost by not discovering on the descent the one weak point in the last rock precipice. 50 min. by a traverse round the S. base of the peak sufficed to gain the *Col du Visolotto*, between the Visolotto and the Punta Gastaldi (leading to the very head of the Vallante glen), whence by a snow couloir and easy rocks and grass the Albergò Alpino was regained in  $1\frac{3}{4}$  hr. It is thus not a very long day to traverse this bold peak, whence the two N. routes up the Viso can be studied close at hand.

To complete the notice of the various other peaks and passes N. of the Col du Visolotto it may be mentioned that the *Punta Gastaldi*, or *Visoulet* (3,269 m., 10,726 ft.), is accessible in  $1-1\frac{1}{2}$  hr. from the Col de Vallante (see last Rte. 2), its E. face being very steep, while the *Monte di Marte* is best described below in connection with the Col de la Traversette. The *Col Isaia* was first crossed in 1878 by MM. P. Guillemin and A. Salvador de Quatrefages—4 hrs. 20 min. from the Refuge des Lyonnais to the Albergò—who found an ice couloir on its E. side. The *Col del Colour del Porco* (2,921 m., 9,584 ft.) is a smugglers' pass, which owes its name to the 'couloir'—the word 'colour' should be compared with 'coluret' and 'collerin' in other parts of the Alps, which all have the same meaning—by which pigs were smuggled over, as well as other articles. It was traversed by Mr. Whympster in 1860, and again in 1888 by Mr. Coolidge. The way from the Albergò leads past the *Fiorenza* and *Lauzetto* lakes, and then rounds the S. end of a steep bank—W. of the 2nd lake, and marked 2,830 m. on the Italian map—of grass-grown fragments of rock, looking like an old moraine, in order to pass N. by stones and snow along the E. base of the main range past a smugglers' hut to the foot of an easy couloir of snow. There is a small zigzag path on the left

bank of this couloir, quite near its top. The Col is reached in 3 hrs. or so from the Albergò Alpino. From it the traveller should ascend by easy broken rocks the *Roccie Fourioun* (3,113 m., 10,214 ft.), on the N.—placed too far N. on the Italian map, as it rises between the Isaia and the Porco—in order to extend the view. From the Col it is possible to traverse nearly at a level over stones in a S. direction to the Col de Vallante (1 hr. or less). On the French side of the pass the way lies (despite the Italian map) down into the same hollow as that from the Col Isaia to a crescent-shaped tarn, the two Cols being hence distinguished by the fact that the Isaia is a wide opening to the N.W., accessible by a slope of stones, while the Porco is a narrow gap to the S.E., attained by stones and boulders on the left or W. edge of a stone wall of some height and steepness. It is then necessary to gain the S.E. foot of the *Aiguille Bleue* (2,764 m., 9,069 ft.), so as to reach the track from the Col de Vallante, by which the 'Refuge des Lyonnais' is gained in  $1\frac{1}{2}$  hr. from the Col. As much confusion exists in Alpine history as to this pass, it may be as well to say that Mr. Coolidge, finding deep snow on the way, took 2 hrs. 25 min. from the Refuge to the Col, and 1 hr. 50 min. thence to the Albergò Alpino, an exact description of the expedition being given in 'Le Dauphiné' of Grenoble, no. 1,462, June 30, 1889, p. 57.]

From the Albergò Alpino the track (barely passable for mules) towards the Traversette mounts in zigzags in a N.W. direction round the hill-side above and opposite the infant Po, passes due W. over the little plain of the *Amait di Viso* (for the Col of that name, see Rte. D. 2. b), and then winds steeply up round a rocky spur in a N. direction and past a ruined hut to a wild hollow wherein is a small spring.

[Here the route for the Col

Luisas, the Monte Meidassa, and the Monte Granero strikes away to the N.]

The path bears once more to the W. by some zigzags, and in a few minutes reaches the E. entrance (marked by splashes of red paint) of the famous **Pertuis du Viso** or **Traversette Tunnel** (2 hrs. from the Albergo). It is now furnished with an iron hand rail, but, as it makes a bend, the interior is dark, while a sort of small divide must be crossed in the middle, the slopes on one or other side of which are often iced, thus adding to the mild excitement of the passage. The Tunnel saves about 20 min. or so, the zigzag track to the Col bearing S. from its entrance, above a high rock wall on the E., which is inconvenient when there is much snow. The E. mouth of the Tunnel is 2,915 m. (9,564 ft.), and the Col —on which there are remains of old redoubts and a wooden cross—is 2,950 m. (9,679 ft.) From the Col there is a very fine and extensive prospect across the Piedmontese plain, including Paesana, Saluzzo, and the Albergo Alpino, with the Viso group, while on the French side all the great Dauphiné peaks are visible. The view may be much extended by mounting to the S. in 1 hr. or less over stones on the French side of the ridge to the *Monte di Marte* (c. 3,160 m., 10,368 ft.), a neglected summit, which is in the position occupied by the figures 3,070 on the Italian map, and 3,112 on the French map, neither giving it any name, while by comparison with the neighbouring summits 3,160 m. (10,368 ft.) seems to approach more nearly to the true height than the figures given on the two maps. It may also be climbed from near the Col Isaia by following the W. ridge to the lower S. summit, and then traversing the W. face to the higher N. summit. The ascent of the *Monte Meidassa* (3,105 m., 10,187 ft.), from the spring near the Tunnel, has been described above. That of the *Monte*

*Granero*, or *Roc de la Traversette* (3,170 m., 10,401 ft.), N. of the Col and Tunnel, can be effected in 50 min. (3½-4 hrs. from the Albergo) from the Col Luisas, between it and the Meidassa, by way of the great snow couloir (or the rocks on one or other side of it), descending on its N. face towards the Val Pellice; it can also be climbed from the S., E., and W., so that it can be very easily combined with the passage of the Col or Tunnel de la Traversette.

The remarkable Tunnel above mentioned was pierced between 1478 and 1480 by Louis II., Marquis of Saluzzo, with the pecuniary aid of Louis XI. of France, as sovereign of Dauphiné. The object was to secure against the dangers of crossing the pass the importation from Provence into Italy of salt, cloth, cattle, and other articles, and from Italy into France of rice, oil, skins, &c. It was later also used for the passage of troops, as in 1494, 1499, &c., and it is obvious that the political advantage to France of this safe route after she had seized the marquessate of Saluzzo in 1529 was very great, so that this was one of the chief reasons why the French were expelled from that territory by the Duke of Savoy in 1588. But it was only in 1601 that Savoy obtained a formal surrender from France of the whole marquessate. The entrances of the Tunnel have often been closed, purposely or not, by fallen rocks, but of late years have been cleared out, though often obstructed (particularly on the Italian side) by snow till the month of July. Its present length is about 75 m. (246 ft.), while the average width is 2½ m. (8 ft.), and the average height about 2 m. (6½ ft.) There is a bend about 30 m. (98 ft.) from the Italian entrance, while on the French side the outermost portion of the Tunnel seems to be artificial. It was not only the earliest work of its kind, but still remains one of the most remarkable. Its origin and history are fully set forth in the monograph by Signor



Vaccarone referred to in the Introduction to this Chapter.

The descent on the French side of the Col or of the Tunnel is not nearly as steep as that towards Piedmont. The ancient paved track, visible only in parts, winds round the N. edge of a stony hollow, on leaving which it reaches Alpine pastures, which in the early summer are covered with rare and exquisite flowers. Here stands the *Bergerie du Grand Vallon*, 2,372 m., 7,782 ft. ( $\frac{1}{2}$  hr. from the Col), whence  $\frac{3}{4}$  hr. suffices to gain the *Col de Seylières* (2,826 m., 9,272 ft.) on the N., which leads over in  $2\frac{1}{2}$ -3 hrs. to the *Ciabotta del Prà* inn, at the head of the Val Pellice (§ 5. Rte. A). From the *Bergerie* it is easy to go straight down to the S.W. to the 'Refuge des Lyonnais' (20 min.), but the path towards *Abriès* bears nearly due W. from the *Bergerie*, and descends over grass slopes, till, at a very conspicuous solitary larch tree, it joins that coming from the Col de Vallante, on the right side of the valley of the Guil itself ( $\frac{3}{4}$  hr.) The track henceforward follows this bank of the Guil to *Abriès*. In about 10 min. the chalets of *Ruines* are seen on the opposite bank, at the mouth of the *Ruines* gorge, through which there is a route from the Refuge Agnel and the Brèche de *Ruines* (Rte. A. 1. c), and 20 min. further the mule track becomes a char road. The *Viso* is not seen on the French side till some way beyond the uppermost hollow, and some travellers prefer to make a détour thence towards the S., so as to study it. But it is just as well seen from the main valley between the solitary tree and the commencement of the char road. The foreground is formed by the stony valley, above which, at the extreme head of the valley, rises the huge shattered masses which make up the *Viso*. The principal mass is composed of the highest peak, on the left, with the blunt point of the *Viso di Vallante* (3,672 m., 12,048 ft.) on the right.

Between the two is seen a small hanging glacier, to the left of which are two other smaller icefields, none descending into the valley. It is noticeable that neither on this nor on any other side is there space on the *Viso* for any considerable accumulation of snow, and this is the reason, rather than the milder climate of the adjoining valleys, why this mountain, unlike every other in the Alps which can be compared with it in point of height, bears on its flanks merely these scanty patches of ice. (Of course from this side the glacier between the main peak and the *Visolotto* remains concealed.) To the left of the main mass is seen the *Visolotto* and the other peaks in the ridge stretching towards the Col de la Traversette, while on the right the *Pointe Joanne* is prominent above the opening of the Col de Vallante, the top of the Grande Aiguillette peering over the ridge, while a glimpse is also gained of the cliffs of the *Roche Taillante* on the same (W.) side of the valley. The Guil valley itself is bare and barren, but the pastures on its right side abound in rare plants. In 10 or 15 min. from the commencement of the char road there is a slight bend in the valley, and the *Viso* is lost sight of. Just beyond the narrow opening of the gorge descending from the Col Vieux (Rte. A. 1. c) is the hamlet of *La Chalp*, 1,695 m., 5,561 ft. (1 hr.), and 10 min. (1 m.) further is *La Monta* (about 3 hrs. from the Col), where the mule track from the Val Pellice over the Col de la Croix (§ 5. Rte. A) falls in. The walk becomes more and more tiresome, though *Ristolas* ( $\frac{1}{2}$  hr., 1 $\frac{1}{2}$  m.) (1,633 m., 5,358 ft.), amidst its trees on the other side of the Guil, at the mouth of the *Ségure* glen (see Rte. A. 1. c), affords some relief to the eye. The road continues across a flat desert tract, hardly descending at all, glimpses being caught occasionally of the green slopes of the *Abriès* basin, but low mounds conceal that village till quite near it.

Abriès is attained in 40 min. (2 m.) from Ristolas, or rather over 4 hrs. good steady walking from the pass, or  $6\frac{1}{4}$  hrs. from the Albergo Alpino.

**Abriès** (1,552 m., 5,092 ft.) is a charmingly situated, fair-sized village, at the junction of the *Val Preveyre* on the N. with the Guil valley, and has a pretty sixteenth-century parish church, as well as a seventeenth-century covered Market Hall, adorned with many wise proverbs and moral saws painted on its outer walls.

☐ In the neighbourhood there are several very fine points of view, generally very easily accessible. These are described elsewhere, as they can be all conveniently combined with passes, which abound near Abriès. Many glens seem to radiate from this mountain village, so that there are paths across the mountains (generally mule tracks) in almost every direction. In this and the preceding Rte. we have indicated those which give access to the Val Varaita and the Valley of the Po. In § 5. Rtes. A and D, those to the Pellice and Germanasca valleys are noticed, while in § 6. Rtes. B and C, those leading over to Césanne or to Briançon, at either foot of the Mont Genève, are described. Of the four chief belvédères near Abriès (other than those noticed above at the head of the Guil valley) the *Bric Froid* (3,310 m., 10,860 ft.) and the *Grand Glayza* (3,286 m., 10,781 ft.) may be climbed on the way to Césanne and Briançon respectively (§ 6. Rtes. B and C), while the *Bric Bouchet* (3,003 m., 9,853 ft.) and the *Tête du Pelvas* (2,936 m., 9,633 ft.) may be visited on the way to the Val Pellice (§ 5. Rte. A). Of course any of these summits may be made the object of a walk from Abriès and back, Bric Froid commanding an *extremely* fine and extensive view, while Bric Bouchet will interest rock-climbers. ☐

It is  $19\frac{1}{2}$  m. by high road from Abriès to Guillestre (diligences in about  $4\frac{1}{2}$  hrs.), the drive being for the greater part of the time a very striking and re-

markable one. Till the Maison du Roi the road is almost without a break on or above the right bank of the *Guil*. A full description is given in M. Tivoli-er's book, mentioned in the 'Introduction' to this Chapter.

Three m. below Abriès is the rich and prosperous village of *Aiguilles*, which has been burnt down and rebuilt several times of recent years. On the S. the magnificent forest of *Marassan* covers the mountain-side;  $2\frac{1}{2}$  m. further on the road passes opposite the village of *Ville Vieille*, at the mouth of the *Molines* glen, through which passes lead by St. Véran and Fongillarde to the Ubaye and Varaita valleys (§ 3. Rte. B. 4, and above, Rte. A. 1). It is only 2 m. more to the very picturesque little fortress of **Château Queyras**, perched at a height of 1,340 m. (4,397 ft.) on a rock in the midst of the valley, which it entirely commands. The old castle dates from before the fourteenth century, and has been preserved in the midst of the more modern fortifications, added in the eighteenth century. In the background is seen the bold rock of the *Bric Bouchet*. The road passes on the N. side of the Château, and after a rapid and stony descent crosses the *Rivière* torrent, flowing from the N.W. (For the char road over the Col d'Izouard through this glen to Briançon, see § 6. Rte. C. 2.) Soon after commences the magnificent series of ravines known collectively as the *Combe du Queyras* (this name is derived from the name of the *Quariates*, the Celtic inhabitants of the district). The highest and finest is that of *La Chapelue*. The road follows the bed of the Guil, crossing and re-crossing the stream, which is shut in by lofty and very striking walls of rock. The scenery through which the road passes between Château Queyras and Guillestre is varied and singular, and very unlike in character that in other Alpine districts. The summers being extremely hot, the scanty vegetation which alone exists on these barren mountains is soon

burnt up, and after midsummer little remains beside some fragrant shrubby species, such as the wild lavender, the hyssop, *Satureja montana*, &c. The botanist, however, finds an abundant harvest in this district in the months of July and August. The left bank of the Guil is finally attained at the small inn of the *Maison du Roi* (wrongly said to be so called because Louis XIII. halted here in 1629 on his way into Italy), 9 m. below Château Queyras, and at the narrow opening of the *Ceillac* glen. (For the passes through it to the Ubaye valley see § 3. Rte. B. 3.) The road now mounts by zigzags high above the Guil, which roars in a grand gorge at a great depth below on the right, and crosses over the shoulder (*La Viste*, i.e. *la vue*) separating the Guil from the *Rioubel* on the S. Here the Pelvoux and its attendant peaks are seen to great advantage, towering up at the head of the Vallouise, and overtopping all the intermediate ridges. The reddish hue which prevails among the rocks that enclose the Durance valley, and their extreme barrenness, will remind the traveller of the colouring and character of scenes in Palestine, while the extensive records of ancient glacier action will arouse the fancy of the geologist. From this shoulder the road winds down some bare slopes by several zigzags in order to gain (3 m. from the *Maison du Roi* and  $19\frac{1}{2}$  m. from Abriès) the considerable village or small town of

**Guillestre** (950 m., 3,117 ft.), on the *Rioubel* torrent. (For the passes hence by the Escreins and Vars glens to the Ubaye valley, see § 3. Rte. B. 1 and 2.) The only object of remark in the village itself is the parish church, rebuilt in the early sixteenth century, and boasting a porch supported by 4 slender pillars, of which the two central ones rest on the back of lions carved out of red marble. The chief attraction of the place is the magnificent and surprising view it enjoys of the Pelvoux, the Pic Sans Nom, and the Ailefroide.

From Guillestre a road runs down in 3 m. along the *Rioubel*, the Guil being crossed on the way, to the *Montdauphin-Guillestre* station, on the Briançon and Grenoble railway (§ 9. Rte. Q). This station is 17 m. from Briançon and 135 m. from Grenoble. It is just under the nearly insulated rock with three precipitous sides at the confluence of the Guil and the Durance, on which Vauban in 1693 built the fortress of Montdauphin, which was intended to block the route from Italy, but which now possesses little more than an historical interest.

## ROUTE C.

### ASCENT OF MONTE VISO.

**Monte Viso** (3,843 m., 12,609 ft.) long enjoyed a reputation for inaccessibility second only to that of the Matterhorn, though this was due rather to the formidable appearance of the crags that rise tier over tier to its summit than to the actual experience of any competent mountaineer who had attempted the ascent. The S. face of the peak, above the head of the Forciolline glen, is the only side by which, looking from a distance, it appears practicable to reach a considerable height, without encountering serious difficulties, and it was by this face that on August 30, 1861, Messrs. W. Mathews and F. W. Jacomb, with J. B. and Michel Croz, succeeded in effecting the first ascent of the peak. In 1862 Mr. Tuckett spent a night on the summit, and in 1863 the first Italian party attained the summit. These three ascents were all made from Casteldelfino through the Forciolline glen. Nowadays, while the S. face is the ordinary route, as being both the shortest and the easiest, it is usual to spend the night at the **Quintino Sella**



**Club hut** (2,950 m., 9,679 ft.), at the very foot of the S. face, reaching it from Crissolo over the Passo delle Sagnette. It was not till 1879 that a new way up the Viso was struck out, MM. P. Guillemain and A. Salvador de Quatrefages then climbing from the Col de Vallante up the N.W. face, that so well seen (though wholly Italian) from the head of the valley of the Guil. But this route is rather difficult, and has been but rarely taken since its discovery, while that up the N.E. face from the Piano del Re, first effected by Mr. Coolidge in 1881, is even more difficult and dangerous, and does not seem to have been repeated. It was only in 1887 that Signor G. Rey opened out a new route up the great E. face from the Col dei Viso, and this is now frequently followed, since, without being very difficult, it is more interesting than the ordinary way up the S. face. In 1891 Signori V. Giordana and P. Gastaldi made the first ascent (4 hrs. from the Club hut up the E. wall) of the second peak of the Viso, the *Viso di Vallante*, 3,672 m., 12,048 ft. (the name has been wrongly applied to other points), the blunt point which rises a little S.W. of the main peak, and has been called by some French writers the 'Triangle;' while in 1893 Signori Antoniotti and Grosso, having ascended this summit, forced their way first below, then along the connecting ridge in about 4 hrs. to the highest point of the Viso itself, this serving as a variation on the ordinary route.

We must now proceed to give some account of the two main routes up this magnificent peak, a brief notice of the two N. routes being quite sufficient, as their interest is mainly historical.

1. *By the S. Face.*—This rocky face rises above the head of the Forciolline glen, which is enclosed between the main ridge running S.E. from the Viso, and that running S.W., on which rises the Viso di Vallante. The Club hut, near the

*Sacripante* spring, can be reached in 5 hrs. from Casteldelfino by following the Col de Vallante route (Rte. A. 2) as far as the *Soulières* chalets (2 hrs.), and then mounting in a N.E. direction, at first up a hill-side diversified with ancient knotted trees. A stream is seen on the N.E. which descends in a waterfall from the upper lakes. It is necessary to climb up the steep rocky barrier on its W. side by a green gully, and a rocky hollow, and over a shoulder, in order to gain the upper basin of the *Forciolline* glen. Several lakes are passed, and the glen bends gradually to the N. when the foot of the last slope of the Passo delle Sagnette is passed. The Club hut is seen as soon as the corner of the valley has been turned, and is attained in 3 hrs. from Soulières.

A party starting from Crissolo must mount in a S.W. direction by a zigzag path up pastures to the desolate *Randoliera* glen, enclosed between two great moraines, which leads past the *Prato Fiorito* lakes to that of *Costagrande*. Above the last-named lake there is a steep ascent up the rocky barrier called the *Balze di Cesare*, by which and a short descent the *Lago Grande di Viso* is attained. (This point may also be reached in about 3 hrs. from the inn on the Piano del Re (see last Rte.), while a rather higher point, nearer the foot of the Passo delle Sagnette, can be attained in 4 or 5 hrs. from Crissolo or Oncino, past the *Alpetto* chalets.) From the large lake a stone-strewn plain is traversed in a S.W. direction to a small lake, immediately above which is the gully of shifting stones by which the *Passo delle Sagnette* (2,975 m., 9,761 ft.) is reached in 4-5 hrs. from Crissolo. On the other side a stony traverse to the N.W. brings the traveller in less than  $\frac{1}{2}$  hr. more to the Club hut.

From the Club hut the Viso appears as a rock wall, crowned by two horns, the easternmost of which is the culminating point. Rocks and snow lead to the foot of this wall,

which is then climbed in two or three great zigzags first to the E., then to the W., by many gullies and ledges, to the base of its upper portion, where the rocks, hitherto not very steep, rise more precipitously. It is perhaps best to bear rather to the right, so as to gain the S.E. ridge, but a direct ascent is also quite possible. 3-4 hrs. suffice under ordinary circumstances for the climb from the Club hut, there being no serious difficulty, though there are many loose stones on the ledges. Many inexperienced travellers make this ascent annually. The actual summit consists of a rock-strewn ridge, which rises in two horns, connected by a curving snow arête, and distant about 10 min. from each other. On the E. and loftier point there was set up in 1896 a huge bronze statue of the Madonna, backed by a gigantic cross 6 m. (20 ft.) in height.

The view from the summit is, as might be expected from the prominent position of the peak, extremely extensive, both over the plains and the mountain ranges of Italy, France, and even Austria. It is said that on a very clear day the Mediterranean can be seen (but this seems very doubtful), and also the island of Corsica. 1½-2 hrs. suffice for the return to the Club hut.

2. *By the E. Face.*—The starting point for this route is a bivouac near the Lago Grande di Viso, or that of Costagrande (see above), though a party of active walkers may achieve the ascent direct from the inn on the Piano del Re. The actual ascent commences from the Col dei Viso, 3 hrs. from that inn. Immediately to the W. of that pass a great deeply-cut gully is seen, which descends from a conspicuous snowfield of some size on the E. face of the Viso. The steep but good rocks about 100 m. (328 ft.) N. of this gully are climbed, and then the snowfield traversed, so as to gain the foot of the true E. ridge. A well-marked notch at the foot of the sheer drop in which this ridge

ends gives access to its S. slope, by traversing which diagonally the crest of that ridge is gained above that drop, and henceforth followed more or less to the E. summit, which may be gained in from 4 to 5 hrs. from the Col dei Viso. This E. ridge is separated from the great S.E. ridge by a deep couloir which descends to the Lago Grande. The route up the E. face seems to offer no very serious difficulties, and to be quite safe.

3. *By the N.W. Face.*—From the Piano del Re or any of the neighbouring summits there is seen to rise in the wide depression between the Viso and the Visolotto a curiously-shaped and jagged rocky point, called the *Mano*, at the base of which is a high cliff of ice, commanding the great gully which descends from between these two peaks towards the Piano del Re. This ice cliff is really the butt end of a little glacier (the only one of any size anywhere on the Viso) which lies hidden away in a deep hollow between the two peaks, and close to the head of the Vallante glen. This small glacier (the true *Viso glacier*, and the real source of the Po) is the key to the two routes which have been effected up what may be called the two facets of the N. face of the Viso. From a bivouac close to the lake just on the Italian side of the Col de Vallante there is no difficulty in reaching over stones and this glacier the notch close to the N.W. foot of the Viso. A short gully and easy rocks then lead over on to the N.W. face, and round to a small three-cornered ice field on it. It is best to mount the good rocks on the S. of the couloir leading from the higher ice field to that just mentioned, the higher ice field, which stretches like a band across the whole N.W. face to the hanging glacier under the Viso di Vallante, being thus attained. A nearly direct ascent up it and the rocks above it, with a great zigzag to the left to a jagged crest and back to the right below a curious rock, shaped

like an inverted bell, and a final snow gully lead to the highest crest of the Viso, between the two horns. The first party which took this route lost much time in photographing, halts, &c., but estimated that 6 hrs. 20 min. walking were taken from the Col de Vallante to the summit. Mr. Coolidge, who three weeks later, in September, made the second ascent by this route, being favoured by weather, and finding the rocks mostly free from ice and snow, took 1 hr. 20 min. from the Col de Vallante to the foot of the peak, 1½ hr. more to the upper ice field, and 1 hr. 20 min. thence to the top, in all 4 hrs. 10 min. walking. Later parties have taken a much longer time, and it is probable that this route is easiest in late summer, when the rocks are most likely to be free from ice and snow.

4. *By the N.E. Face.*— This difficult and rather dangerous route may be dismissed briefly, as it is more or less of a *tour de force*. Mr. Coolidge, with his two guides, Christian Almer, sen. and jun., went in 2 hrs. 5 min. from the inn on the Piano del Re to the foot of the great couloir descending from the ice cliff between the Viso and the Visolotto (see 3. above), and in 2½ hrs. more, keeping to its right edge (later in the day it is swept by avalanches from the aforesaid ice cliff), and climbing up rocks and round a great pinnacle on the S., reached the Viso glacier (see above), at the N. foot of the Viso. Leaving the N.W. route to the right or W., the party climbed up good rocks on the N.E. face, and then up very steep rocks (rotten and, in 1881, also iced) on the right bank of the steep and long ice couloir which comes down from the summit to the Viso glacier (steps having occasionally to be cut in the couloir itself) till a gully in the rocks on the left led them to the E. summit in 5¼ hrs. from the Viso glacier, or 9 hrs. 50 min. from the Piano del Re. The route is an obvious one when the Viso is examined from the Col de la Traver-

sette side, but is very long, though direct, and hard, so that it can never become popular, and has apparently never been taken a second time.

In 1839 the late Principal Forbes made the tour of the Viso, and has been followed by a few travellers. This may be made from the Piano del Re inn by way of the Col dei Viso, the Passo delle Sagnette (in 1839 a pass further S.—perhaps the San Chiaffredo (Rte. D. 1)—seems to have been crossed), the Forciolline glen to the Soulières huts, the Col de Vallante, and the Col de la Traversette. Four ridges must thus be traversed, and at least one long descent and reascent made, so that this expedition is very laborious, and not to be recommended. It has further the disadvantage that by it the traveller is so close under the Viso that it is impossible for him to gain a just idea of the peak itself, though the rock scenery on the way is very striking. It is far better in every way for the traveller who wishes to study and admire the monarch of the Cottian Alps to ascend one or another of the great belvédères, which, as in the case of Mont Blanc, surround it. These are the *Grand Rubren*, at the head of the Ubaye valley (§ 3. Rte. B); the *Pelvo d'Elva*, S. of Casteldelfino (§ 3. Rte. D); the *Pointe Joanne*, above the Col de Vallante (Rte. A. 1. b. above); and the *Monte Meidassa*, above the Piano del Re (Rte. B. above). The E. face itself is best seen from the *Viso Mozzo* (Rte. B. above).

#### ROUTE D.

##### CRISSOLO TO THE VAL VARAITA AND THE VAL PELLICE.

As Crissolo is the principal headquarters of travellers in the Viso district, it seems convenient to gather



into one Rte. some particulars relating to the passes which lead thence either to the Val Varaita, on the S. (Rte. A. above), or to the Val Pellice, on the N. (§ 5. Rte. A).

1. *To the Val Varaita.*—There are at least four passes across the ridge between the Po and Varaita valleys, but it must be noted that in every case they lead from the Lenta basin, and not from that of the Po itself, although, as there is a good track from Crissolo to Oncino, this does not matter practically.

(a) *By the Passo delle Sagnette.*—This pass (2,975 m., 9,761 ft.) has been described in Rte. C. 1. above, in connection with the ascent of Monte Viso. 4–5 hrs. suffice to reach it from Crissolo direct (without passing by Oncino), and  $3\frac{1}{2}$  hrs. for the descent to Casteldelfino. It will mainly be used as a pass by those travellers who take the Viso on the way from Crissolo to Casteldelfino. It is, of course, perfectly easy to reach this pass from Oncino past the Alpetto huts.

(b) *By the Passo di San Chiaffredo.*—This is a dull, stony, and uninteresting pass (2,764 m., 9,069 ft.), redeemed only by the magnificent views of the Viso gained on the way up from the Alpetto chalets. Very possibly it was by this Col that Principal Forbes passed in 1839. The stone-strewn plain S. of the Lago Grande di Viso is gained, as for the Sagnette, and then it is necessary to bear sharply to the S., and finally to the W., in order to gain the pass (5 hrs. from Crissolo). Some peaks of the Chambeyron group are seen hence, but the prospect may be greatly extended (though always shut in on the N. by the Viso, itself a most striking sight) by mounting N.W. in 2 hrs. to the *Punta Michelis* (3,132 m., 10,276 ft.) The glen shown on the Italian map W. of that peak is non-existent, as the summit directly overlooks the Forciolline glen (to which the descent is very easy), while on the S.W. ridge of the peak,

and 20 min. off, there is a slightly higher point. The descent from the Col lies past three small lakes, and then by a path to the S.W. through a rocky defile, and over stony pastures in the *Giargiatte* glen to the Vallante valley, rather below the Soulières huts, the track from the Col de Vallante (Rte. A. 2) being followed thence to Casteldelfino ( $2\frac{1}{2}$  hrs. from the Col).

(c) *By the Col di Luca.*—The way from Oncino to this pass (2,461 m., 8,074 ft.), which seems to be less stony and more direct than its two neighbours, lies up the S.W. branch of the Lenta, by the *Bulé* glen, at the extreme S. head of which is the Col (4 hrs. or so from Crissolo). The path on the other side bends S.W. over pastures to Casteldelfino (2 hrs.)

(d) *By the Col di Cervetto.*—A mule path traverses this pass (2,245 m., 7,366 ft.), which lies due S. of Oncino, at the very head of the main Lenta valley, and due N. of Sampeyre. 6–7 hrs. are said to be necessary to go from Crissolo to Sampeyre by this Col, near which there are remains of redoubts thrown up in the wars of the eighteenth century.

2. *To the Val Pellice.*—The traveller has the choice between many easy passes, according as he desires to attain the head or the lower reach of the Val Pellice. We describe the passes across this range in order from W. to E.

(a) *By the Col Luisas.*—This pass was mentioned in the account of the environs of the Piano del Re given in the preceding Rte. It may be gained in 20–30 min. from the spring on the way to the Col de la Traversette, or in 2 hrs. from the Piano del Re. E. of it is the *Monte Meidassa*, 3,105 m., 10,187 ft. (accessible in 10 min.), and W. is the *Monte Granero*, 3,170 m., 10,401 ft. (50 min. climb.) The height of the pass must be about 3,000 m. (9,843 ft.), and it leads to the very head of the Val Pellice. The descent, whether from the former summit or the Col

itself, is made by snow slopes and stones to the *Lago Nero* (1 hr.), close to the *Col Manzol* (2,711 m., 8,895 ft.), leading over into the head of the *Carbonniers* glen (see *b* and *c*, below). A faint track thence runs down W. (leaving on the S. the traverse over grass and glacier-worn rocks to the *Col de Seylières*, 1½ hr. — Rte. B) over an old moraine, and passes near the *Adret del Laus* lake, beyond which the path from the *Col de Seylières* is joined, and followed over the pastures of the upper Val Pellice, the scenery of which is very fine, to the *Chiabotta del Prà* inn. This is at the foot of the *Col de la Croix* (§ 5. Rte. A), and about 2 hrs. above Bobbio, in the main Val Pellice, and may be reached in 2½–3 hrs. from the *Col Luisas*.

(*b*) *By the Col de l'Amait di Viso*. — The way over this pass (2,692 m., 8,832 ft.) strikes off to the N. from the *Amait di Viso* plain ('Amait' is said to mean a plain in the local dialect), on the way from the *Piano del Re* to the *Col de la Traversette* (Rte. B), and mounts rather steeply to the pass (1½ hr. from the *Piano del Re* inn), which commands a very extensive view of the Viso group, the Graians, and the Pennines, extending to Monte Rosa. A wild and dreary glen (into which leads the track from the *Col Manzol*) on the other side, wherein there seems to be but one lake of any size, brings the traveller by a steep descent to the *Pis* huts (1½ hr.) Hence a track leads N.W. through woods and over the *Col Porsel* (2,358 m., 7,737 ft.) in 2½ hrs. to the *Chiabotta del Prà* inn. The main track runs down the *Carbonniers* glen, and joins that from the *Sea Bianca* (see *c*. below), before attaining Bobbio (2–2½ hrs.)

(*c*) *By the Col de Sea Bianca*. — This pass (2,580 m., 8,465 ft.) is for many reasons the most agreeable route between the two valleys, as the way lies over pastures, and there is a mule path throughout. The track mounts N.W. from Crissolo past *Borgo*, with

its conspicuous white church tower, and above the right bank of the *Bialot* gorge. The view from the *Col* (3 hrs. from Crissolo) is as extensive as from the *Col de l'Amait di Viso*, but more smiling, as the wide pastures above Crissolo lie spread at the spectator's feet. On either side of the pass, at a height of about 6,000 ft., may be found *Arabis pedemontana*, a plant not known to exist elsewhere. On the upper part of the ridge are many other rare plants, e.g. *Pedicularis rosea* and *fasciculata*, *Saxifraga retusa*, &c.

On the other side the path descends past the *Giana* huts to the *Carbonniers* glen, some way below the *Pis* chalets (*b*. above), the left side of which is followed till the Val Pellice is reached, a little below Bobbio (3–4 hrs. from the pass).

(*d*) *By the Col delle Porte*. — A traveller bound direct from Crissolo to the little town of Torre Pellice will find this his best and shortest route. It is traversed by a good foot path. From *Borgo*, above Crissolo (above, *c*), the way lies due N. up the *Tossiet* pasture glen, the torrent from which joins the Po just below the Sanctuary of San Chiaffredo, a final ascent to the N.E. from very nearly the highest chalets, up more grass slopes, leading to the *Col* (2,267 m., 7,438 ft.) in 2–2½ hrs. from Crissolo. The fine view may be greatly widened by following the easy ridge on the N.W. to the *Mont Frioland*, 2,720 m., 8,924 ft. (1 hr.) Looking N. the hills are seen stretching down their arms to the plain, which is now no great distance off. A rather steep descent leads down to the bare upper basin in which are the *Uverti* chalets, below which are those of *Ramà*, and the grassy *Piano Frolero* (1½ hr.)

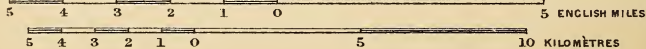
Here the traveller may choose between two routes. One (not recommended) runs N. across several spurs and glens between, till the picturesque village of *Rora* (942 m., 3,091 ft.) is attained (2–2½ hrs.); the ridge N. of that village can be gained in ½ hr.,







SCALE, 1 : 250,000, 4 ENGLISH MILES TO 1 INCH (NEARLY)



and then either Villar Pellice, on the N.W., or Torre Pellice, on the N.E., attained (1¼ hr.) by paths which traverse the hill-sides. But it is infinitely preferable to bear N.E. from the Piano Frolo, by a winding rock staircase, to the main *Luserna* valley, which here forms a beautiful gorge. Soon a rough char road is reached, which serves the purpose of some slate quarries. The valley becomes more and more beautiful as the traveller descends. The track from Rora falls in, and chestnuts shade the road till (3-4 hrs. from the pass) the village of *Luserna* (now forming one *commune* with San Giovanni, opposite) is entered. It is only 1 m. by road or railway below the capital of the Waldensian Valleys, *Torre Pellice* (see § 5. Rte. A).

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## SECTION 5.

### WALDENSIAN VALLEYS.

IN this district we include the Piedmontese valleys lying between the Po and the Dora Riparia, which are inhabited by the Waldensians or Vaudois, whose heroic resistance to persecution, and final emancipation from all religious disabilities, have excited the lively sympathy of all who know their history.<sup>1</sup>

<sup>1</sup> It should always be borne in mind that the heirs of what was originally a religious revival at Lyons in the twelfth century became in the sixteenth-seventeenth century, by their deliberate and voluntary act, merged in the Calvinistic movement of Geneva, and since that date have lost their historical identity. For a true account of their origin and literature see Karl Müller's *Die Waldenser, und ihre einzelnen Gruppen bis zum Anfang des 14. Jahrhunderts* (Gotha, 1886), and E. Montet's *Histoire Littéraire des Vaudois du Piémont* (Paris, 1885).

These valleys do not contain any very high mountains, the loftiest being the *Rognosa de Sestrières* (3,279 m., 10,758 ft.), above the Col de Sestrières, while other noteworthy summits are the *Mont Politri* (3,081 m., 10,009 ft.) and *Mont Albergian* (3,040 m., 9,974 ft.); both above Fénestrelles), the *Grand Queyron* (3,067 m., 10,073 ft.), the *Bric Bouchet* (3,003 m., 9,853 ft.), the *Punta Vergia* (2,990 m., 9,810 ft.), and the *Punta Courmour* (2,868 m., 9,410 ft.) But, quite apart from any historical associations, the scenery of the valleys is very beautiful, the forests and the clear streams, not fed by glaciers, lending many charms to what is almost a subalpine region.

Two principal valleys make up the entire district. One is that of the **Pellice**, which runs from the foot of the Monte Granero in a due N. direction to Villanova, and then nearly due E. The other is that of the **Chisone**, which from its source at the head of the *Troncea* glen flows in the form of a long crook, first towards the N.W., and then curves gradually round till it returns towards the S.E., entering the plain of Piedmont near Pinerolo, and joining the Pellice a few miles below that town: at Perosa it receives a considerable affluent, the *Germanasca*, made up of the torrents from the glens of *Prali*, *Rodoretto*, and *Massello*. With the exception of the *Prali* branch of the *Germanasca*, which does at a single point touch the main ridge of the Cottians, there communicating with the Guil valley by the double Col d'Abriès, the *Chisone* valley does not drain any portion of the main Cottian chain. For it will be seen, on consulting a map, that the Dora Riparia, with one of its chief branches, the *Ripa*, is also disposed in the form of a crook, though of larger dimensions, and thus completely surrounds the valley of the *Chisone*, cutting it off from the main chain. Hence a traveller who would pass from the *Chisone* valley



III. THE COTTIAN ALPS.  
(2). The Waldensian Valleys and the Aosta Group.



SCALE, 1:250,000, 4 ENGLISH MILES TO 1 INCH (NEARLY)



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into Dauphiné or Savoy must (save by the Col d'Abriès) traverse a double Alpine rampart, with the Dora or the Ripa valley as a ditch between the two obstacles. This singular disposition of the mountains has not been without its influence upon the history of the Waldensians during their armed struggle for the defence of their religious liberty.

The best account of the Valleys from a topographical and military point of view is M. A. de Rochas d'Aiglun's 'Les Vallées Vaudoises' (Paris, 1881), with an excellent large-scale map, while for the wonderful march of the exiles (August 16-26, 1689) from the Lake of Geneva back to their valleys the description by their leader, Henri Arnaud, 'Histoire de la Glorieuse Rentrée des Vaudois dans leurs Vallées' (1710, reprinted at Geneva in 1879), may be consulted. Many local details may be gathered from an Italian translation (Pinerolo, 1879) of the old edition of the present (and preceding) Section, made by the late Mr. R. H. Budden, and enriched with notes and appendices by Signor V. Buffa and Dr. Rostan.

#### ROUTE A.

##### PINEROLO TO ABRIÈS BY THE VAL PELLICE.

**Pinerolo** (French **Pignerol**) is a large straggling town connected with Turin by a railway (24 m.,  $1\frac{1}{4}$ – $1\frac{1}{2}$  hr.), past *Airasca* (the junction for Saluzzo: see § 4. Rte. A).  $5\frac{1}{2}$  m. beyond Pinerolo is *Bricherasio*, where the line to Barge (for Paesana and Crissolo, see § 4. Rte. B) branches off, and then the line runs due W. along the Pellice to *Luserna-San Giovanni* (4 m.), two villages on either bank of that river, but now forming one *commune*. The former stands at the entrance of the *Luserna*

glen (see § 4. Rte. D. 2. *d*). Here is the opening of the richly-wooded upper Pellice valley, and in 1 m. more (or  $34\frac{1}{2}$  m. from Turin, 2– $2\frac{1}{2}$  hrs. by rail) the traveller reaches the capital of the Waldensian Valleys,

**Torre Pellice** (called in French **La Tour**, though the words 'de Luserne' are often wrongly added), 640 m.; 2,100 ft. It is a small town of prosperous appearance, though the buildings do not seem altogether suited to the Italian character of the very beautiful scenery in the neighbourhood. The results of the industry of the inhabitants have been largely increased by liberal contributions from England, Scotland, and other Protestant countries, by means of which a handsome, though plain, Waldensian church, and other public buildings, have been established here. French is the language used in the Church service of the Waldensians, and is very generally spoken here, though not always in the remoter glens. The neighbourhood of Torre Pellice abounds in rich and beautiful scenery, and travellers who are interested in the country, apart from the people, should not fail to visit the Angrogna glen (see Rte. C. 1), and also that of *Luserna*, with Rora (described in § 4. Rte. D. 2. *d*). The botanist will be pleased to see the rare *Campanula elatines* growing abundantly in shady places in the Waldensian Valleys.

There is a rough char road for 6 m. up the valley along the left bank of the Pellice as far as Bobbio, which commands on the way fine views of the neighbouring summits. At *Villar Pellice* (4 m.) the *Carbonniers* glen opens out on the S., and through it several passes lead to Crissolo (§ 4. Rte. D. 2. *b* and *c*).

**Bobbio** (743 m., 2,438 ft.) is a large village of a very Italian type, and remarkable chiefly for the massive stone embankment, constructed by means of a grant from Oliver Cromwell (whose name is therefore still remembered here) to

protect the village from the constant and recurring danger of inundations of the Pellice. (For the Col Giulien hence to Prali, and the ascent of the Punta Cournour, see Rte. C. 2.) The mule track soon crosses by a strong wooden bridge the *Cruello* torrent, descending from the Col Giulien, and then mounts steeply high above the Pellice, the rugged rocks and magnificent trees being very striking and picturesque, though the stony path is rather fatiguing. It is better on the whole to remain always on the left bank of the Pellice, though there is a tempting path which crosses and recrosses the stream. A very beautiful walk, during which fine views are obtained on looking back towards Bobbio, brings the traveller to the last hamlet, *Villanova*, 1,230 m., 4,036 ft. ( $1\frac{1}{2}$  hr.) Here the Pellice valley bends sharply to the S., and is followed by the track, which runs always above its left bank. The ascent becomes steeper and steeper, while the valley itself gradually contracts, and becomes a mere ravine, partly closed by huge masses of rock fallen from above. In the wildest part of this gorge are the ruins of the little fort of *Mirabouc* ( $\frac{1}{2}$  hr.), constructed in the second half of the sixteenth century by the reigning Duke of Savoy, in order to guard this entrance to Piedmont, and destroyed by the French troops at the end of the eighteenth century. The track passes through one of the gates of the fort, and there is no other passage along the precipitous rocks that enclose this gloomy gorge. Several side torrents are crossed, and two small plains. Then a final zigzag ascent leads up to the *Collet de la Madeleine* (thus avoiding the impassable gorge), whence in a few minutes (1 hr. from *Mirabouc*, or 3 hrs. from *Bobbio*) the beautiful level pastures of the uppermost reach of the Pellice valley are reached. They naturally excite the astonishment of the traveller, who here finds also a very fair little mountain inn, the *Chiabotta*

*del Prà* (1,732 m., 5,683 ft.), which may well serve as headquarters for a climber or naturalist desiring to explore the neighbourhood. (For the ascents of the Monte Granero, and Monte Meidassa, at the head of the valley, the Cols Luisas, de Seylières, Manzol, and Porsel, see § 4. Rtes. B and D. 2. a and b).

The ascent to the Col de la Croix commences just beyond the houses of Prà, and many steep zigzags must be mounted in a S.W. direction up a rocky shoulder or buttress which forms the N. limit of the savage and impracticable *Comba Nera*, the natural approach to the pass. In  $1\frac{1}{4}$ – $1\frac{1}{2}$  hr. the pasture plateau which forms the Col de la Croix (2,309 m., 7,576 ft.) is attained. Hence there is a fine view of the Viso seen over the notch of the Col de Seylières, as well as of the Mirabouc gorge and of the great Dauphiné peaks. A gentle descent leads in a few minutes to one of the 'Refuges Napoléon,' a small mountain inn, beyond which the path (here and there passable for charrs) winds down the right side of the bare *Morelle* glen, and then descends by many zigzags to the hamlet of *La Mouta* (1 hr.), on the Col de la Traversette route (§ 4. Rte. B), which is followed for a long hour more to *Abriès*, thus reached in about  $6\frac{1}{2}$  hrs. from *Bobbio*. This pass is one of the easiest and most frequented in the entire chain of the Alps.

There are, however, three other passes between the Val Pellice and *Abriès* which present greater attractions to mountaineers than this easy mule path. They all cross the ridge between the *Bric Bouchet* and the *Tête du Pelvas*.

(a) *Col Bouchet*.—The way quits that of the Col de la Croix 10 min. beyond *Villanova* ( $1\frac{1}{2}$  hr. from *Bobbio*), just before a bridge, and then mounts by zigzags, and later high above the left bank of the *Brunei* torrent, to the *Crozena* chalets, 1,583 m., 5,194 ft. (1 hr. from *Villanova*), where the mule track ends. Here the glen



splits into two arms, our way lying up that to the N.W. along the *Bouchet* torrent, the *Bric Bouchet* itself towering grandly up on the N. There is always a path, which crosses to the left bank of the *Bouchet*  $\frac{1}{4}$  hr. beyond the chalets, and recrosses an hour higher up, above a high step in the valley. A last steep ascent then leads up to the *Col Bouchet* (2,600 m., 8,531 ft.),  $2\frac{1}{4}$  hrs. from Crozena. Here, as often in the S.W. Alps, there is a frontier stone dated 1823, and bearing the arms of France and Savoy. Just below the *Col* on the Italian side there is a ruined hut.

From the pass the ascent of the bold rock pyramid of the *Bric Bouchet* (3,003 m., 9,853 ft.) may be made in  $1\frac{1}{2}$  hr. or so either by a gully on the S.E. ridge or the E. face itself. It can also be scaled by the steep but good rocks of its W. face (2 hrs. or less from the base, while by rounding the W. foot to a notch in the N. ridge called 'La Passette' (1 hr. from the *Col Bouchet*) the summit can be gained in  $\frac{1}{4}$  hr. more by good rocks. In fact, though the *Bric* makes a brave show from a distance (even from *Château Queyras*, far down the *Guil* valley), it is not really difficult of access. A good walker may reach it in 4 hrs. from *Abriès* by way of 'La Passette,' while the return to that village by the W. face can be effected in  $3\frac{1}{2}$  hrs. or less.]

The descent from the *Col* lies over the N. slopes of the pretty pasture glen of *Valpreveyre*, the chalets of that name being gained in rather over an hour.  $\frac{1}{2}$  hr. more, mainly along the left bank of the torrent, leads to the chapel of *St. Barthélemi*, at the junction with the *Colon* glen, descending from the *Bric Froid*, and below the village of *Le Roux*, whence  $\frac{3}{4}$  hr. more almost entirely along the right bank of the stream brings the traveller to *Abriès*, which is thus reached in rather over 7 hrs. from *Bobbio* by this route.

(b) *By the Col de Malaure*.—This pass (2,567 m., 8,422 ft.) is simply a variation of the foregoing. The path

to it bears due W. at the *Crozena* huts, and on the other side the *Col Bouchet* track is joined before the *Valpreveyre* huts. The time required is much as for the *Col Bouchet*.

(c) *By the Col dell' Urina*.—This pass is just N. of the *Tête du Pelvas*, which may easily be ascended from it. There are traces of an old mule path. From the inn at the *Chiabotta del Prà* a path runs N. up a steep grass slope, by which in  $\frac{1}{2}$  hr. the *Pis Uvert* chalets, in a green hollow, are attained. The direction to take then becomes N.W. In  $\frac{1}{2}$  hr. the rough bit called the 'Barricate' is passed, and then a very stony and desolate glen with a uniform slope leads in an hour more to the *Col* (2,537 m., 8,324 ft.)

In  $1\frac{1}{2}$  hr. or less by the N. ridge it is easy to attain the very fine view point of the *Tête du Pelvas*, or *M. Paravas* (2,936 m., 9,633 ft.) It is so easy of access that some day it will become celebrated for its panorama, although it is itself a stony peak in a state of rapid disintegration. It is easy also to traverse in  $\frac{1}{2}$  hr. from the *Col* to the W. ridge of the peak, along which the summit is gained in a short hour more. The easiest way up the *Tête* is from the S.E.]

The descent from the *Col* on the French side is over pastures, the routes of the two foregoing passes being joined at the *Valpreveyre* huts, and *Abriès* reached in 2 hrs. from the pass. A shorter and more interesting way from the summit of the peak is to follow the W. ridge to the point named 'Crête d'Abriès' on the French map (whence there is a very fine view of the *Viso*), descending thence direct nearly due W. past huts to *Abriès*, which by this way is not much more than 2 hrs. from the top.

## ROUTE B.

PINEROLO TO CÉSANNE BY THE  
COL DE SESTRIÈRES.

Steam tramway in  $1\frac{1}{2}$  hr. to Perosa ;  
carriage road on to Césanne.

This route lies up the second of the two main valleys of this district, that of the *Chisone*, but, owing to the curious topographical position of this valley, explained in the Introduction to this Section, the Col at its head does not cross the main chain of the Alps, but leads simply to Césanne, at the foot of the Mont Genève, and not many miles distant from the Mont Cenis. The Chisone valley, with the three glens of its tributary, the *Germanasca*, abounds in beautiful scenery, and well rewards some days devoted to exploring their recesses, and the ranges that enclose them. Indeed, a visit to the Waldensian Valleys is singularly incomplete if at least the Massello glen is not seen, as well as those of the Pellice and Angrogna. The Chisone valley is also called *Val di Perosa* as far as the Bec Dauphin, then *Val de Fénestrelles* as far as that spot, next *Val de Pragelas* to Les Traverses, and finally *Val Troncea* thence to its source.

The road from Pinerolo to Césanne enters the *Chisone* valley proper a short distance before reaching the village of *Porte* (3 m.) One mile further it passes close to some very extensive quarries at *Malanaggio*. The gneiss, which is developed here on a great scale, is extremely varied in its mineral structure, and some of the beds furnish stone which is highly valued for architectural use. Huge blocks have been extracted for the columns of a recently built church on the Po, and other public buildings in Turin. Advancing farther up the valley, the gneiss gives place to a schist, composed almost exclusively of black mica ; and at various points in the ranges which enclose the valley, especially on the Col d'

l'Assietta, serpentine appears in large masses, and seems to have modified the mineral character of the rocks which it approaches. One mile beyond, just about the place where the valley turns from the W. to the N.W., the Vaudois hamlet of *San Germano* is seen on the opposite bank, niched in a hollow in the mountain-side, and above it that of *Pramollo*. (For the routes past these villages to Torre Pellice, or Perrero, see Rte. C. 1.) After passing *Villar Perosa* the village of *Pinasca* is reached. (From these two villages mule paths lead over the *Col di Ceresera* and the *Col del Besso* in 6 hrs. to *Giaveno*, on the *Sangone* torrent, and 1 hr. from the *Avigliana* station, on the Mont Cenis railway (§ 7. Rte. A), or 2 hrs. from Turin by a direct steam tramway, the ascent of the *Mont Freidou* (1,445 m., 4,741 ft.), a splendid belvédère, taking but  $\frac{1}{2}$  hr. from the former pass.) Eleven miles from Pinerolo is

**Perosa Argentina** (627 m., 2,057 ft.), or *Pérouse*, a small town, but the most considerable in the valley, with several industrial establishments. There is a fort here, for till 1713 it was the first Piedmontese town this side of the French frontier. It stands opposite the opening on the W. of the *Germanasca* valley, which, with its three branches, is described in detail in Rtes. C, D, and E.

The road, which has risen but 221 m. (725 ft.) since leaving Pinerolo, mounts considerably in the next portion of the valley, and the Alpine region is entered on. A short way from Perosa the valley narrows, while above are seen on a promontory on the right the ruins of *Bec Dauphin*, the old fortress which marked the frontier of Dauphiné till 1713. For by the Treaty of Utrecht, made in that year, an alteration was made in the singular state of things by which for long the king of France, as heir of the old Dauphins, held certain valleys on the E. slope of the Alps, while the House of Savoy held that

of Barcelonnette. By that treaty the last-named valley was handed over to France, which on its side ceded the valleys of Casteldelfino, Fénestrelles, and Exilles, thus making the Alps the political as well as the natural frontier. It is said that even now the French tongue retains the pre-dominance over the Italian in that part of the Chisone valley above Bec Dauphin.

For a long period the Vaudois were not permitted to settle on the right bank of the Chisone valley, being restricted to the valleys of the Pellice and the Germanasca, with their side glens. But since 1848 all religious disabilities have been removed, and many of them have settled on the left bank of the valley of Fénestrelles, besides others who have been attracted to Turin. In spite of the considerable ascent in this portion of the valley it enjoys a high temperature, and the mulberry flourishes up to Fénestrelles, though the vine is said to appear only below Bec Dauphin. The valley widens out after Bec Dauphin, and becomes exceedingly picturesque, chestnut trees and meadows and forests being shut in by high and bare mountain slopes. Several villages are traversed—*Méan*, *Roure*, *Mentoulles*—all, like the road, on the left bank of the Chisone, as throughout the valley. (From the second of these there is a mule track across the *Col della Roussa*, 2,017 m., 6,618 ft., on the N.E. to Giaveno, in 6-7 hrs., but there is also a military char road over the pass, starting direct from Fénestrelles.) Beyond Mentoulles the magnificent forest of *Chambon* is seen on the other side of the river. At length in 9 m. from Perosa the traveller, who has for some time seen the fortifications, reaches by an iron drawbridge *Fénestrelles* (1,150 m., 3,773 ft.), a poor little town which crouches under the imposing works of the celebrated *Fort*, which is, it will be recollected, the scene of M. Saintine's touching romance of 'Picciola.' This *Fort* is supposed to be one of the

strongest, as it certainly is one of the most considerable, near the frontier between France and Italy. The works rise one above another in successive tiers on the steep N. slope of the valley, the highest battery being gained by a covered staircase, in which there are 3,600 steps. Four detached forts command the approaches, and nothing that military science could suggest has been neglected in defence of this route into Italy. The fortifications date from 1816, though remains of older ones, constructed in 1693 to defend the approaches from the Piedmontese side, when the valley belonged to France, and destroyed by the French in 1796, are still to be seen. To the S.W. towers up the *Mont Albergian* (3,040 m., 9,974 ft.), and to the S.E. the *Mont Politri* (3,081 m., 10,009 ft.) (For the *Col d'Albergian*, at the S.E. foot of the former, leading over to the Massello glen, see Rte. F.)

One mile beyond Fénestrelles a road leads up to the hamlet of *Usseaux*, half hidden amidst larches.

¶ Hence two easy passes give access to the valley of the Dora Riparia at or near Susa. One is the *Col des Fenêtres* (2,215 m., 7,267 ft.), on the N.E., over which a military char road, the numerous zigzags of which can be cut off by means of the old mule path, leads in 5-6 hrs. to Susa. It is an extremely agreeable and interesting walk, the view from the summit commanding the peaks on either side of the Mont Cenis Pass. The other is the *Col dell' Assietta* (2,472 m., 8,111 ft.), far to the N.W., and reached by a mule path which makes a long traverse to the *Assietta* glen, gained more directly from the hamlet of *Pourrières*, in the Chisone valley. By this route Chiomonte, a little S.W. of Susa, and on the Mont Cenis railway, may be reached in 6 hrs. from Fénestrelles. This is a very interesting expedition. The summit is a plateau of considerable extent, which was repeatedly the scene of military operations in the wars be-



tween France and Piedmont. In particular the Piedmontese here drove back the French forces on July 19, 1747, an obelisk on the hillock S.W. of the pass commemorating this feat of arms. The remains of redoubts are seen in many places, while in a depression of the plateau, called the *Vallon des Morts*, the bodies of many hundred brave men lie buried.]

Above Fénestrelles the valley becomes more Alpine in character. The hamlet of *Pourrières* is about half-way between that town and *Pragelas* (7 m. from Fénestrelles), and 1 m. further is *Les Traverses* (1,605 m., 5,266 ft.), the highest village in the Chisone valley.

[From Pragelas and Les Traverses two easy mule passes lead over in about 4 hrs. past Sauze d'Oulx to Oulx, on the Mont Cenis railway (§ 7. Rte. A). One is the *Col de Côteplane* (2,313 m., 7,589 ft.), traversed by the Vaudois in 1689, and the other is the *Col de Bourget* (2,284 m., 7,494 ft.), the most convenient for a traveller who wishes to go from Oulx to the Massello glen—see Rte. F. below—in one day.]

The road now leaves the valley of the Chisone, which continues S. by the *Troncea* glen, through which there are passes to those of the Ripa, Massello, and Rodoretto (see Rtes. E and F). Several great zigzags are followed by a steady rise along the mountain slope, the huts of *Sestrières* being seen below, till the pasture plateau of the *Col de Sestrières* (2,021 m., 6,631 ft.) is attained. Besides the neighbouring peaks and the Pelvoux, the cone of the *Mont Chaberton*, on the W., is very conspicuous, while S.E. of the pass is the rocky peak of the *Rognosa de Sestrières* (3,279 m., 10,758 ft.), the culminating point of the Waldensian Valleys.

[From the little inn, called the *Baracone*, just below the Col on the Césanne side, this commanding summit may be climbed without any difficulty in 3 hrs. or less. The way

lies up the Chisonetto glen to the second notch on the W. of the peak, the *Passo San Giacomo* of the Italian map, whence the W. ridge is followed, but the N.W. face can be climbed direct. The ascent is very stony, but the panorama from the summit is most magnificent, including nearly the whole of the S.W. and Pennine Alps, with Turin, and many of the villages round the peak. Few summits so easily accessible command so splendid a view.]

The road descends gently on the other side of the pass, gains by two great zigzags the village of *Champlas du Col* (1,770 m., 5,807 ft.), below which is *Sauze de Césanne*, at the entrance of the *Ripa* glen (see § 6. Rte. B), and long continuing on the grassy mountain-side high above the *Ripa* torrent finally descends by two great zigzags to (10 m. from Les Traverses, or 39 m. from Pinerolo)

**Césanne** (1,350 m., 4,459 ft.), whose red-roofed houses have been seen below for some time. This village stands at the meeting of the *Dora* and *Ripa* torrents, which here unite to form the *Dora Riparia*. The former flows from the Mont Genève (§ 6. Rte. A), at the Italian foot of which Césanne is built (12 m. from Briançon), the zigzag road up to the pass being well seen during the descent from the Col de Sestrières, while 5 m. below Césanne is Oulx, a station on the Mont Cenis railway to Turin (§ 7. Rte. A). Césanne thus occupies a very important topographical position, and its neighbourhood will be more fully described in § 6. Rte. A, the passes leading hence to Abriès in § 6. Rte. B, and those to the Prali and Rodoretto glens in Rtes. D and E, below.

## ROUTE C.

TORRE PELLICE OR BOBBIO TO  
PEROSA.

The great mountain spur which runs N.E. from the Bric Bouchet separates the Val Pellice from the Prali glen of the Germanasca valley, this spur enclosing at its E. end the hollow of Pramollo. Hence there are several ways of reaching Perosa, in the Chisone valley, over this ridge. Good walkers will prefer to cross the Punta Cournour, perhaps taking the Pra del Torno on the way.

1. *By the Val Angrogna.*—Just N. of Torre Pellice there opens the very beautiful *Angrogna* glen, up the left side of which a rough char road leads, partly through splendid chestnuts, to *San Lorenzo d' Angrogna* ( $\frac{3}{4}$  hr.), and continues as a mule path past *Serre* to the lovely and famous amphitheatre of pastures enclosed by rocks, called the **Pra del Torno** ( $1\frac{1}{2}$ –2 hrs.), celebrated in Vaudois history. The scenery can hardly be surpassed for the combination of rich forest vegetation, bold rocks, and sparkling torrents, and this is the most agreeable, and indeed the indispensable, excursion to make from Torre Pellice.

There are several ways from the Angrogna glen to the Chisone valley more or less near Perosa. The easiest is the mule path which leads in about 2 hrs. from San Lorenzo by the *Colletta* (888 m., 2,913 ft.) to *Porte*. But a more interesting way, (a mule track) starts from Serre, and crosses the fine pastures of Vaccera by the *Col della Vaccera* (1,500 m., 4,921 ft.) to *Peumeano*, *Pramollo*, and *San Germano*, in 5–6 hrs. A much longer route is to mount from Pra del Torno by a mule path to the *Col Seiran* (1,827 m., 5,994 ft.), above the chalets of that name, and then (instead of descending N.E. to Pramollo and San Germano) to follow a path along the crest of the ridge

(partly covered with forest) between the Pramollo hollow (easily gained hence) and the lower Germanasca valley: this ridge is called the *Costa di Lazzarà*, and from it the way descends to *Riclarretto*, whence paths lead right towards Perosa past *Pomarretto*, and left to Perrero past *Faetto*. It is said that 9–10 hrs. are required from Torre Pellice to Perosa by this route. A more direct route to Perrero, though very steep and toilsome (not recommended), crosses the ridge at the very head of the Val Angrogna by the *Passo dell' Infernetto* (2,351 m., 7,714 ft.) The descent hence is rough and stony, passing the lake and huts of *Lauson*, and the hamlets of *Roccia* and *Faetto*, before reaching *Perrero*, which is 9 good hours' walk by this route from Torre Pellice.

By bearing S.W. from the Pra del Torno the chalets of *Giasset* are reached, from which there is a new military mule path across the *Passo del Rous* (2,661 m., 8,731 ft.) to the basin of the *Tredici Laghi*, whence another military path descends direct to Prali; a third runs N. along the W. slope of the range between the Prali and Faetto glens till S. of the *Rocca Bianca*, 2,379 m., 7,805 ft. (a white dolomite point, easily reached hence, and commanding a fine view), it passes to the E. slope and so goes down to Perrero. It is possible to go from the Faetto glen by the *Balma* chalets across this range S. of the *Rocca Bianca*, and so reach Prali in about 4–5 hrs. from Perrero, while from the head of that glen the *Porta della Cialancia* (2,691 m., 8,829 ft.) gives access to the basin of the *Tredici Laghi* in about 5–6 hrs. from Perrero.

☞ This basin or plateau (where there is now an Italian military station), accessible from so many sides, and best in  $1\frac{1}{2}$  hr. from the hamlet of *Ribba*, at the head of the Prali glen, is the most convenient spot whence to ascend the **Punta Cournour** (2,868 m., 9,410 ft.), the highest point on the great spur running N.E.

from the Bric Bouchet. It takes about  $\frac{3}{4}$  hr. from its base by the N. ridge, or an easy 3 hrs. from Ribba, since from the first of the Tredici Laghi to the base of the peak about  $\frac{3}{4}$  hr. is required. The view is naturally confined to the neighbouring ridges and valleys, but is the best to be obtained from any point in the very heart of the Waldensian Valleys. It is easy to descend in 1 hr. to the Julien huts, whence it is 2 hrs. more down to Bobbio. ]

2. *By the Col Julien (or Giulian).*  
—This route leads from Bobbio to Prali. Formerly a bad mule path crossed the pass, but a good one has recently been made, so as to connect Bobbio with the military station at Tredici Laghi. The old mule path mounted steeply N.W. from Bobbio above the left bank of the *Cruello* torrent, which runs in a wild gorge below. The way is stony and rough. In about 3 hrs. the Julien chalets are gained, and 1 hr. more leads to the pass (2,547 m., 8,357 ft.), which commands a fine view of the Viso. The descent lies down débris; the route of the Col d'Abriès (Rte. D) is joined at Ribba, and Prali gained in 2 hrs. from the pass. The char road thence to Perrero and Perosa is described in the next Rte.

#### ROUTE D.

##### PEROSA TO ABRÏÈS BY THE GERMANASCA VALLEY.

Opposite Perosa is the opening of the *Germanasca* Valley, also called the Valley of St. Martin, through which the united torrents of three Alpine valleys are poured into the Chisone. These unite  $\frac{3}{4}$  m. above Perrero, which is 5 m. from Perosa by char road, and flow from the *Prali* glen, with its tributary the *Rodoretto* glen, on the S.W., and from the *Mass-*

*ello* glen (specially called the *valley of St. Martin*) on the N.W. To complete our account of the Waldensian Valleys some notice must be given in this and the two following Rtes. of these three glens, and of the chief passes that lead from them.

The char road on leaving Perosa crosses the Chisone and mounts the main Germanasca valley past *Pomaretto*, with many substantial buildings of various kinds, all belonging to the Waldensians, and built amidst charming surroundings. Beyond, the road passes through a narrow rock gorge, on issuing from which the various hamlets forming *St. Martin* are seen above on the right, while *Riclarretto* and *Faetto* (whence various routes lead to the Val Angrogna: see last Rte.) are seen on the opposite side of the valley. The road winds round a promontory, behind which quite unexpectedly the traveller arrives at the hamlet of

*Perrero*, 832 m., 2,730 ft. (5 m. by road from Perosa, or about 2 hrs.' walk), consisting of a single street of rather wretched houses, squeezed in between the mountain-side and the roaring Germanasca. Here resided the late Dr. E. Rostan, an excellent botanist, to whom the Editor (J. B.) was indebted for valuable information as to the district.

$\frac{3}{4}$  m. W. of Perrero is the meeting of the two main branches of the Germanasca. The torrent from the N.W. branch, that of the *Massello*, is crossed, and the mule path thither (Rte. F) left on the right, a rough char road, used for the transport of the white marble, blocks of which may be seen scattered about, mounting S.W. along the left bank of the Germanasca. In about  $1\frac{1}{4}$  hr., after passing through a wild gorge, the road leaves the path to *Rodoretto* (Rte. E) on the right, and in  $\frac{1}{2}$  hr. more emerges into the green basin of *Prali*, the largest hamlet in which, *La Villa* (1,372 m., 4,501 ft.), is 5 m. by road from Perrero, or about 2 hrs.' walk. (Hence a low pass leads by the



chalets of *Galmont* in a short hour over to the village of Rodoretto.)

The scenery of the upper part of the Val Germanasca is very fine and wild. From La Villa the char road continues up the valley past *Cugno* and *Ghigo*, the chief village of the valley, to  $\frac{1}{4}$  hr. below *Pomé*, or *Pommiers* (1,500 m., 4,921 ft.) Here the ways to the principal passes at the head of the valley part. That to the Col Julien (Rte. C. 2) lies to the S.E., while there and higher up the S.W. arm of the glen respectively those to the *Cols della Longia* (2,812 m., 9,226 ft.) and *Frappier*, 2,725 m., 8,941 ft. (both leading to Césanne by the *Ripa* glen) branch off to the W.S.W. The mule way to the Col d'Abriès (the notch of which can be seen from Ghigo) continues to the S.W. above the left bank of the torrent.

[There is a longer track, which mounts from *Giordan*, near *Pomé*, as a char road to the hamlet of *Ribba*, on the Col Julien route, and thence mounts as a mule path above the right bank of the torrent, only uniting with the way described on the French side of the Col d'Abriès. By bearing slightly to the W. after mounting zigzags to the buttress between the *Germanasca* and the *Miniera* torrents, it is easy to gain the chalets of *Bois du Col* (1,686 m., 5,532 ft.), where the track to the Col by the left bank of the former stream is joined.]

At a point beyond the last chalets (*Roccias*) where the track bifurcates care should be taken to keep to that on the *left* hand (the other mounts high up to some pastures on the right), by which in about 3-3 $\frac{1}{2}$  hrs. from Prali the more northerly of the two notches that constitute the *Col d'Abriès*, *de Prali*, or *de St. Martin* (2,650 m., 8,695 ft.) is attained. It is marked, as it is frequented even in winter, by a boundary stone, bearing the French and Savoyard arms, as well as by two cairns. The view includes the neighbouring sum-

mits with Rochebrune, the Sommet des Rouies, and Chaillol, besides Monte Rosa. There is a small tarn just below the pass on the French side.

The mule path on the French side is straightforward. Some way down it crosses to the left bank of the torrent, and winds through the *Bois de Mamozel*, round the W. end of the spur projecting W. from the Bric Bouchet, and above the hamlet of *La Montette*. The village of *Le Roux* is reached in about 1 $\frac{1}{2}$  hr. from the Col, and below it is the chapel of St. Barthélemi, where our way joins that from the Val Preveyre (see Rte. A. a), and crossing to the right bank of the stream follows it till it recrosses at *Abriès*,  $\frac{3}{4}$  hr. from Le Roux, 2 $\frac{1}{4}$  hrs. from the Col, or about 9 $\frac{1}{2}$  hrs. from Perosa.

#### ROUTE E.

##### PEROSA TO CÉSANNE BY THE RODORETTO VALLEY.

It was pointed out in the last Rte. that about 1 $\frac{1}{4}$  hr. beyond Perrero the way to the Rodoretto glen of the Germanasca branches off from that to the Prali glen of the same valley. From this spot a mule path mounts towards the village of *Gardiola*, but before reaching it bears to the left to enter the small village of *Villa di Rodoretto*, 1,429 m., 4,689 ft. (1 $\frac{1}{2}$  hr.), where the traveller is surprised by the sight of a Roman Catholic church standing opposite a Waldensian or Protestant 'temple,' a spectacle rarely seen in the Alps save in this district.

[From Rodoretto one track leads over a ridge on the N. in 1 $\frac{1}{2}$  hr. to the chief village of the *commune* of *Salza*, and *Champ de Salse*, opposite Massello, in the glen of that name, while another leads S. over a second

ridge to the La Villa hamlet of Prali in a short hour.]

The footpath continues up the Rodoretto valley above the left bank of the torrent past several hamlets to the chalets (beyond the hamlet of that name) of *Balma*, 1,877 m., 6,158 ft. ( $1\frac{1}{2}$  hr.) Here the way over the *Col della Valletta* (2,690 m., 8,826 ft.) to the Troncea glen, and so to Les Traverses at the Pinerolo foot of the Col de Sestrières (Rte. B), bears to the W. (a very long and circuitous route to that spot). But to reach Césanne the path above the left bank of the Rodoretto torrent must be mounted in a S.W. direction for yet  $1\frac{1}{2}$  hr. to the *Col de Rodoretto*, 2,774 m., 9,101 ft. ( $4\frac{1}{2}$  hrs. from Perrero). The Viso and Turin are visible from the pass, but Prali, Pomé, Les Traverses, the Tredici Laghi, and Mont Clapier, in the Maritime Alps, may be seen in addition by following the ridge S.E. for  $1\frac{1}{4}$  hr. to the summit of the *Punta Vergia* (2,990 m., 9,810 ft.), a point which seems much nearer the pass than it really is.

A slope of stones leads down to pastures. The way from the *Col La Mayt* (§ 6. Rte. B) is joined before entering the hamlet of *Argentiera*, and the *Ripa* torrent (one of the two branches of the Dora Riparia) followed throughout its length to the village of *Sauze de Césanne* (1,531 m., 5,023 ft.), at its entrance, and below the high road from the Col de Sestrières (Rte. B). Thence a char road (mainly along the left bank of the Ripa) runs past *Bousson*, at the mouth of the Thurres glen (§ 6. Rte. B), to *Césanne*, at the foot of the Col de Sestrières (Rte. B) and of the Mont Genève (§ 6. Rte. A). At least  $4\frac{1}{2}$  hrs. are required to go from the Col to Césanne, which is thus 11 hrs.' walk from Perosa.

## ROUTE F.

PEROSA TO PRAGELAS OR FÉNES-  
TRELLES BY THE MASSELLO  
VALLEY.

Owing to the peculiar fashion in which the Chisone (itself enclosed similarly by the Dora Riparia) encloses the *Massello valley*, the passes which lead from it all bring the traveller to some part of the upper Chisone valley. Hence the routes through this valley involve a great détour, but they lead through some of the finest scenery of the district, and over ground which is of interest to the historian (the name of the *Balsiglia* need only be mentioned to show this) as well as to the naturalist.

As stated in Rte. D the mule track up the Massello valley quits the char road towards Prali  $\frac{3}{4}$  m. ( $\frac{1}{4}$  hr.) beyond Perrero, after crossing the bridge over the Massello torrent. The path follows the clear stream of that torrent along its right bank, and crosses it under the little hamlet of *Baissa*, the chief hamlet of the *commune* of *Maniglia*, high up on the N. slope of the valley. It then winds through a most picturesque ravine, one of the prettiest spots in the Waldensian Valleys, on issuing from which it reaches the union of the *Salza* torrent on the S.W. with the main stream. The path on the *left* climbs up to the hamlets of *Salza* and *Champ de Salse*, 1,405 m., 4,610 ft. (for the way thence to Rodoretto see last Rte.), at the latter of which is the residence of the Waldensian pastor of Massello, Signor J. J. R. Tron, whom the present Editor (W. A. B. C.) has to thank for much courtesy, and for open-handed hospitality, which is freely extended to any travellers who may pass this way. The path on the *right* leads up to *Massello* (1,185 m., 3,888 ft.), where is the Waldensian 'temple' ( $1\frac{1}{4}$  hr. or more from Perrero). Beyond, on the way a fine view of the head of the glen being

gained, is the hamlet of *Gros Passet*, perched on a rock above the stream, and about 1 hr. from Massello is the village of *Balsiglia* (1,380 m., 4,528 ft.), opposite the entrance of the *Chinivert* glen.

[From the village  $3\frac{1}{2}$  hrs. suffice to mount in a S.W. direction to the *Col du Chinivert* (2,803 m., 9,197 ft.), leading over to the *Troncea* valley; a further ascent of  $1\frac{1}{2}$  hr. from the Col by the S. ridge brings the traveller to the summit of the *Bric Chinivert* (3,037 m., 9,964 ft.), a fine view point.]

Opposite and above the right bank of the stream is the strange and picturesque natural rocky fortress of the *Balsiglia* or *Balsille*, where the Waldensians entrenched themselves in August 1689 on their 'Glorieuse Rentrée,' and defied the troops of France and Savoy in May 1690. It is well to climb up to this natural fortress by the steep path, in order to realise more vividly this remarkable feat of mountain warfare. After *Ortierè*, the last hamlet, is passed the glen becomes very bare and savage, and many zigzags wind up the rugged mountain-side to the *Lauson* huts, 1,891 m., 6,204 ft. ( $1\frac{1}{2}$  hr.)

[From these huts about 4 hrs. suffice to attain the *Mont Politri* (3,081 m., 10,009 ft.), on the N., past the *Lac du Vallon*; it is also accessible in 3 hrs. from the *Albergian* huts, on the *Fénestrelles* side of the pass of that name.]

The track then runs W. over pastures to a curious cairn of some size, with steps formed by projecting stones ( $\frac{1}{4}$  hr.) It is at the upper edge of the fine waterfall, 30 m. (98 ft.) high, here formed by the stream, and of a dreary upland plain where the routes to the various passes at the head of the valley diverge.

1. To the S. is the *Col dell' Arcano* (2,787 m., 9,144 ft.), reached in  $2\frac{1}{2}$ -3 hrs. from *Balsiglia*, and leading in  $3\frac{1}{2}$  hrs. more to *Les Traverses*, on the *Col de Sestrières* road.

2. To the N. a well-marked mule

track branches off soon after the great cairn, and runs N. by zigzags over a shoulder (it is rather longer to circle round its base) to the *Col d'Albergian* (2,701 m., 8,862 ft.), also  $2\frac{1}{2}$ -3 hrs. from *Balsiglia*. It is guarded by a line of entrenchments, and plays an important part in Waldensian history. The view hence includes many of the great Dauphiné peaks, while the fortifications of *Fénestrelles* are immediately at the spectator's feet. But the panorama is far more extensive, including, in addition to the peaks mentioned, the *Viso* and the *Chambeyron* summits, from the *Mont Albergian* (3,040 m., 9,974 ft.), which rises on a spur some way N. of the pass. It may be gained thence in a good hour by way of a faint track which traverses a great stone slope, and leads past a cairn on the S. ridge of the peak to the great cairn which crowns the topmost point. The mule track from the Col descends the *Albergian* glen, and at the chalets of that name bears sharply to the N.E., attaining *Fénestrelles* in  $2\frac{1}{4}$  hrs. or less from the pass.

3. A traveller bound for the head of the *Chisone* valley should, from the curious cairn, follow the track over the upland plain, first to the N.W., then nearly due W., in order to gain the *Col du Piz* (2,606 m., 8,550 ft.),  $2\frac{1}{2}$ -3 hrs. from *Balsiglia*, which crosses the ridge at the very head of the *Massello* valley. The view includes most of the great Dauphiné summits, such as the *Ecrins*, the *Meije*, the *Pelvoux*, the *Aiguilles d'Arves*, &c. This was the last pass crossed by the Waldensians on their 'Glorieuse Rentrée' in 1689.

The path on the other side of the Col soon divides; that to the right leads to *Pragelas*, and that to the left to *Les Traverses*, either being gained in  $1\frac{1}{2}$  hr. or a little more, the route to *Pragelas* being stated to be slightly the longer of the two. About  $8\frac{1}{2}$  hrs. thus suffice for the walk from *Perosa*.



## SECTION 6.

## GENÈVRE DISTRICT.

It was remarked in the Introduction to this Chapter that the main ridge of the Cottian Alps, when looked at from the Italian side, makes a salient angle, whose apex is the Mont Thabor. Of two of the main rivers of the South-Western Alps—the *Durance* and the *Dora Riparia*—the former rises on, and the latter receives an important affluent flowing from, the flanks of that mountain. Both the Durance, which drains the W. or outer side of the angle, and the Dora Riparia, descending from the inner or E. face, divide towards their origin into several streams, the general direction of which is parallel to the chain which separates them. Thus the Durance, the main source of which is the *Clairée*, receives near Briançon the *Guisane*, flowing from the N.W., and the *Cerveyrette*, flowing from the S.E. By a nearly similar arrangement the main source of the Dora Riparia, the *Ripa*, is swollen near Césanne by the *Thurres* torrent, and near Oulx receives the considerable stream formed by the union at Bardonnèche of the torrents from the Vallée Etroite and the Vallée de Rochemolles. This unusual disposition of the valleys, which, instead of radiating from the main ridge of the Alpine chain, form a series of trenches parallel to it, corresponds to the portion of that chain which has the lowest mean elevation, and which, excepting only the great breach indicated by the valley of the Adige, has the lowest passes over the range between the Mediterranean and Carniola. The **Mont Genève** (1,854 m., 6,083 ft.) is the lowest of the carriage roads across the main chain, and the *Col des Echelles de Planpinet* (1,760 m., 5,774 ft.) the lowest pass across the main chain of the Alps (save the two great gaps between the Adige and Inn valleys), and would un-

doubtedly have been the main channels of communication between France and Italy, if the valley of the Durance were not divided from that of the Rhône by the great mass of the Dauphiné Alps.

In the present Section we include the valleys on the French slope of the main chain, the passes from which lead to the road over the Mont Genève at some point between Césanne and Briançon, or, in other words, the French valleys lying N. and S. of that pass. These all touch the main chain, and it is convenient to take in also the Vallée Etroite, on the Italian slope. Roughly speaking, the Queyras on the S., the Mont Thabor on the N., the Col du Galibier on the W., and the Col de la Vallée Etroite on the E. mark the boundaries of the district described in this Section.

The loftiest peaks in it are *Roche-brune* (3,324 m., 10,906 ft.) and the *Bric Froid* (3,310 m., 10,860 ft.), both S. of the Mont Genève Pass, and the *Roche du Grand Galibier* (3,242 m., 10,637 ft.), and the *Mont Thabor* (3,182 m., 10,440 ft.), with the *Pic du Thabor* (3,205 m., 10,516 ft.), N. of that pass.

Besides the guide-book by Signori Martelli and Vaccarone, and that in the 'Guides Miriam' series, both mentioned in the Introduction to this Chapter, Joanne's large 'Savoie' (1895) and M. Henri Ferrand's 'La Frontière Franco-Italienne' (Grenoble, 1894) should be specially consulted for the N. portion of this district. It should always be remembered that, as Briançon is one of the most strongly fortified towns in France, while the Mont Genève, owing to its immense strategical importance as the key to Turin, has recently been protected by considerable military works by the Italians, the traveller should be very careful as to making sketches or notes, or taking photographs, in these regions, as the 'spy mania' is very prevalent on both sides of the frontier.

## ROUTE A.

OULX TO BRIANÇON BY THE MONT  
GENÈVRE.

	M.
Césanne . . . .	5
Clavières . . . .	9
Mont Genève . . . .	10
La Vachette . . . .	15
Briançon . . . .	17

Diligences daily in about 5 hrs.

Oulx is a station on the Mont Cenis Railway (§ 7. Rte. A), 7 m. below Bardonnèche, and  $46\frac{1}{2}$  m. above Turin. It is a large village situated at the junction of the *Bardonnèche* torrent with the Dora Riparia, and owes its historical and military importance to this fact, for it thus commands the roads over the Mont Genève and the Col de Sestrières, as well as the Fréjus Tunnel, and the numerous easy passes across the main range in its neighbourhood, while even easier and shorter passes lead over to the head of the valley of the Chisone (§ 5. Rte. B). It has been identified with the *Oculum* of the ancients, and was for many centuries the seat of a powerful and wealthy Benedictine abbey.

The high road from Oulx towards the Mont Genève mounts gently along the right bank of the Dora Riparia, at first through fertile meadows, then through a rocky gorge, on issuing from which the hamlet of *Fenils* is seen amidst splendid trees, and at the entrance of a deep ravine. This part of the valley is very interesting to a botanist. *Astragalus austriacus*, *Prunus brigantiaica*, *Centranthus angustifolius*, and other very rare species are found in the valley, and the Alpine ranges on either side are not less rich. The Dora is crossed as the road enters

Césanne (1,359 m., 4,459 ft.), a village at the junction of the road from the Col de Sestrières (§ 5. Rte. B), and of the paths over several passes from Perosa by the Prali and Rodoretto valleys (§ 5. Rtes. D and

E), from Abriès (Rte. B. below), and from Cervières (Rte. C. i. below). It is pleasantly situated, and is coming into fashion as a summer resort for Italian families flying from the heat in the plains. Signor Piolti's monograph on this village and its neighbourhood in the 'Bollettino' of the Italian Alpine Club for 1886 should be consulted by any traveller meditating a stay here.

The high road from Césanne to the Mont Genève soon crosses the stream of the *Piccola Dora*, and mounts by two great zigzags along the slopes of loose débris that cover the S. flank of the Mont Chaberton. (Pedestrians can take the old mule path which leaves the road as this crosses the stream, and mounts through a gorge to Clavières, this gorge being, perhaps, that traversed by Hannibal and his army.) In this way the E. end of the undulating plateau which forms the pass is gained at the Italian hamlet of *Clavières* (1,768 m., 5,801 ft.)

[For the Col de Gimont to Cervières, see Rte. C. i. below.]

Some drawbridges and an Italian fort are passed on the way. The road mounts very gradually and crosses the frontier before reaching the summit of the pass (1,854 m., 6,083 ft.), marked by an obelisk commemorating the completion of the road in 1807. Just beyond is the first French village, *Bourg Mont Genève* (1,860 m., 6,103 ft.), with an ancient *Hospice*.

The mere fact that two permanently inhabited villages exist on the wide plateau which forms the pass will strike the traveller, and make him realise the special importance of the Mont Genève. Not merely does it cross the main range from E. to W., unlike most of the other great Alpine passes, but the plateau has a southern exposure, while the pass is very short, the only obstacle being the gorge on the Italian side. Hence one is not surprised to find that it has been known for many centuries, bearing

the name of *Mons Matriona* in Roman times, and later of *Mons Janus* and *Mons Geminus*, whence no doubt the present name is derived. In the opinion of many scholars (such as Gibbon, Desjardins, and Fuchs) as well as of Dante it is the pass which best fulfils the requirements laid down by the historians who describe the passage of Hannibal, while in more modern times it has been frequently traversed by armies, as in 1494, 1629, 1747, 1814, and 1859.

[N.E. of the pass rises the solitary and conspicuous cone of the **Mont Chaberton** (3,135 m., 10,286 ft.), which commands a very extensive view, and is easy of access, though it is stated that the Italian military authorities now forbid travellers (probably those coming from the French side) to make the ascent, as it is wholly in Italian territory, and commands a view of the new fortifications. The *Col de Chaberton* (2,670 m., 8,760 ft.), to its N.W., connects the *Baisses* (or *Ruisseau Sec*) glen with that of *Fenils*. Through the former glen (reached from France by mounting a side glen to the *Col de l'Alpette*) the Col may be reached in 2-3 hrs. from Bourg Mont Genève, or Clavières, while through the latter it is attained in 3½ hrs. from Fenils, near the road between Oulx and Césanne. From the Col it is a short hour to the great cairn on the summit. On the Col the botanist will be glad to find the rare *Berardia sub-acaulis*.

By keeping high up on the pastures on the right side of the Baisses glen, and traversing stone slopes, it is possible to reach in 2½ hrs. from Bourg Mont Genève — almost entirely through Italian territory — the *Col des Trois Frères Mineurs* (2,586 m., 8,485 ft.), on the frontier. It takes its odd name from several towers of rock on the ridge, the largest of which is marked by the arms of France and Savoy, with the date 1823. The Col can, of course, be easily gained by any one descending

from the Chaberton itself. On the French side great boulders, pastures, and forests lead down in about an hour to the green hollow in which nestle the chalets of *Acles*, whence  $\frac{3}{4}$  hr. more by a path high above the right bank of the Acles torrent suffice to descend to the village of Planpinet, in the Clairée valley (see Rte. D). A gentle ascent due S. of Bourg Mont Genève, over pastures and past one of the sources of the Durance, leads in 1¼ hr. to the low and easy *Col du Gondran*, whence a steep descent down curious reddish burnt rocks, a small tarn, and some chalets gives access in 1¼ hr. more to Cervières, see Rte. C.]

The descent from Bourg Mont Genève is made by six long and well-engineered zigzags through a forest, fine glimpses being gained from time to time of Briançon and the remarkable series of forts which girdle it. The base of the descent is reached at *Les Alberts*, and a little beyond is the hamlet of *La Vachette*, at the entrance of the Clairée valley (Rte. D). (Pedestrians may cut off the zigzags, and rejoin the road at La Vachette.) 2 m. further by a road partly cut into the rocky mountain-side high above the right bank of the stream is

**Briançon** (1,321 m., 4,334 ft.), a small though very ancient town, and a fortress of the first class. The old town is confined within the fortifications, fenced by walls, and is very picturesque within and without. It is built on a high plateau at the meeting of the Clairée and the Guisane, which here unite to form the Durance. To the S.W. in the plain is the suburb of *Ste. Catherine*, with silk carding factories and the railway station. There is nothing in the town to attract a stranger, its principal feature being the magnificent series of fortifications which surround it, and thus command the Lautare and Genève roads, as well as the Clairée and Durance valleys. The chief forts are on the slopes E of



the town. The highest, that of *Infernet*, is constructed on a point 2,380 m. (7,809 ft.) in height, or over 1,000 m. (3,281 ft.) above the town.

Briançon is the centre of a considerable passenger traffic. Besides the Mont Genève, leading into Piedmont, there is the road over the Col du Lautaret (§ 8. Rte. A), leading by Bourg d'Oisans to Grenoble, or from the Col itself by the Col du Galibier (§ 8. Rte. B) to St. Michel, in the Maurienne valley (§ 7. Rte. A), while the railway to Grenoble by Gap (§ 9. Rte. Q) runs from Briançon at first down the Durance valley. The intercourse with Savoy is carried on mainly by the Mont Genève and the Fréjus Tunnel, though travellers will prefer the Galibier, and mountaineers the various routes through the Clairée valley described in Rte. D. below. The direct passes from Briançon to the Queyras valley are noticed in Rte. C. below, and the quaint pass of the Col des Echelles to Bardonnèche in Rte. E. The lofty mountains of the Pelvoux group W. of Briançon are included in § 9.

The neighbourhood of Briançon abounds in rare plants. Amongst them may be mentioned *Astragalus austriacus* and *A. vesicarius*, *Oxytropis Halleri*, *Prunus brigantiaea*, *Telephium Imperati*, *Brassica repanda*, *Berardia subacaulis*, *Rhaponiticum heleniifolium*, *Crepis pygmaea*, *Androsace septentrionalis*, and *Bulbodium vernum*.

## ROUTE B.

### ABRIÈS TO CÉSANNE.

The villages of Abriès (§ 4. Rte. B) and of Césanne (§ 6. Rte. A), on the French and Italian side respectively of the main ridge of the Cottians, stand alike at the meeting point of many valleys, so that it is in the

fitness of things that at least two passes should lead from one to the other. These start from the head of the same valley near Abriès, but on the other side descend through two parallel glens, which meet at Bousson, near Césanne.

1. *By the Col La Mayt.*—Mule path. At the upper end of the village of Abriès a bridge is crossed to the right bank of the Valpreveyre stream, which is followed for  $\frac{3}{4}$  hr. till it recrosses to the chapel of St. Barthélemi, on the other bank, at the entrance to the Valpreveyre (§ 5. Rte. A. a). A zigzag path leads up to the hamlet of *Le Roux*, at which, avoiding the higher path, which winds round to the Col d'Abriès (§ 5. Rte. D), a lower path must be followed up the *Colong* glen to the chalets of *La Montette*, at the entrance of the *Gayet* glen ( $\frac{3}{4}$  hr.) Thence the mule path leads in a slightly N.E. direction over pastures, stones, and snow to the pass, 2,700 m., 8,859 ft. ( $1\frac{3}{4}$  hr., or  $3\frac{3}{4}$  hrs. from Abriès.) Abriès is visible from the pass, which is marked by one of the usual boundary stones, bearing the French and Savoyard arms.

On the Italian side a track leads down along the left bank of the torrent, and gradually bears round to the N.W., joining that from the Col de Rodoretto (§ 5. Rte. E) before entering the hamlet of *Argentiera* (1,897 m., 6,224 ft.) The path follows the same bank of the *Ripa* (the main source of the Dora Riparia) till it crosses near the village of *Sauze de Césanne*, at the foot of the Col de Sestrières, whence a char road leads past *Bousson*, at the entrance of the *Thurres* glen, to *Césanne*, which is reached in about 4 hrs. from the Col. This pass is more roundabout, and less interesting, but easier, than the Col de Thurres.

2. *By the Col de Thurres.*—Mule path. The route is identical with that described above as far as *La Montette* ( $1\frac{1}{2}$  hr.) The bridge is then crossed, and the fine pastures of the *Val Fourane* mounted in a N.W.

direction to the stony ridge of the Col, 2,810 m., 9,220 ft. ( $1\frac{3}{4}$ –2 hrs., or  $3\frac{1}{4}$ – $3\frac{1}{2}$  hrs. from Abriès.)

☐The view from the Col is very fine, but is excelled by that from the **Bric Froid**. If merely crossing the pass, it is well to make for this ridge at a point somewhat to the S.W. But if bound for the *Bric Froid*, 3,310 m., 10,860 ft. (called *Punta Ramière* on the Italian map), it is best to bear rather more to the N. by stony slopes to a lonely hollow whence the ridge is struck much nearer the peak. Thence it takes about  $\frac{3}{4}$  hr. walking over easy stones to gain the cairn on the summit ( $3\frac{1}{4}$  hrs. from Abriès direct, or  $\frac{1}{2}$  hr. extra if the round be made by the true Col). The peak may also be climbed direct from the Thurres glen on the W., and also from the Ripa glen by gaining the N.W. ridge close to the summit. In the experience of the present writer (W. A. B. C.) there is, perhaps, no other minor peak in the Alps, so very easy of access, which commands so extensive and magnificent a panorama. Without any exaggeration it may be said to include the whole of the Western and Central Alps from the Mont Clapier, in the Maritimes, through the Viso and Chambeyron groups, the great Dauphiné peaks, the principal summits of the Graians, and the chain of Mont Blanc to Monte Rosa, and even ranges far beyond it. Several villages in the Ripa glen, and towards the Col de Sestrières, are also visible. No one making the stay of even a day at Abriès should, if the weather be fine, neglect to make this ascent, which can be accomplished thence in 5 hrs. up and down by a good walker.☐

The descent on the Italian side of the Col is straightforward, and the *Thurres* (Turras) huts (1,955 m., 6,414 ft.) are attained in  $1\frac{1}{2}$  hr.

☐Hence, or rather from the first bridge above, the two loftiest points in the rocky range separating the Thurres and Ripa glens, the *Koc del Boucher* (3,285 m., 10,778 ft.), and

the *Punta Ciatagniera* (3,258 m., 10,689 ft.), can be climbed in about 4 hrs.☐

About an hour lower, after having passed a fine waterfall in the gorge on the left, and the prettily situated hamlet of *Ruilles*, is the village of *Thurres*, the path running high above the right bank of the torrent. In  $\frac{1}{2}$  hr. more *Bousson*, at the junction of the Thurres glen with that of the Ripa, is reached, and thence a char road leads in  $\frac{3}{4}$  hr. to *Césanne*, which is thus  $3\frac{3}{4}$  hrs. from the Col, or 7– $7\frac{1}{2}$  hrs. from Abriès, so that there is plenty of time to take the Bric Froid on the way.

#### ROUTE C.

#### ABRIÈS OR CHÂTEAU QUEYRAS TO BRIANÇON.

The shortest and most convenient way from the Queyras valley to Briançon is, of course, the carriage road to Guillestre (§ 4. Rte. B), and thence the railway to Briançon § 9. Rte. Q). But there are at least two easy mountain passes, the routes from which meet at Cervières, 6 m. by road above Briançon, and which have the advantage that they may easily be combined with the ascent of the two highest summits between the Queyras valley and Briançon.

1. *By the Col de Malrif*.—Easy foot path. The *Malrif* ravine joins the Guil valley a little below Abriès, but the huts of that name may be gained direct from that village by mounting past the 'Calvary,' and then rounding a corner by a path high above the gorge. The path continues high above the stream, gradually bearing to the N.W. till, in a little plain below the last ascent, there is a bridge across the torrent. The final ascent is steep, though in no way difficult, and the pass (c. 2,800 m.,

9,187 ft.) is attained in  $3\frac{1}{2}$  hrs. from Abriès. (It is also possible to bear far to the W. before reaching the bridge at the head of the Malrif ravine, and pass by a cross and a considerable lake before gaining the ridge much nearer Rochebrune than the proper Col.) The view from the pass includes the Viso, Chambeyron, and Dauphiné peaks. But it can be very much extended by walking along the ridge to the N.E. in a short hour to the cairn on the **Grand Glayza**, 3,286 m., 10,781 ft. (called *Punta Merciantaira* on the Italian map.) This peak may also be gained from the *Col des Terres Rouges*, on the N.W., the best route for those who wish to make the ascent from Césanne direct. The view extends from the Maritimes to the Tarentaise, Césanne, as well as Ristolas and La Chalp, in the upper Guil valley, being seer. If this summit be combined with the pass it is not necessary to go back to the Col before striking down to the *Cerveyrette* valley. The descent from that point or the Col is less steep than the ascent on the other side, and  $1\frac{1}{2}$  hr. suffices to reach the chalets of *Les Fonds* (2,060 m., 6,759 ft.), at the junction of the mule rack from Château Queyras by the *Col de Péas*, 2,645 m., 8,678 ft. (3 hrs. from one spot to the other.) The way then lies down the pretty pasture valley of the *Cerveyrette*, a char road commencing at *Les Chalps*, 20 min. from Les Fonds. Near *Le Bourget* a great marshy plain commences, above which, on terraces to the N., are groups of chalets. At one of these, *Lachau*, just where the valley bends from N.W. to W., the mule tracks from the *Col de Bousson*, 2,130 m., 6,989 ft. (from Césanne), and the *Col de Gimont*, 2,402 m., 7,881 ft. (from Clavières, on the Mont Genève plateau)—both requiring about 7 hrs. to Briançon—fall in. From the W. end of the plain some zigzags down débris slopes lead in  $\frac{1}{2}$  hr. to *Cervières* (see under 2), which may be reached in  $3-3\frac{1}{2}$  hrs. from the Col, or  $6\frac{1}{2}-7$  hrs. from Abriès.

2. *By the Col d'Izouard*.—Char road all the way. The scenery through which this convenient new road runs is wild and singular rather than grand, but the region traversed is in many ways interesting, especially to a naturalist. The name is sometimes spelt *Hyzoar*, or *Isoar*.

About 1 m. below *Château Queyras* (§ 4. Rte. B), in the Guil valley, the char road up the *Rivière* or *Arvieux* glen quits the high road in that valley, and mounts N.W. through a narrow gorge to the chief hamlet, *Arvieux* ( $1\frac{1}{4}$  hr. walk, or 4 m.), where many old traditional usages are still preserved. *La Chalp*, the residence of the devoted pastor, Félix Neff (see § 9. Rte. L), is passed (1 m.) before the last village ( $\frac{1}{2}$  m.), *Brunissard* (1,785 m., 5,857 ft.), is attained (1 hr.)

[Hence the *Col des Ayes* (c. 2,500 m., 8,202 ft.) leads in about 6 hrs. from Château Queyras direct to Briançon.]

Leaving on the left the N.W. fork of the valley, up which lies the way to the Col des Ayes, the new military road mounts by many zigzags nearly due N. to the **Col d'Izouard**, 2,388 m., 7,835 ft. ( $3\frac{1}{2}$  hrs. on foot from Château Queyras). 'The last part of the ascent is exceedingly wild and curious, the road winding through vast masses of perfectly bare rock of bright red and reddish-yellow sandstone, now worn down into immense screens, now varied by immense blocks of fantastic shapes, chiefly needles, but often the most grotesque and irregular pillars. The scene was perfectly solitary and silent, and very weird and striking' (E. L.) The view includes a portion of the snowy peaks of Dauphiné, as well as of the distant peaks between Ceillac and Maljasset. A short way down the other side is a 'Refuge Napoléon,' or small mountain inn.

[This is the best starting point for the ascent of **Rochebrune** (3,324 m., 10,906 ft.), the highest peak in this region, and most conspicuous on



the descent from the Col du Lautaret to Briançon, whence it is sometimes, indeed, mistaken for the Viso itself. There is a Club hut nearer the peak, but good walkers will not need to use it. From the Refuge the *Col Perdu*, on the E., is crossed to the great slope of stones called the *Casse des Oules*, by which the S.W. foot of the peak is gained in 2 hrs. from the Refuge. Thence a scramble up a gully filled with loose stones gives access to the gap between the two summits, the wooden cross on that to the left, or E., being gained by some steep rocks in about  $1\frac{1}{2}$  hr. from the foot. The view is extensive, but presents no special feature, unless it be Monétier with a long stretch of the Lautaret road. The ascent is perfectly easy, but stony and fatiguing. ]

The descent from the Col d'Izouard on the N. side is far less barren than that on the other side, the road descending over fine pastures past the hamlet of *Le Laus* in a due N. direction to *Cervières*, 1,700 m., 5,578 ft. ( $1\frac{1}{2}$  hr.'s walk).

This village is in a little plain at the meeting of the Izouard glen with the main Cerveyrette valley (see above), while due N. is the *Col du Gondran* (Rte. A), by which Bourg Mont Genève can be reached in under 3 hrs.

The valley of the *Cerveyrette* runs nearly due W., and the road is cut in the rock high above the right bank of the stream. The rocky slopes preserve throughout the same arid character, though there is abundance of water in running streams, some of which form pretty waterfalls close to the road. On issuing from the narrow gorge the road winds under the great forts down to the suburb of Ste. Catherine, just below Briançon, 6 m. from *Cervières*.

## ROUTE D.

BRIANÇON TO ST. MICHEL BY THE  
CLAIRÉE VALLEY.

It is often said (and the French Government maps sanction this idea) that the true sources of the *Durance* are on the Mont Genève, but from a scientific view the *Clairée*, as the longest of the streams which unite to make up that river, has superior claims, and the true sources of the *Durance* are the lakes on the E. side of the Col des Rochilles, at the N.W. corner of that valley. The *Clairée* joins the *Guisane* and the Mont Genève streams at Briançon, after having watered the very considerable valley of *Névache*—one of the freshest and prettiest in the Briançonnais—which is the subject of the present Rte.

There is a char road from *La Vachette*, 2 m. from Briançon on the Mont Genève road (Rte. A), to *Névache* (12 m. from Briançon). From *La Vachette* the char road mounts gently along the right bank of the *Clairée* to the village of *Val des Prés* (5 m. from Briançon), where it crosses to the left bank, along which it runs, always in a N. direction, to the hamlet of *Planpinet* (1,496 m., 4,908 ft.), which is but 175 m. (574 ft.) above Briançon. The valley bed is stony, but is lighted up by fields, pastures, and forests on all sides.

[For the Col des Echelles de Planpinet hence to Bardonnèche see next Rte., and for the Col des Trois Frères Mineurs to Bourg Mont Genève see Rte. A. above.]

Near the point, a little above Planpinet, where the route to the Col des Echelles mounts to the N., the *Clairée* valley bends to the W., and soon the very prettily situated village of *Névache* (1,641 m., 5,384 ft.) is reached. It is made up of many hamlets, the principal of which is the *Ville Haute*. Its church, which dates from the end of the fifteenth century,

is worth a visit. The S. slope of the valley is clothed with splendid forests.

Many passes start from Névache. For the Cols de Buffère and de Cristol to Monétier see § 8. Rte. A. On the N. the *Col des Thuves* (2,283 m., 7,490 ft.) and the *Col de l'Étroit du Vallon* (2,504 m., 8,216 ft.) lead over in about 3 hrs. to the highest chalets in the Vallée Étroite, where the night is often spent before the ascent of the Mont Thabor (see next Rte.), and which are on the way over the Col de la Vallée Étroite from Modane to Bardonnèche (§ 7. Rte. C. 1).]

Beyond Névache the mule track mounts first along the left side, then along the right side, of the valley, which gradually turns towards the N.W. It is very smiling and pretty, with many groups of chalets, but the path is rather stony, and inclined to meander, though well marked. On the way the opening of the *Queyrellin* glen on the W. is passed: through it 4 hrs. or so suffice to go from Névache by the *Col du Chardonnet* (2,600 m., 8,531 ft.), well known to botanists, to Le Lauzet, on the Lautaret road (§ 8. Rte. A). In about 2 hrs. from Névache the highest group of chalets, those of *Laval* (2,028 m., 6,654 ft.), are reached. The path continues along the left bank of the Clairée to the head of the valley, which forms a great stony hollow ( $\frac{1}{2}$  hr.) On the N.E. the *Col de Laval* leads over towards the Mont Thabor (see next Rte.), while to the N. the *Col de la Madeleine* gives access to the Valmeinier glen (see next Rte.), and so to St. Michel in 8 hrs. from Névache.

More interesting to mountaineers are the two following passes in the N.W. corner of the glen, both leading to Valloire, on the Col du Galibier route (§ 8. Rte. B), and so to *St. Michel*.

1. *By the Col de l'Aiguille Noire*.—This pass crosses the ridge at the N.W. corner of the valley, and may be gained from the great hollow in

about an hour ( $3\frac{1}{2}$  hrs. from Névache) by way of a steep stony slope. It is just E. of the double-peaked *Aiguille Noire* (2,892 m., 9,489 ft.), a rocky summit which makes a great show, especially from the N. It is, however, easily accessible from the Col in a long hour by way of the E. and S.E. ridges, and a short gully on the N.E. face, leading to the gap between a minor pinnacle to the S. and the true top, which is reached by the S. ridge. N. of the latter, but distinctly lower, is the great rock tower which seems the summit when looking from the N.

The descent from the Col lies over stones to the pastures at the head of the *Plagnetta* glen, the path on the right side of which is followed past many chalets till at those of *Le Désert* it crosses, in order to wind down through a forest to the hamlet of *Tigny*, just above *Valloire*, which is reached in  $2\frac{1}{2}$  hrs. or less from the pass, or 6 hrs. from Névache. Valloire is 10 m. by road ( $2\frac{1}{4}$  hrs.—§ 8. Rte. B) above St. Michel.

2. *By the Col des Rochilles*.—The track to this Col bears gradually W. from the great hollow at the head of the Clairée valley, and mounts steeply past the *Lac de la Clairée* and over an old moraine to the *Lacs Rond* and *du Gros Ban*, just W. of which is the grassy ridge of the *Col des Rochilles* (not E., as shown on the French Government map), 2,451 m., 8,042 ft.,  $2\frac{1}{4}$  hrs. from the great hollow, or  $4\frac{3}{4}$  hrs. from Névache.

Just N. of these two lakes is the *Col de la Plagnetta* (2,728 m., 8,951 ft.), accessible in 10 min. by a sheep path, and leading in about  $2\frac{1}{2}$ –3 hrs. more through the Plagnetta glen to Valloire.

Just S. of the two lakes is the *Col des Cerces* ( $\frac{1}{2}$  hr.)—E. of the figures 2,887 m. on the French map—whence another half-hour leads down to the fair-sized *Cerces* lake (c. 2,350 m., 7,710 ft.) To the E. and S.E. of this tarn there is a very little known group, badly figured on the French map, so that an intending explorer

should study Mr. Coolidge's map and article in the 17th volume (1891) of the 'Annuaire de la Société des Touristes du Dauphiné.' The first point, the *Corne des Blanchets* (3,023 m., 9,918 ft.), which really rises immediately E. of the Col des Cerces, and overlooks both the Rochilles and the Cerces lakes, as well as the Clairée valley, may be climbed in 1 hr. from the Col des Cerces by way of its easy N. ridge. But S.E. of the Corne des Blanchets rises the higher and more imposing *Pointe des Cerces*. This is recognised from the W. by the curious purple hue of its rocks and sand. From the Cerces lake it is necessary to mount by stones and steep rocks to the lower edge of a considerable snow-field, keeping to the N. of the precipitous rock-wall. Thence a short ascent to the N. leads to the summit (2 hrs. from the Cerces lake). As this peak is certainly higher than any other in the neighbourhood, and seems to be about as high as the Mont Thabor, its height may be roughly taken to be 3,180 m. (10,434 ft.) The view extends from the Viso to Mont Blanc. S. of this peak, and at the point where the ridge from the Col de la Ponsonnière joins that bounding the Clairée glen on the W., rises a peak (2,936 m., 9,633 ft.) which may be called *Pointe des Béraudes*, from the tarn of that name at its E. foot, while still further S. is the *Pic de la Moulinière* (3,098 m., 10,165 ft.), both these summits being, it is believed, still unclimbed, at any rate by travellers. ]

W. of the grassy ridge of the Col des Rochilles is a muddy basin, apparently the bed of an old lake, and beyond it the low ridge of the *Col de la Paré* (sometimes wrongly thought to be the proper Col des Rochilles) is traversed. A zigzag path leads down past the *Paré* chalet to those of *La Motte* ( $\frac{1}{2}$  hr. from the true Col), where the route from the Col de la Ponsonnière leading over from Le Lauzet (§ 8. Rte. A) is joined. 20 min. suffice to gain the

high road of the Col du Galibier (§ 8. Rte. B), by which it is 2 hrs. to *Valloire*, which is thus nearly 3 hrs. from the Col, or  $7\frac{1}{2}$ -8 hrs. from Névache.

## ROUTE E.

## BRIANÇON TO BARDONNÈCHE BY THE COL DES ÉCHELLES. ASCENT OF THE MONT THABOR.

It was pointed out in the Introduction to this Section that the **Col des Echelles de Planpinet** (1,760 m., 5,774 ft.) is the lowest pass across the main chain of the Alps, excepting only the two great gaps which lead from the valley of the Adige to that of the Inn. The *Echelles* offer little difficulty, and it is simply owing to international jealousies that a char road or mule path has not been carried over this pass, or a tunnel pierced beneath it, in order to connect Briançon and Grenoble with the Mont Cenis line. A mule can traverse the whole distance save the 'Echelles.'  $3\frac{1}{2}$  hrs. suffice for a pedestrian to go from Névache or Planpinet to Bardonnèche. The char road runs along the mountain slope from near Névache above the Clairée to the chapel of *Notre-Dame de Bonne Rencontre*, where the direct path from Planpinet falls in. Many paths traverse the pastures, which are followed through a sort of hollow way past the two small Custom houses to the opening of the pass proper. On the N. side of the pass the *Aiguille Rouge*, or *Guglia Rossa* (2,550 m., 8,366 ft.), resembles a gigantic tower. (It is accessible in an hour from the French Custom house, or from the Col des Thurres on the N., in each case by the ridge, while from the Col des Echelles itself it can be climbed in  $2\frac{1}{4}$  hrs. direct up the E. rocky wall, skirting on the right the conspicuous



turret of red rock.) The descent on the N. side of the pass is made in part by a picturesque flight of steps (the 'Echelles') cut in the rock, below which a steep path descends S.E. to the chalets of *Plan du Col* (1,440 m., 4,725 ft.), where the track from the Col de la Vallée Etroite (§ 7. Rte. C. 1) is joined, and followed along the left bank of the stream of that name past the hamlet of *Mélèzet* to *Bardonnèche*.

*Ascent of the Mont Thabor.*—The topographical importance of this famous summit has been pointed out in the Introductions to this Chapter and this Section. It is very accessible from all sides, and is most favourably situated for a panoramic view of the Western Alps. The summit is a large ridge on which a mass of masonry has been built to mark the political frontier. On the French side is the great cairn (3,182 m., 10,440 ft.) built in 1822, and on the Italian side is the chapel of *Notre-Dame de Bon Secours* (3,177 m., 10,424 ft.), where on the festival of St. Bartholomew (Aug. 24) and the following Sunday Mass is said annually, and is attended by many pilgrims from both Savoy and Piedmont. The view includes the Grandes Jorasses, the Matterhorn, the Grande Casse, Pourri, Charbonel, Ciamarella, and Viso, but is particularly noteworthy for the splendid prospect of all the great Dauphiné peaks.

[At one point the view is broken by the sharp rocky summit known as the *Pic du Thabor* (3,205 m., 10,516 ft.), which was first vanquished in 1878 by Mr. Coolidge. The depression between the Mont and the Pic, or the *Col du Thabor* (3,123 m., 10,247 ft.), may be reached from the cairn by débris, ice, and rotten rocks, and thence it is but 20 min. scramble by a rocky gully on the S.E. face and shattered rocks to the summit of the Pic.]

There are many routes by which the Mont Thabor may be reached, that first described being the favourite.

1. *From Bardonnèche.*—The route

of the Col de la Vallée Etroite (§ 7. Rte. C. 1) is followed to the highest chalets in the Vallée Etroite, 1,774 m., 5,820 ft. (where it is usual to pass the night in order to secure a clear view), 2½ hrs., and for some distance further, to a bridge (here the char road ends) where the valley forks at the S. foot of a fine rocky mass called *Rocs Sauvours*, *Rocche del Serù*, or the *Muande* (2,890 m., 9,482 ft.) The easiest way (mules go to within an hour of the chapel) mounts round the E. side of this summit, but pedestrians will prefer to mount round its W. side, the path being rough and stony. The tracks rejoin on a plateau, the *Col delle Muande*, N.W. of the peak mentioned, and then a paved path marked by several crosses mounts above the pretty little *Peyron* lake up yielding wet shale and snow, the chapel being always visible. 3½ hrs. suffice from the huts in the Vallée Etroite.

2. *From Modane.*—The usual way is to gain the Col de la Vallée Etroite (§ 7. Rte. C. 1) in 4 hrs., and thence to traverse stony slopes to the plateau or *Col delle Muande*, N.W. of the Rocche del Serù, where the above route is joined. 2½ hrs. are said to be required from the Col to the summit. A much more interesting way for a mountaineer is to reach the Thabor by the considerable glacier which covers its N. flank. This may be attained by bearing W. from the head of the glen leading up on the French side to the Col de la Vallée Etroite, but the more direct way would be from the La Praz station, between Modane and St. Michel by way of the *Bissorte* glen, as to which information is much wanted.

3. *From Névache.*—By bearing N.E. at the head of the Clairée valley (see Rte. D) the *Col de Laval* may be attained in 4 hrs. from Névache, and thence a track leads on one side or the other of the S.W. ridge of the Thabor to the summit (2 hrs.) Another way is to go from Névache to the *Col de la Madeleine*, at the very

head of the Clairée valley (4 hrs.), and then to rejoin the Col de Laval route near the Col de Valmeinier (see below).

4. *From St. Michel.*—The *Valmeinier* stream joins the Arc just opposite St. Michel, and the mule path up the *Valmeinier* glen bears to the left from that to Valloire (§ 8. Rte. B) soon after crossing the Arc. It mounts steeply by zigzags to the chief hamlet of *Valmeinier*, 1,594 m., 5,230 feet (1½ hr.), and then runs up the right side of that glen, crossing and recrossing the stream before passing under the chapel of *Notre-Dame des Neiges* (2,190 m., 7,185), perched on a promontory. A little beyond are the last chalets, those of *Les Barmettes* (2½ hrs.) A steep path then mounts past a small lake and leads in a S.E. direction to the *Col de Valmeinier*, a well-marked depression on the S.W. ridge of the *Thabor* (2½ hrs.), whence a great zigzag on the French side of the frontier ridge leads up again to the S.W. ridge itself, along which the summit is reached (1 hr.) 7-7½ hrs. should be allowed for the ascent from St. Michel, so that it is best to spend the previous night in one of the higher chalets. From the head of the *Valmeinier* it is possible to mount E. by a rock-strewn slope, a long couloir of shifting débris, and some steep rocks to the *Col du Thabor* (between the *Mont* and the *Pic*), the *Mont* being then reached direct by rotten rocks, an ice slope, and more shifting débris.

## SECTION 7.

### AMBIN DISTRICT.

IN the Introduction to this Chapter it was noted as a curiosity that more or less extensive glacier-clad mountain masses exist in the Cottian Alps only

at the two extremities of that range—in the *Chambeyron* and the *Ambin* districts. But in the last-named district we find that the region of eternal snow is nearly confined to the further or E. portion of it, that which immediately adjoins the plateau of the *Mont Cenis*. Hence, while the district to be described in this Section appropriately takes its name from that snowy mass, by a singular anomaly the two points in which its ranges culminate are in its W. portion—the *Aiguille de Scolette*, or *Pierre Menue* (3,505 m., 11,500 ft.)—the loftiest summit in the entire Cottian chain, save the *Viso* itself and the *Viso di Vallante*—and the *Rognosa d'Etache* (3,385 m., 11,106 ft.) Thus the fragment of the Alpine chain with which we have at present to deal naturally forms two groups, that of *Scolette* and that of *Ambin* (*Dents d'Ambin*, 3,382 m., 11,096 ft.), the *Rognosa d'Etache* rising between them, though here included, for the sake of convenience, in the latter group, to which it does not strictly belong. It so happens that a number of easy passes lead over the range between the *Mont Thabor* and *Scolette*, so that the *Scolette Group* may be described in a single Rte. (C), while the fact that many passes traverse the *Ambin Group* from one valley on the French slope to no less than three on the Italian side renders it necessary to devote two Rtes. (D and E) to that region. We have also to describe in this Section the *Fréjus Tunnel* (sometimes wrongly called the *Mont Cenis Tunnel*) through the Alps (Rte. A), as well as the great road over them which crosses the *Mont Cenis* (Rte. B). Roughly speaking, it may thus be said that this Section includes the country between the *Tunnel* and the *Pass*, though, strictly speaking, the W. limit is formed by the *Col de la Vallée Etroite*, just E. of the *Mont Thabor*.

Both the groups mentioned have formed the subject of monographs by Mr. Coolidge, which were published

in the 3rd and 4th volumes of the 'Revue Alpine,' of Lyons. M. Fer-rand's 'La Frontière Franco-Ita-lienne' (Grenoble, 1894), Joanne's 'Savoie' (1895), and vol. i. of Signori Martelli and Vaccarone's indispensa-ble 'Guida delle Alpi Occidentali' (Turin, 1889) may also be consulted. Modane, Bardonnèche, and the inn on the Mont Cenis are the best head-quarters, while the Savine chalets are very conveniently placed for the ex-ploration of the higher peaks of the Ambin group, as are those of Etache (on the *Italian* side of the divide) for the Rognosa, and the minor summits of that group.

## ROUTE A.

CHAMBÉRY TO TURIN BY THE  
FRÉJUS TUNNEL.

	M.
Montmélian . . . . .	9
St. Pierre d'Albigny . . . . .	15½
La Chambre . . . . .	38
St. Jean de Maurienne . . . . .	44
St. Michel de Maurienne. . . . .	51½
Modane . . . . .	61
Bardonnèche . . . . .	72
Oulx . . . . .	79
Bussoleno . . . . .	97½
Turin . . . . .	125½

Railway in 7-8½ hrs.

For many centuries the most fre-quented route across the Western Alps was that through the valley of the Arc, or *Maurienne*, and over the Mont Cenis. This was partly due to the comparative easiness and direct-ness of the way, and partly to the fact that from the eleventh century on-wards Savoy and Piedmont were under the same rulers, so that com-munications between them were neces-sarily well maintained. But since the opening of the Tunnel in 1871 the Pass has been almost deserted, so that it is more convenient for travellers

to describe the journey by rail before giving some account of the Pass.

**Chambéry** and its environs are de-scribed in § 10. Rte. A. On leaving that little city the railway follows a depression between the ranges of the Mont Granier on the S.W. and the Dent du Nivolet on the N.E., and bends S.E. towards the valley of the Isère. Even when seen under the disadvantages of railway travelling, the scenery of this part of Savoy—where the rich vegetation of the valleys contrasts with the rugged pre-cipices of the mountains that enclose them, and many a ruined stronghold recalls the continual warfare that was waged here for centuries—must inter-est the passing traveller. The first station is that of *Chignin-Les Marches* (6 m.), whence the *Abîmes de Myans*, formed by a great fall from the Mont Granier in 1248, may be visited (§ 10. Rte. B). 3 m. further the station of *Mont-mélian* is reached. It is not far from the *Isère*, and is the point at which the line to Grenoble through that valley (this bit of which is called the *Graisivaudan*) branches off (§ 10. Rte. B), in connection with which Montmélian is most conveniently noticed. Montmélian is a most im-portant strategical point, for here meet the routes to Chambéry, to the Little St. Bernard (§ 14. Rte. G), to Grenoble (§ 10. Rtes. B and C), and to the Mont Cenis.

The line now runs for a time to the N.E. at some distance from the right bank of the Isère, and passes the station of (2½ m.) *Cruet* (for the way hence to Le Châtelard, in the Bauges, by the Col de Lindar, see § 11. Rte. C. 3) before attaining that of (4 m.) **St. Pierre d'Albigny**. Here the line to Albertville and Moûtiers (§ 12. Rte. A) for the Little St. Bernard parts from that which we are describ-ing, while there is also a road hence over the Col du Frêne to Le Châte-lard (§ 11. Rte. C. 4).

[A short distance (4 m.) from either St. Pierre or Cruet is the



village of *Coise*, very prettily situated, and reputed for its mineral waters, which contain iodine and bromine, in combination with magnesia, and are said to act as a specific for *goître*.]

The railway soon after leaving the station of St. Pierre crosses the Isère, and after passing (2½ m.) *Chamousset*, at the actual junction of the Arc with the Isère (for the road hence to Allevard see § 8. Rte. F. *b*), enters the valley of the *Arc*, which bears the name of the *Maurienne*. (This name is mentioned by Gregory of Tours in the sixth century, so that it has nothing to do with Moors or Saracens, as has been conjectured.) It is for the most part a savage and narrow gorge, with occasional basins or hollows in which villages have been built, though threatened by falls from the mountains on all sides. The first station is *Aiguebelle*, 6 m. from *Chamousset*. (For the *Col de Mont Gilbert* hence to Allevard see § 8. Rte. F. *c*, and for the *Col de Basmont* to Cevins see § 12. Rte. A.)

Close to and just S. of *Aiguebelle*, on an isolated rock, is the ruined castle of *Charbonnière*, the original home of the Counts of Savoy. Henceforward till St. Jean de Maurienne the line mounts nearly due S., crossing soon after *Aiguebelle* to the right bank of the Arc, which is followed with scarcely a break. Next comes *Epierre* (6 m.), whence several passes (see § 8. Rte. F. *d*) lead to Allevard. At the hamlet of *La Chapelle* the line passes through a short tunnel, on issuing from which the traveller may catch a glimpse to the S.W. of two pyramidal peaks, the *Grand Clocher du Frêne* and the *Grand Miceau*, between which is the *Col du Frêne*, by which, or by two more direct passes (see § 8. Rtes. F. *e*, and H. 1), St. Rémy, on the left bank of the Arc, between *La Chapelle* and *La Chambre*, may be reached from Allevard. Soon after the valley opens, and the train reaches the plain on which is (8 m.) the village of *La Chambre*. There is here a Roman-

esque church, and the ruins of another collegiate church, destroyed in 1792.

[Opposite the village is the wide valley of the *Glandon*, or of *Les Villards*, through which several passes lead over to Bourg d'Oisans, St. Jean d'Arves, and Allevard, which are noticed in § 8. Rtes. E and H. On the other side of the valley the *Col de la Madeleine* (§ 12. Rte. C) gives access to Moûtiers, in the Tarentaise.]

Up to *La Chambre* the valley of the Arc has risen very gently, about 200 m. (656 ft.) only from Montmélian in the course of 29 m.; but higher up the slopes are steeper, and at St. Jean de Maurienne the mountain locomotives are attached to the train. The line and the Arc wind round the bases of the mountains that enclose the straitened valley and pass beneath the tower of Berold of Saxony, now believed to have been the ancestor of the House of Savoy, before entering the little plain, where, at the confluence of the *Arvan* with the Arc, stands, on the left bank of the latter river, and 6 m. from *La Chambre*,

**St. Jean de Maurienne** (573 m., 1,880 ft.), the capital of the Maurienne. It is a small city of about 3,000 inhabitants, built on rising ground overlooking the floor of the valley. The see dates from the sixth century, but the Cathedral only from the fifteenth century. It contains several curious monuments, and some magnificent carved wood choir stalls of the fifteenth century, as well as an alabaster reliquary. The chapel of *Notre-Dame* has a porch of the thirteenth century, while the cloisters of the cathedral deserve a visit.

[S.W. of St. Jean the *Col d'Arves* leads over to *St. Jean d'Arves*, which may now be also gained by a carriage road up the *Arvan* glen. (For the passes from St. Jean d'Arves to Bourg d'Oisans, *La Grave*, and *Valloire*, see § 8. Rtes. B, C, D, and E.) In the other direction the *Col de la Platière* leads from St. Jean de Maurienne to Moûtiers (§ 12. Rte. D).]

After crossing the Arvan, just after leaving the station, the railway enters the portion of the valley which has opposed the most serious difficulties to the maintenance of regular communications between France and N. Italy. The mountains which overhang the valley, and especially the Perron des Encombres (which menaces the line between St. Jean and St. Michel), are composed of rocks that yield rapidly to the weather, and the slopes at their base consist of enormous piles of débris, accumulated in the course of ages. Every storm brings down fresh heaps of sand and fine rubbish, mixed with larger blocks; while at the same moment the swollen torrents eat into the half-consolidated soil of the lower slopes, cutting deep trenches, and often sweeping large masses away in their current. The difficulty of finding solid foundations for bridges and embankments, or of protecting the line from frequent degradation, has been a constant source of anxiety and expense.

The line crosses and recrosses the Arc several times, and passes through several tunnels while winding through the narrow gorge which separates St. Jean from the station of ( $7\frac{1}{2}$  m.) *St. Michel de Maurienne* (702 m., 2,303 ft.)

[On the opposite side of the Arc a road mounts to Valloire, thus giving access to several passes leading to La Grave, the Lautaret Hospice, and Briançon by the Clairée valley (see § 8. Rte. B, and § 6. Rte. D), while E. of this road is that to the Valmeinier, through which it is possible to ascend the Mont Thabor (§ 6. Rte. E). On the N. the *Col des Encombres* (§ 12. Rte. E) leads from St. Michel over to Moûtiers.]

Soon after quitting St. Michel the line crosses to the left bank of the Arc, and ascends steeply through a wild gorge, cutting almost perpendicularly the nearly vertical strata, in which beds of anthracite frequently occur. No fewer than eleven tunnels

are traversed between St. Michel and Modane. About 3 m. from St. Michel the opening of the *Bouchet* glen is seen on the N.: through it there are several passes to Moûtiers and Pralognan by way of the glacier-clad *Pécllet* group (§ 12. Rte. F). 6 m. from St. Michel is the station of *La Praz*, at the junction of the *Bissorte* stream, flowing from the Mont Thabor (see § 6. Rte. E. 2), with the Arc. Some way beyond the valley opens, the entrance of the great Tunnel is seen, and the train reaches the station of ( $9\frac{1}{2}$  m. from St. Michel)

**Modane** (1,053 m., 3,457 ft.), which is at the railway hamlet of *Fourneaux*, about  $\frac{1}{4}$  hr.'s walk from the old village of Modane. Here the customs examination of luggage takes place, from whichever direction the traveller may arrive.

[For the road up the Arc valley see Rte. B, below, and § 12. Rte. B; for the passes from Modane to Pralognan see § 12. Rtes. F and G, and for those to Bardonnèche see Rte. C, below. The Mont Thabor is described in § 6. Rte. E.]

Any one forced to make a stay at Modane should not omit the stroll to the chapel of Notre-Dame du Charmaix (see Rte. C. 1. below). A longer excursion ( $4\frac{1}{2}$  hrs.) is to the *Signal de la Norma* (2,926 m., 9,610 ft.), on the S.E., whence there is a very fine view of the surrounding peaks.]

The **Fréjus Tunnel** is pierced through the Alpine chain immediately below the Pointe de Fréjus (see Rte. C. 3. below), and is 17 m. W. of the pass of Mont Cenis, so that it rightly bears the name of Fréjus, and not of Mont Cenis. It is the earliest tunnel pierced through the Alps, if we except those of the Traversette (§ 4. Rte. B) and of Tenda (§ 1. Rte. A). The merit of proposing the plan which was finally adopted was due to Monsieur Médail, of Bardonnèche, who as early as 1832 submitted to King Charles Albert a scheme which did not differ much from that ultimately carried out. But

he died in 1850, having only lived long enough to see his project entertained by the Commission appointed in 1845 by the Sardinian Government to consider the feasibility of a railway tunnel through the Cottian Alps. Many difficulties were encountered and overcome, and in 1857 the work was begun by the Sardinian Government, France joining in the enterprise in 1862. In December 1870 the last wall was pierced, and in September 1871 it was opened for traffic. The engineers were three Piedmontese, Signori Sommeiller (who died two months before the formal opening), Grandis, and Grattoni. The actual length of the Tunnel is 8 m., and the total cost was about three millions sterling. The N. entrance is at a height of 1,159 m. (3,803 ft.), while the S. mouth is 1,292 m. (4,239 ft.) The Tunnel mounts for nearly 4 m. from the N. entrance to the culminating point (1,295 m., 4,249 ft.), and then descends more gently. There is a nearly constant draught through it, so that no inconvenience is felt by reason of imperfect ventilation by travellers, the transit taking about 25 min. The main difficulty of this great enterprise lay in the fact that the height of the mountain chain above the Tunnel (about 1,650 m., 5,414 ft. difference) made it impossible to give access to it by vertical shafts, which at the same time facilitate ventilation and multiply the points at which work can be carried on. To overcome these two formidable objections it was necessary to devise machines which should provide more effectual means for ventilation than any hitherto used, and at the same time penetrate the rock more rapidly than by the ordinary process of blasting. When the matter was first seriously examined it was estimated that, even if it were possible for workmen to labour in a shaft of such depth, and in air vitiated by the frequent explosion of gunpowder, it would have required 36 years to accomplish the work by such

means as were then available. The demand for new machinery led to a supply of ingenious projects, particularly that of an English engineer, Mr. Bartlett, that finally adopted being devised by Signori Sommeiller, Grandis, and Grattoni. The motive power was derived from a waterfall about 65 feet in height, by which atmospheric air was compressed, and made available in the interior of the Tunnel at once for ventilation, for piercing the rock, and for removing the rubbish. On the N. side the system was modified, in order to use the current of the Arc for motive power. The progress during the latter years surpassed expectations, and this great work was completed two years earlier than the date originally fixed.

On leaving the station of Modane the line makes a great bend to the N.E. round the old village of Modane, and passes through one long and one short covered gallery before, about 3 m. from the station, it enters the Tunnel. At a very short distance from its S. entrance the station of **Bardonnèche** (11 m.) is reached. It is at a height of 1,256 m. (4,121 ft.), and has gathered (like Modane) a new village around it, the old village (1,312 m., 4,305 ft.) being at a little distance to the W. The new village is now a favourite summer resort of Italians seeking to avoid the heat in the plains. Its position is agreeable and picturesque, though rather too close to the railway. The old village is overlooked by the ruins of an old castle, and near it are found several rare plants, such as *Euphrasia lanceolata*, *Inula montana*, *Herniaria incana*, *Hieracium Lawsoni*, &c.

[As the village stands at the junction of several mountain streams passes lead from it in various directions: those to Modane are described in Rte. C, below, the ascent of the Mont Thabor and the Col des Echelles to Briançon in § 6. Rte. E, and those to Exilles or Bramans in Rte. D, below.]



The line runs S.E. down the shut-in Bardonnèche glen till the stream of that name (flowing from the Rochemolles valley) falls into the more mighty *Dora Riparia* not far from the station of (7 m.) *Oulx*. This village was described in § 6. Rte. A, in connection with the Mont Genève, to which, as also to the Col de Sestrières (§ 5. Rte. B), it is the key. (For the easy passes over to the head of the valley of the Chisone see § 5. Rte. B.) The bed of the Dora is followed in a N.E. direction to ( $3\frac{1}{2}$  m.) *Salbertrand* (famous for the defeat of the French army here in 1689 by the Waldensians on the occasion of their 'Glorieuse Rentrée' into their valleys), and then mounts high above the right bank of that river, passing through many tunnels, and forming one of the great triumphs of the engineer's art and audacity. On the other side of the valley is seen the great fortress of *Exilles* (for the passes thence to Bramans see Rte. D. below), for the possession of which a fierce battle took place in this part of the valley in 1747, the French, who had held the whole valley as far as Chiomonte till, by the Treaty of Utrecht in 1713, it was exchanged with Fénestrelles, and Château Dauphin for Barcelonnette, being defeated by the Sardinian troops. In this fortress the 'Man with the Iron Mask' was long confined. 6 m. from Salbertrand is the station of *Chiomonte* (for the Col dell' Assietta hence to Fénestrelles see § 5. Rte. B), and 9 m. further after passing *Meana*, opposite Susa, the level of the Dora valley is finally gained at the station of *Bussoleno*. (Hence a branch line runs in 4 m. to *Susa*, described in the next Rte., while for the Col des Fenêtres over to Fénestrelles see § 5. Rte. B.) The station of *Condove*, 9 m. (for the passes hence and from Alpignano and Avigliana over to the Viù valley see § 13. Rte. C), is N. of the celebrated castle-like Benedictine monastery of *St. Michel de la Cluse* (the mother house of the 'cell' of Chamonix),

founded in 999, and crowning a remarkable rock (948 m., 3,110 ft.) rising nearly 2,000 ft. above the valley; it is most conveniently visited from the next station (2 m.), *Sant' Ambrogio*. Between is the famous narrow gorge of the *Pas de Suse*, or the *Cluse*. 2 m. further is *Avigliana*, opposite *Drubiaglio*, identified by many good authorities with the ancient *Ocelum* (for the passes hence past Giaveno to the Chisone valley see § 5. Rte. B). 6 m. on is *Alpignano*, where the mountain ranges on either side sink into the plain, and in 9 m. more, passing within sight of Rivoli, the traveller reaches *Turin*.

## ROUTE B.

MODANE TO TURIN BY THE MONT  
CENIS.

	M.
Bramans . . . .	7
Termignon . . . .	11
Lanslebourg . . . .	16
Hospice . . . .	24
La Grande Croix . . . .	25½
Susa . . . .	37
Turin (by rail) . . . .	69

Diligence in 3 hrs. to Lanslebourg, and on in  $2\frac{3}{4}$  hrs. to the Mont Ceniz Hospice. Also in  $2\frac{1}{2}$  hrs. from the Hospice to Susa. Private carriages are hard to procure save at Modane.

Though the **Mont Ceniz** Pass was for centuries frequented by travellers of all nationalities, and hence extremely well known, yet it is pretty certain that it was not till the eighth century that it was first crossed by foreigners. It is first mentioned in 731, but Pippin's passage in 755, and that of Charles the Great in 773, seem to be the first recorded. Later it came into fashion, and no fewer than 13 passages by the mediæval Emperors on their way to or from Rome are recorded. But for long it was

only traversed by a mule path, at least between Lanslebourg and Novalesa. The present carriage road was constructed between 1803 and 1810, by the order of Napoleon, and on the Italian side descends above the right bank of the *Cenise*, opposite the old mule path. The name of the pass is believed to be derived from the *Cenise* stream, but as late as the sixteenth century we hear of a statue of St. Denis preserved at Lanslebourg, whence the pass was also called *Mont Denis*: probably we have here a compliment to the Frankish kings and their successors, suggested by the name of the *Cenise*. The Hospice on the summit was founded in the early part of the ninth century, but refounded (after the expulsion of the Saracens of La Garde Freinet) in the eleventh century by Adelaide of Susa and Humbert II. of Savoy, and enlarged by Napoleon.

[From 1868 to 1871 the pass was traversed from St. Michel to Susa by the very remarkable line of railway known from the name of its inventor as the *Fell Railway*. As stipulated, it was destroyed after the Tunnel was completed, but traces of it can still be seen in places. The engine-drivers were English. To the astonishment of those used to the ordinary conditions of railway travelling, the locomotive, with a train of carriages, was seen to toil up and hurry down slopes on the outer edge of the carriage road, and to turn corners within little more space than was required by the diligences. The system adopted seemed perfectly safe, but it may be doubted whether the economic results were satisfactory. The power available was much less than in the case of ordinary railways, as only about forty-eight travellers could be conveyed in each train. But it was a noteworthy anticipation of the mountain railways now so common in Switzerland.]

The high road from the railway station at **Modane** passes through the village of that name, and then crossing the railway mounts high above

the left bank of the Arc. Opposite is seen the fine waterfall of *St. Benoît*, and to the right the picturesque fortress of *Esseillon*. This is built on the rocky mountain-side, and appears to bar further progress, the chasm through which the Arc flows between the fort and the high road serving as a fosse to the seemingly impregnable works, which command this entrance into Italy. The pretty gorge of *Ste. Anne* is next traversed, a drawbridge being crossed at the entrance of the glen of that name (for the Col de Pelouse through it to Bardonnèche see next Rte.) The road then gradually descends into a fertile basin, in which the *Le Verney* hamlet of *Bramans* is passed. (For the passes thence to Bardonnèche, Exilles, and Susa see Rtes. D and E, below.) The road now crosses to the right bank of the Arc, and winds along it till it traverses the *Leisse* stream, just before entering the considerable village of **Termignon** (1,280 m., 4,200 ft.) (For the passes hence to Pralognan, Tignes, Val d'Isère, Bessans, or Bonneval see § 12. Rtes. I and K.) The little church which stands on a projecting rock above the village has a belfry of rather curious architecture, while the remains of an ancient chapel, dedicated to St. Columban, will also interest the antiquary.

On leaving Termignon the road makes a rather steep ascent by two great zigzags (which the pedestrian may easily cut off) to the upper level of the Arc valley, and follows the right bank of the river to the large village of **Lanslebourg** (1,398 m., 4,587 ft.), once a busy place with a constant stream of traffic, now a silent Alpine village, with many large empty houses formerly used for the horses and carriages by means of which the pass was crossed. (For the ascents to be made from Lanslebourg, and the road up the Arc valley to Bonneval, at its head, see § 12. Rte. B.)

At the upper end of the village the road crosses the Arc by a stone

bridge, and then the ascent to the Pass immediately commences. The slope of the mountain-side is so uniform that on this side it presents no engineering difficulties, and when the existing road was constructed it was merely necessary to decide what inclination should be given to it. The gradient adopted was about 1 ft. in 15, and this is preserved with tolerable uniformity throughout the ascent. This is effected by six long zigzags, each bend of which is about  $\frac{3}{4}$  m. in length. (The Fell railway kept close to the road, and in fact occupied part of the roadway, except at the sharp turns where a slightly wider sweep was made. Pedestrians may reach the Pass near the 18th Refuge in  $1\frac{1}{2}$  hr. by following the path past the telegraph posts, while there is a short cut from Lans le Villard to the first zigzag.) There are twenty-three 'Refuges' between Lanslebourg and Susa, almost all on the Italian slope.

The crest of the pass is marked by a boundary stone (2,101 m., 6,893 ft.), and commands a fine view on the Savoyard side. The road then descends towards the great undulating plateau of the Mont Cenis, passes the junction of the char road from the Petit Mont Cenis (Rte. E, below), and passes the Hôtel de l'Ancienne Poste at *Les Tavernettes*, before gaining the **Hospice** (1,924 m., 6,313 ft.), at the E. end of the considerable *Lac du Mont-Cenis*. Poor travellers are here received gratuitously, but there are rooms for guests of a higher class, though often occupied during the summer by Italian officers, as the plateau is surrounded on all sides by recently constructed fortifications. A naturalist will be tempted to spend some days at the Hôtel or at the Hospice, as this district is unusually interesting to a botanist, while very easily accessible in a day from Chambéry, Milan, or Genoa. The pastures surrounding the lake, when seen before the cattle are driven up there, which usually happens early in July, may vie with our finest gardens for

the beauty and variety of their flowers, and the surrounding heights produce most of the rarest species of the Western Alps. To name but a few of the more interesting species, we find here *Ranunculus pyrenæus*, *Draba pyrenaica*, *Arabis cenisia*, *Saponaria lutea*, *Ononis cenisia*, *Phaca australis*, *Oxytropis fetida*, and *O. Gaudini*, *Astragalus depressus*, *Saxifraga diapensioides*, *Hieracium valdepilosum*, *Campanula cenisia* and *C. Allionii*, *Swertia perennis*, *Veronica Allionii*, *Pedicularis comosa* and *P. gyroflexa*, *Cortusa Matthioli*, *Paradisica Liliastrum*, *Carex microglochis*, and *Alopecurus Gerardi*. On the slope towards Lanslebourg *Pinus uncinata*, *Poa distichophylla*, and *Festuca flavescens* may also be found, while the list might be considerably extended if we were to include places within easy reach, such as the Petit Mont Cenis and the Col de Clapier. An account of the geology of the Mont Cenis plateau is given by Signor Piolti in an article in the 'Bollettino' of the Italian Alpine Club for 1888. (For the ascents of the Rochemelon, the Pointe de Ronce, and the Roche Michel, see § 13. Rte. A, and for those from the Savine chalets, Rte. E. below.)

$1\frac{1}{2}$  m. beyond the Hospice is a group of houses with extensive stabling (for the diligences in former days) called the *Grande Croix* (1,876 m., 6,155 ft.), immediately beyond which the plateau comes to an end, and the descent begins. (The old mule track descends from the plain of St. Nicholas through the hamlet of *Ferrera* to that of *Novalesa*—with its famous ancient monastery, suppressed in 1855, after an existence of 800 years—and then becoming a char road descends the Cenise valley past *Venaus* to Susa. It affords a short cut for pedestrians.)

A better view and cooler air are gained by following the high road in preference to the route by Novalesa. It is carried down by great zigzags to



the little plain of St. Nicholas, and then high above the W. bank of the Cenise—which makes a fine cascade, seen on looking back—opposite Novalesa, which is well seen from the hamlet of *Molaretto*. The Rochemelon, hitherto concealed by nearer peaks, now stands out and remains the most conspicuous object throughout the descent to Susa. Half-way (3 m.) between that hamlet and Susa is the village of *Jaillon* (Giaglione); the zigzags above and below can easily be cut off by the pedestrian. The views gained in the course of the descent are very fine, and the combination of Alpine scenery with southern vegetation should have conferred on this entrance into Italy a higher reputation than it has yet obtained. Some detached bosses of rock intervening between the Cenise and the Dora conceal the city from view till the traveller is close to

**Susa** (501 m., 1,644 ft.) This is a small city, occupying the site of a Roman station, founded or extended in the time of Augustus. The Cathedral dates back to the eleventh century, and has a curious belfry in the Romanesque style, while some of the carving and sculpture is interesting. In the church is preserved the bronze triptych recording the famous ascent of the Rochemelon in 1358 (see § 13. Rte. A). A lane opening on the piazza of the Cathedral leads in a few minutes to the celebrated Arc of Triumph, erected about 8 B.C. in honour of Augustus. The columns are of the Corinthian order, but its importance is mainly due to the inscription on it, recording how King Cottius submitted to the Roman yoke, and accepted the dignity of a Roman præfect, and enumerating the names of the fourteen mountain clans under his jurisdiction. These names really form the starting point of the history of this region of the Alps.

Immediately N. of Susa, between the city and the Dora Riparia, are the ruins of the fortress of *Brunetta*, once considered the key to the valley

on the Piedmontese side, but destroyed in 1796 by order of Napoleon. The adjoining rocks, and those above the neighbouring village of *Mompantero*, on the N.E., are exposed to the full force of the sun, and therefore support many southern plants which are rarely seen so far from the shores of the Mediterranean: among them is the rare *Telephium Imperati*. The station at Susa, once such a busy place, now serves merely for the local traffic of that small city. The great railway line passes at a considerable height on the opposite side of the valley, and Susa is connected with it at the station of *Bussoleno* by a short branch line of 4 m. The route from Bussoleno to Turin (28 m.) has been described in the preceding Rte.

### ROUTE C.

#### MODANE TO BARDONNÈCHE. ASCENT OF THE AIGUILLE DE SCOLETTE.

No fewer than four Alpine glens meet at Bardonnèche, so that through each of them a pass leads thither from Modane; while through that to the S.W. the Col des Echelles gives access to Briançon (§ 6. Rte. E), and through that to the N.E. passes lead over from Bramans, and are described in Rte. D, below. None of the four passes to be here noticed offer any difficulties, the two first-named, and in part the third, being traversed by mule paths. From each pass the chief neighbouring summit is easily ascended.

1. *By the Col de la Vallée Etroite* (7½ hrs.)—The main route (a char road for some way) mounts from the village of Modane itself past a series of small chapels, but a traveller starting from the railway station of Modane can mount direct by a steep zigzag path on the right bank of

the *Grande Montagne* torrent, re-joining the chief road a little before it crosses a torrent far below in a deep ravine in order to attain the Sanctuary of *Notre-Dame du Charmaix*, 1,508 m., 4,948 ft. (a long hour from the station). This is a celebrated place of pilgrimage in the Maurienne, especially on September 8. The statue of the Madonna is rudely carved in white marble, now dingy with the lapse of years, for the first chapel was built here as far back as 1404. It was later enlarged and rebuilt, part of the wooden building now forming an archway under which the path is carried, the chapel itself being on the left, and protected by a strong wooden grating. The position in the midst of pine forests is extremely picturesque, and any traveller making an enforced stay at Modane should not neglect to make this short and pleasant excursion. 10 min. up the glen at the Charmaix chalets the mule track to the Col de Fréjus (3. below) branches off to the S.E., but the main road mounts the right side of the glen of the *Grande Montagne*, till in 40 min., at the *Pra di Riou* chalets, leaving on the left the char road towards the Col de la Roue (2. below), our mule track soon crosses the *Roue* torrent, mounts a grassy slope by zigzags, and then through a wild gorge on the S.W. to the *Losa* huts in a fine pasture basin. The way hence mounts slightly S.W., and at the end rather steeply to the Col (2,445 m., 8,022 ft.), reached in 4 hrs. from Modane. It is sometimes called Col de la Saume, though that name properly belongs to an unfrequented pass on the N.W. (For the Mont Thabor see § 6. Rte. E.) The path on the Italian side descends nearly due S., keeping on the W. side of a ravine which becomes deeper and deeper. A rapid slope leads down to the bridge at the junction of the two arms of the *Vallée Étroite*. The right bank is hence followed by means of a char road to the highest huts (1½ hr.), where the night is often

spent before the ascent of the Mont Thabor, and then mainly the left bank.

For the passes from these chalets to Briançon by the Névache valley see § 6. Rte. D. From the chalets the *Rocca Bernaude* (3,229 m., 10,594 ft.), the highest summit in the range between the *Vallée Étroite* and the *Roue* glen, may be climbed in 4½ hrs. by its S. ridge, while the *Punta Baldassare* (3,162 m., 10,375 ft.), more to the S. on the same ridge, is accessible in 4 hrs. by its N.W. slope.]

The glen is very pretty and wooded, and the peaks around rise in strange forms. Some distance below the path from the Col des Echelles falls in at the chalets of *Plan du Col*, and thence the left bank of the torrent is followed past the hamlet of *Mélèzet* to *Bardonnèche*, which is about 3½ hrs. from the pass.

2. *By the Col de la Roue* (5¼ hrs.)—This is the shortest and most direct way from Modane to Bardonnèche, and is mentioned in the Middle Ages under the name of the ‘*collis rotæ*,’ though it is not proved that a Roman track crossed it, and still less that it was Hannibal’s pass. The way continues up the main valley after that to the Col de la Vallée Étroite branches off to the S.W., about 1¾ hr. from Modane. The char road in ¼ hr., at the ruined mining buildings of *Lavoir*, becomes a mule track, and mounts nearly due S., rather steeply, up a side glen, at the entrance to which there are some stunted pine trees. Higher up there are open pastures, over which the path, marked by poles, ascends gently in a S.E. direction to the pass, 2,566 m., 8,419 ft. (1½ hr. from the bifurcation, or 3½ hrs. from Modane), which is marked by two crosses. It is one of the easiest passes in the Alps.

Hence the *Punta Nera* (3,040 m., 9,974 ft.), on the E., can be reached in 1½ hr., while the *Gran Somma* (c. 3,100 m., 10,171 ft.), on the S.W., is best climbed from the Custom-

house officers' hut in  $2\frac{1}{2}$  hrs. by its S. ridge.]

The descent lies down over the *Piano dei Morti*, passes the Custom-house officers' cabin, and traverses the left-hand slopes of a treeless and dreary glen. Bardonnèche is seen below on rounding a corner ( $\frac{1}{2}$  hr.), and  $\frac{1}{2}$  hr. further is the chapel of *N.-D. de Montserrat*. A little beyond the *Roue* (or *Rhó*) chalets are passed, and a good  $\frac{1}{3}$  hr. more brings the traveller to *Bardonnèche* ( $1\frac{3}{4}$  hr. from the pass).

3. *By the Col de Fréjus* ( $5\frac{1}{4}$ -6 hrs.)—This is in some respects the most interesting route from Modane to Bardonnèche, as it passes almost immediately beneath the great Tunnel. The mule track leaves the Col de la Vallée Etroite road (1. above) at the chalets of Charmaix, and mounts rather steeply through the forest to the picturesque and wide-spreading pastures of *Arrondaz*, the upper huts on which are reached in  $1\frac{1}{2}$ -2 hrs. from Charmaix. A low depression—the *Col d'Arrondaz* (2,521 m., 8,371 ft.)—in the ridge to the S. gives access in  $\frac{1}{2}$  hr. to a rather more stony hollow, whence a last steep ascent by a well-marked path leads to the pass, 2,528 m., 8,294 ft. ( $1\frac{1}{2}$  hr., or  $3\frac{1}{2}$ -4 hrs. from Modane).

[An easy rocky ridge allows the traveller to make in a good half-hour the ascent of the *Pointe de Fréjus* (2,944 m., 9,659 ft.), on the N. It commands a very extensive view of the Dauphiné and Tarentaise peaks, including even the Viso and the Chambeyron summits, far away, as well as Bardonnèche, quite close by. But a few steps distant is a ruined hut, which is just over the Tunnel, and was used as an Observatory at the time it was being pierced. It is easy to follow the frontier ridge for  $\frac{3}{4}$  hr. more to the *Cime du Grand Vallon* (3,128 m., 10,263 ft.), not to be confused with a summit of the same name a little further E. (see under 4.)]

The descent from the Col lies for a

considerable distance in a S.E. direction over rocks, and stones, by a zigzag path. Lower down are pastures, the *Merdovine* chalets being gained in about 1 hr. from the pass, and *Bardonnèche* by the right bank of the torrent in rather less time ( $1\frac{1}{2}$ -2 hrs. from the Col).

4. *By the Col de Pelouse* ( $7\frac{1}{4}$ - $8\frac{1}{4}$  hrs.)—The three passes just described all lead from the same glen on the French side, that of the *Grande Montagne*. That now to be noticed traverses entirely different glens on either side. But it is the route recommended to the mountaineer, since on the way over the Col the ascent may be made of the beautiful *Aiguille de Scolette*.

About midway between Modane and Bramans the pretty wooded gorge of *Ste. Anne* descends from the S. to the Arc valley, just opposite the fortress of *Esseillon* (see Rte B. above). This glen gives access to the Col de Pelouse. The mule path mounts steeply from the bridge at its entrance (4 m. from Modane) up the left bank of the torrent, crosses in  $\frac{2}{3}$  hr. by the *Pont Sever* to the right bank, and then ascends by five great zigzags to the upper basin of the valley in which are the chalets of *Hortièrre* (c. 1,800 m., 5,906 ft.), at the junction of the two arms of the valley (1 hr., or  $2\frac{1}{2}$  hrs. from Modane).

[Pedestrians may take a better way, leaving the Mont Cenis high road a little beyond *Villarodin* ( $1\frac{1}{4}$  hr. from Modane), and mounting through the forest round a corner into the *Ste. Anne* valley, the chapel of that name being reached in a good hour from *Villarodin*, while 10 min. below the *Pont de Ste. Anne* leads over to the right bank of the torrent, which is followed to *Hortièrre* ( $\frac{1}{2}$  hr. from the bridge, or 3 hrs. from Modane). On looking back from near the chapel a beautiful glimpse of the *Dent Parra-chée* is obtained.]

The way to the Col lies up the right bank of the stream in the S.W.



or principal branch of the valley, at first through forests, later up a sort of corridor of nearly level pastures to the highest chalets in the valley, those of *Vallon* or *Avalanche*, 2,130 m., 6,989 ft. (1 hr.) Opposite on the E. rises the snow-seamed W. face of the *Aiguille de Scolette*. The ascent to the Col continues in a S.E. direction up pastures, and shifting débris, a lake being passed on the W. before the ridge of the pass (2,796 m., 9,174 ft.) is attained (1-1½ hr. from the highest chalets, or 4½-5 hrs. from Modane).

【W. of the pass is the *Côte du Grand Vallon*, 3,191 m., 10,470 ft. (Italian map), or 3,158 m., 10,361 ft. (French map), which is properly called *Pointe de Paumont*, and is only *c.* 3,080 m., 10,105 ft., high.】

The descent to the valley of *Rochemolles* is comparatively short, but extremely steep, though magnificent views of *Scolette* are gained on the way. The path after making many zigzags turns S. and passes several groups of chalets before attaining the level of the *Rochemolles* valley (1 hr.) The ancient and quaint hamlet of *Rochemolles* (1,597 m., 5,240 ft.) is about ½ hr. further (1 hr. from the *Plan* chalets, higher up the valley, whither a direct path descends from the pass), and thence 1¼ hr. more by a char road mainly along the right bank of the torrent leads to *Bardonnèche* (2¾-3¼ hrs. from the Col).

*Ascent of the Aiguille de Scolette.*

—It has been often remarked that some peaks escape notice for many years, though not far from a frequented route. One of these is the *Aiguille de Scolette*, 3,505 m., 11,500 ft. (called *Pierre Menue* on the Italian map), which rises half-way between the *Tunnel* and the *Mont Cenis*. Although, as already pointed out, it is the loftiest summit in the *Cottians* (save the *Viso*, and its satellite, the *Viso di Vallante*), it is indicated on the *Sardinian* map without any height, and unmentioned either in the older editions of

*Joanne* or of the present work. It did not become known to mountaineers till 1875, when, after several attempts, Signor *Martino Baretta* succeeded in making the first ascent by way of the N.W. ridge, the best and most convenient route. On occasion of the second ascent (1881) Signori *L. Barale*, *H. Briner*, and *E. Fierz* scaled the precipitous W. rock face, the climb up it being difficult and taking 3 hrs., so that this route has been but seldom taken since. Mr. *Coolidge*, making in 1882 the third ascent (the first altogether from the French side), and a few other parties, adopted the N.W. ridge route, and it was not till 1890 that Signori *C.* and *A. Fiorio*, *E. Canzio*, and *N. Vigna* struck out a new way by the E. arête, which has since become a favourite climb with Italian climbers.

There is a great cairn on the N.W. ridge, which marks the point at which that arête is reached by travellers coming from one or other side. Mr. *Coolidge*, having slept at the *Fond* chalets, in the S.E. arm of the *Ste. Anne* valley, and a short hour higher than those of *Hortière* (see above), climbed direct up the steep débris and rocky slopes on the S.W. to the N.W. ridge, attained in 1½ hr. from the huts at a point a good bit farther S. than that marked 2,909 m. on the French map, and by the broad and easy ridge reached the aforesaid great cairn on that ridge in 35 min. more. (This cairn can also be attained by a direct ascent from the *Vallon* chalets, on the W. (2½ hrs.), or by a traverse from the Col de *Pelouse* along the W. base (take care *not* to keep *too* high up) of the peak, 2½ hrs. sufficing to go from the Col to the highest summit.) 15 min. beyond the cairn the base of the first of the three rocky teeth which make up the mountain is reached. It can be turned with ease by either flank, and the next tooth should be crossed, the crest of the ridge itself then leading to the summit of the third and highest pinnacle, ½ hr. from

the first, or  $\frac{3}{4}$  hr. from the great cairn. These times are rather fast, as the weather was threatening all day. The view is, of course, very extensive, including Mont Blanc, and the lake on the Mont Cenis, as well as the villages of Aussois and Avrieux, due N., and the Rochemolles valley till near Bardonnèche.

The best starting point for the E. ridge is the chalets of *Plan*, high up the Rochemolles glen ( $2\frac{1}{2}$  hrs. from Bardonnèche). 2 hrs. suffice to gain the foot of the S.E. face, up which a snow gully straight in front (better than a tempting one more to the right) leads to the E. ridge ( $\frac{1}{2}$ -1 hr.) 2 hrs. or less are required to climb along this interesting, though not difficult, arête, it being best to keep more often on the Italian than on the French slope. It is also possible to gain the E. ridge from the Italian *Etache* huts (see next Rte.), on the S.E., in  $2\frac{3}{4}$  hrs.

#### ROUTE D.

##### BRAMANS TO BARDONNÈCHE, EXILLES, OR SUSA BY THE AMBIN GROUP.

Near the village of Bramans, 7 m. from Modane on the road towards the Mont Cenis (Rte. B. above), a considerable mountain stream flows from the E. into the Arc. This is the *St. Pierre* torrent, which descends through the *Ambin valley* from the watershed of the Alps, receiving on its way two smaller affluents from the *Savine* glen, on the E., and the *Etache* glen, on the S.W., so that the *Ambin valley* is formed by the union of three glens. The three glens and streams unite at or a little above the hamlet of *Les Planais*, whence branches off the path to the Petit Mont Cenis. The peaks rising on the ridge at the head of these

three glens are known as the **Ambin Group** (the culminating point of which is the highest of the *Trois Dents d'Ambin*, 3,382 m., 11,096 ft.), together with the fine summit of *Rognosa d'Etache*, which, as indicated above, is here included with this group for the sake of practical convenience, though it properly rises between the *Ambin Group* and the *Scolette Group*. On the other hand, as the *Savine* glen is practically part of the route over the Petit Mont Cenis, it is best described in connection with that pass in the next Rte.

From the *Ambin valley* passes lead over to no fewer than three distinct glens on the Italian slope, so that they are naturally noticed in the same Rte., though it must be borne in mind that the fourth of the passes noticed below leads into the same glen on the Italian side as the *Col de Clapier* from the *Savine* glen. The *Ambin Group* has very rarely been visited by foreign travellers, but has been pretty thoroughly explored by Italian climbers, as is fully set forth in Mr. Coolidge's monograph in the third volume of the '*Revue Alpine*' of Lyons.

A char road is carried from Bramans high above the left bank of the torrent through the narrow glen. It passes the chapel of *N.-D. de la Délivrance*, and higher up near the ancient but ruined church of *St. Pierre d'Extravache*. The rocks which enclose the valley are easily disintegrated, and they have been extensively cut through or undermined by the stream. This is particularly well seen about  $1\frac{1}{4}$  hr. above Bramans, where the road passes near the ruined church over a ridge which commands a view of the peaks on the N. of the Arc valley, with a great stretch of that valley itself. This ridge formerly barred the valley, and thus formed a considerable lake; but it has been sawn through by the torrent to the depth of 260 ft. below the former level of the lake. On the opposite side of the valley is a great

wall of white rock, which has been identified by some writers with the 'white rock' encountered by Hannibal when crossing the Alps. In  $1\frac{1}{2}$ -2 hrs. the char road, having crossed the *Etache* torrent, comes to an end at the hamlet of **Les Planais** (1,649 m., 5,410 ft.), and here the track up the *Etache* glen branches off from those up the Ambin glen, and to the Petit Mont Cenis. Hence it is most convenient to describe the passes through the two former under separate headings.

1. *By the Col d'Etache* ( $8\frac{1}{2}$  hrs. from Bramans to Bardonnèche).—It is not necessary to cross the bridge over the *Etache* stream to Les Planais, for the mule path mounts at first along the left bank of that torrent, and then in 20 min. crosses to the right bank. In about  $1\frac{1}{2}$  hr. the *Etache* chalets (French slope) are attained, and a glimpse gained of the Grande Casse. (Hence a paved track runs up the main glen towards the lake and glacier of *Etache*, at the head of which is the rock wall of the *Col della Rognosa*: see below.) The way to the *Col d'Etache* (passable for mules) now quits the main valley, and continues by the left bank of a side stream up a steep slope, and then by a ledge overhanging a small waterfall, the upper basin being thus gained. Bearing well to the left across bare slopes the summit of the pass (2,787 m., 9,144 ft.) is attained in 3 hrs. or less from Les Planais. It commands a very extensive view, including the Meije, Ecrins, Grande Casse, Grande Motte, and Grivola. The pass is much used by smugglers.

An easy descent of  $\frac{1}{2}$  hr. leads to the *Etache* chalets (Italian slope), 2,442 m., 8,012 ft.

[These huts may be used as a starting point for the ascent of *Scolette* on the N.W. by its E. ridge (see last Rte.), but are even better situated for the splendid rock peak of the *Rognosa d'Etache* (3,385 m., 11,106 ft.) on the E. A goat track

leads round the S.W. foot of the *Rochers Cornus* (2,909 m., 9,544 ft.) to a very stony hollow up which and snow patches the way lies N.E. to the wide opening of the *Col della Rognosa* (3,100 m., 10,171 ft.), 2 hrs. from the huts. Hence the highest or S.W. summit of the *Rognosa* may be climbed in  $1\frac{1}{2}$  hr. by easy rocks, it being best to keep on the proper right bank of the great ice couloir S.W. of the peak. The N.E. summit (c. 3,360 m., 11,024 ft.) can be reached from the depression at the head of the couloir to its S.W. in about the same time from the *Col della Rognosa*. Either summit can be scaled by way of that depression from the *Col Sommeiller*, on the S.E., the lower taking  $1\frac{1}{2}$  hr. thence, but the higher a longer time, as the rocks are difficult. The first ascent of the loftiest summit of the *Rognosa* was made in 1875 by Signor F. Montaldo. It is possible to descend the smooth steep rock wall on the French side of the *Col della Rognosa* mainly by way of a black couloir far to the right of a conspicuous mass of red rocks; 1 hr. is required to reach the small *Etache* glacier, and the French *Etache* chalets are gained in  $1\frac{1}{2}$  hr. more.]

A zigzag path down steep grass slopes leads from the Italian *Etache* huts in under  $\frac{1}{2}$  hr. to near the *Fond* chalets, at the head of the *Rochemolies* valley, and that valley is then followed past the *Plan* huts (where the way from the *Col de Pelouse*, last Rte., 4. falls in) to *Bardonnèche*, which may be gained in  $2\frac{1}{2}$  hrs. from the *Fond* chalets, or under  $3\frac{1}{2}$  hrs. from the pass.

2. *By the Col Sommeiller* ( $10\frac{1}{2}$  hrs. from Bramans to Bardonnèche).—The way to this pass continues from Les Planais up the main Ambin valley, which bends gradually to the S., and then to the S.E. The track is rough, and the valley very wild and stony, and shut in between lofty ridges. Soon after passing the waterfall formed by the *Savine* torrent



the path crosses to the right bank of the stream, which is followed to the rude *Baraque d'Ambin* (2 hrs. or less from Les Planais), amidst most savage surroundings. Soon after, the torrent is recrossed, and once round a corner in the valley (20 min. from the Baraque) it is necessary to climb the steep grass slopes on the W. by means of a faint track. This makes two huge zigzags before gaining the N. end of the glacier giving access to the pass, and continues along its left bank (the glacier itself is quite easy) to the foot of the final snowy ascent to the pass (2,962 m., 9,718 ft.), which is attained in  $2\frac{1}{4}$  hrs. from the Baraque, or  $4\frac{1}{4}$  hrs. from Les Planais. The pass is well known to the shepherds, who occasionally lead their flocks over it, and is mentioned several times by the French military topographers of the eighteenth century, but its name was only bestowed on it in 1871 by Signor Baretta, in honour of the famous engineer who had so much to do with the piercing of the great Tunnel.

[For the ascent hence of the two peaks of the Rognosa d'Etache on the N.W., see 1. above. The *Punta Sommeiller* (3,321 m., 10,896 ft.), on the S.E., may be scaled direct from the Col by the steep rocks of its N. face, but it is easier to work round its S.W. foot to the *Col de Galambra*—between the Rochemolles and Galambra glens—whence it is accessible in 1 hr.]

The descent from the Col lies over an easy glacier to a rocky hollow, and then down the rock wall which closes the head of the Rochemolles valley, and is seamed by a fine waterfall.  $1\frac{1}{2}$  hr. suffices to gain the *Fond chalets*, whence Bardonnèche is attained in  $2\frac{1}{2}$  hrs. more by the way described above from the Col d'Etache.

It may here be stated once for all that while the maps give the name Col d'Ambin to several passes (all of which might fitly bear it) that name

is now limited to the pass next to be noticed.

3. *By the Col d'Ambin* ( $8\frac{1}{2}$  hrs. from Bramans to Exilles).—This pass (2,854 m., 9,364 ft.) lies at the extreme S. end of the Ambin valley, and may be reached in 2 hrs. or so from the Baraque d'Ambin by keeping along the right bank of the torrent by a path, and then mounting by easy rocks and some snow. Like the Col Sommeiller, this Col is also spoken of by the old French military topographers.

[In about 1 hr. it is easy to climb the *Punta Ferrant* (3,364 m., 11,037 ft.), on the E., by the S.W. ridge and the snow at its N. base. It is admirably placed as a view point, for it commands the whole valley between Susa and Oulx, Susa itself, the fortress of Exilles, and the Superga, near Turin, while the Viso, the great Dauphiné peaks, Mont Blanc, the Grand Combin, the Matterhorn, and many other summits are visible. On the Italian side the easiest route is by the S. ridge.]

There is not the slightest difficulty in the descent from the Col on the Italian side, there being very little snow. *Exilles* (see Rte. A.—it is about half-way between the railway stations at Salbertrand and Chiomonte, either of which is attained by the great carriage road leading towards the Mont Genève) can be reached in  $2\frac{1}{2}$  hrs. through the easy *Galambra* glen and a path on the left bank of its torrent. Another way is to cross the *Passo Clopaca*, S. of the Punta Ferrant, and so either descend by the curious subterranean aqueduct of *Touilles* (500 m., 1,640 ft., in length, and excavated by a solitary man, Colombano Roman, between the years 1526 and 1533) to Chiomonte, on the railway between Oulx and Turin (Rte. A. above), or by the *Touilles* glen to the Col de Clapier track, and so to Susa.

4. *By the Col de l'Agnel*.—This is an easy glacier pass which crosses the watershed N. of the Punta Ferrant

It is reached from the head of the Ambin valley by bearing S.E. from the line of ascent to the Cold'Ambin. Another glacier covers the Italian side of the pass, and it was in a crevasse here that Signor Tonini, one of the Piedmontese surveyors, perished in 1860, as he refused to be roped, as was suggested by his guide. Below, the track from the Col de Clapier (next Rte.) is joined, and followed to *Susa*. This pass, or rather the route to it, is chiefly used by those who desire to make the ascent of the *Roche d'Ambin*, 3,377 m., 11,080 ft. (see next Rte.), starting from the Italian side; this can be effected by the rocks of its E. face, 2 hrs. being required from the Italian Agnel glacier, which is 6 hrs. from Chiomonte.

#### ROUTE E.

BRAMANS OR THE MONT CENIS TO  
SUSA BY THE COL DE CLAPIER.  
ASCENTS OF THE ROCHE AND  
DENTS D'AMBIN.

The *Savine* glen forms the E. arm of the Ambin valley, but is raised high above it by a wall, down which falls a fine cascade. This wall or ridge, in the opinion of some geologists, once extended continuously across the main Ambin valley, so as to form great lakes in its upper part as well as in the *Savine* glen. But this massive barrier has been gradually eaten away by the torrents till the lakes were drained (or nearly so), or filled up with débris. Hence the scenery of the *Savine* glen is singular. It forms a trough between the Dents d'Ambin and the ridge separating it on the E. from the *Cenis* valley. This trough is very uniform in shape, the bottom showing a wide expanse of green pastures, while the sides are a succession of stony slopes. But the dark crags of the *Roche* and *Dents*

d'Ambin, with their streaming glaciers, suffice to give sublimity to the scene. Not far from the edge of the above-mentioned wall descending towards the main Ambin valley are the chalets of *Savine* (2,221 m., 7,287 ft.), amidst fine pastures. They are accessible in 1 hr. by a nearly level path from the *Petit Mont Cenis*, and are thus on the direct route from the *Arc* valley to Italy, while they are the best head-quarters on the French slope whence to explore the higher peaks of the Ambin Group.

Before, however, describing those ascents it is convenient to give a brief notice of the **Petit Mont Cenis** (2,184 m., 7,166 ft.), which has been considered by some writers to be the pass by which Hannibal crossed the Alps, while it was certainly traversed in August 1689 by the Waldensians under Henri Arnaud on occasion of their 'Glorieuse Rentrée' into their valleys. This pass, which is but little used, is a depression in the chain separating the nearly parallel valleys of Ambin, and that through which the *Mont Cenis* road is carried. But this chain forms part of the main watershed of the Alps, and so the *Petit Mont Cenis* is one of the passes over that range. Yet, owing to the formation of the *Savine* trough, the *Petit Mont Cenis* leads, properly speaking, only from the Ambin valley to the plateau of the *Mont Cenis*, unless from the pass the route is continued up that trough, and over the *Col de Clapier*, at its head. Its position is thus very singular, and practically the track over it is only useful as enabling a traveller to gain the *Savine* chalets (for ascents or the *Col de Clapier*) either from *Bramans*, from *Lanslebourg*, or from the *Mont Cenis* plateau itself. The char road continues from *Les Planais* (1½-2 hrs. above *Bramans*: see last Rte.) for a short distance as far as the *Fesse* chalets, whence as a mule track it mounts by a series of stony zigzags the great wall already mentioned, at the summit of which the mule track

to the pass, leaving the path to the Savine chalets on the right, bends slightly N.W. to the *Petit Mont Cenis* (2 hrs. from Les Planais). The mule track soon becomes once more a char road which meanders nearly at a level over pastures in a N.E. direction till it joins the Mont Cenis road not far from the N.W. end of the Mont Cenis lake.  $1\frac{1}{2}$  hr. suffices to reach either the inn at Les Tavernettes, or the Mont Cenis Pass itself. As that pass may be gained by the short cut (Rte. B) in  $1\frac{1}{2}$  hr. from Lanslebourg, and the Petit Mont Cenis in  $1\frac{3}{4}$  hr. more, the Savine chalets are thus about  $4\frac{1}{4}$  hrs. from Lanslebourg, while by way of Les Planais  $3\frac{1}{2}$ -4 hrs. suffice to attain them from Bramans. They may also be reached from the Mont Cenis plateau by way of the *Col Giaset* (2,701 m., 8,862 ft.), reached by crossing a low ridge, and mounting through a wild glen past the *Lago Nero* and *Lago Bianco*. The Col leads to a high shelf above the Savine trough, which may be gained at the chalets, or better at the Savine lake after a long traverse. But this is a long and roundabout route.

[From the chalets both the **Roche d'Ambin** (3,377 m., 11,080 ft.) and the *Dents d'Ambin* (3,382 m., 11,096 ft.) may most conveniently be ascended, at any rate by a party starting from the French side, on which the way is far shorter than from the Italian slope. The former summit is crowned by a great cairn built in 1822 by the Piedmontese and Austrian engineers occupied in measuring an arc of the mean parallel. It is easily reached from the chalets in  $3\frac{1}{2}$ -4 hrs., the best route being to cross the great N. spur of the Dents d'Ambin, so as to traverse high above the right side of the Ambin valley, the ascent being completed by the W. ridge; it is also easy to reach it from the Savine lake by crossing the frontier ridge some way W. of the Col de Clapier, and making a traverse so as to gain the N.E. ridge, which offers no difficulties. As pointed out in the last

Rte. a party coming from the Italian side should climb up the rocks of the E. face of the peak. The panorama from the summit is very extensive, the principal feature being the **Trois Dents d'Ambin**, some way to the N.E. These three bold needles rise W. of the Col de Clapier, but are all wholly in France, as a small snow saddle separates them from the frontier ridge. Though mentioned by Saussure in 1787, when describing the prospect from the Roche Michel, above the Mont Cenis, and again in 1822-3 by the engineers who then climbed the Roche d'Ambin, the Trois Dents, like Scolette, long escaped notice, the highest tooth being vanquished for the first time by Signor Martino Baretta in 1875, a week after his successful attack on Scolette. The W. tooth is about 7 m. (23 ft.) higher than the E. one, the latter being about 31 m. (102 ft.) higher than the central point. From the Savine lake (1 hr. beyond the chalets)  $2\frac{1}{2}$  hrs. suffice to clamber up to the notch just S. of the W. tooth, which is gained in 10 min. more by steep but very good rocks of the S.E. ridge and E. face. If preferred, the same notch may be attained by crossing the ridge N. of the W. tooth, and then traversing the mountain slope in a S. direction before mounting again. It is quite possible to climb all three points in a day, for it is said that 20 min. suffice for the ascent of the W. tooth itself, 18 min. for that of the Central tooth, and 15 more for the E. tooth; active climbers may also include the Roche d'Ambin in the day's work, by going from the foot of the E. tooth to the N.E. arête, as suggested above.]

From this lengthy digression about the Petit Mont Cenis and the two chief summits of the Ambin Group it is now necessary to return, in order to give some description of the **Col de Clapier**.

From the chalets of Savine to the Col the way does not present the slightest difficulty. The ascent is



very gentle until a somewhat more rapid rise leads to the highest plateau, occupied by the *Lac de Savine*, 2,458 m., 8,065 ft. (1 hr. from the chalets), whose dimensions vary according to the seasons. It is just at the E. foot of the Dents d'Ambin.  $\frac{1}{4}$  hr. farther (about 5 hrs. from Bramans, or 4 hrs. from the Mont Cenis) is the summit of the *Col de Clapier* (2,491 m., 8,173 ft.)

[On the N.E. is the *Mont Ciusalet* (3,313 m., 10,870 ft.), which may be climbed hence in 3 hrs. It is easy thence to reach the Mont Cenis road either by passing over the top of the *Cima di Bard* (3,150 m., 10,335 ft.) or by descending S.E. of the peak through the glen in which is the *Lago della Vecchia*.]

Like several other passes in this region the Col de Clapier is mentioned by the French military topographers of the eighteenth century, while Hannibal, according to a very improbable theory, and certainly the Waldensians in 1689, traversed it. The latter were compelled by the French troops to cross from Molaretto over the rough Col de Touilles to Exilles.

The descent from the Col towards Susa lies down the uppermost narrow portion of the *Clarea* valley, confined between the ridge running from the Mont Ciusalet, on the left, and the spurs descending from the Roche d'Ambin on the right. In  $\frac{1}{2}$  hr. the traveller reaches the little rocky basin known as the *Plan du Clapier*, and traversed by the *Clarea*. The view from this point is extremely interesting. From the verge of the precipitous rocks that fall away immediately below him the traveller sees the lower valley of the *Clarea*, or *Clairée*, 3,000 feet beneath him; to the right is the rugged range of Touilles, with its curious aqueduct (see last Rte.), and beyond it the ranges that enclose the valley of the Dora Riparia on the S.; while on

the left, above some very steep rocks, are seen the remains of an ancient fort. The mule path winds, to the left of the waterfalls formed by the *Clarea*, down the *Escalier du Clapier*, a sort of chimney in the face of calcareous schist rocks, where the botanist will observe with interest *Brassica Richeri*, *Saponaria lutea*, and other rare species. On a little terrace midway is a quaintly perched hut.

In 2 hrs. from the Col a group of huts named *Molaretto* (not to be confounded with the hamlet of the same name on the Mont Cenis road: see Rte. B) is gained. The valley, which here opens out for a while, soon narrows again. It is possible to keep through this glen by a track high above the left bank of the *Clarea*. But the direct way to Susa follows a very ancient watercourse, designed to irrigate the slopes round Jaillon, which would otherwise be bare and barren. The path lies along the bank or sustaining wall of this watercourse, which in some places is carried along the face of seemingly vertical rocks. Even in places where the rock is partly hollowed to form a channel for the water there is no real difficulty in passing, but this way should not be undertaken by persons with weak or uncertain heads. The passage of the watercourse lasts nearly 1 hr., and beyond it fertile meadows lead to the high road of the Mont Cenis near *Jaillon*, or *Giaglione* ( $3\frac{1}{2}$  hrs. from the Col), which is 3 m. from *Susa*.

'The way from Savine to Susa may be varied by climbing the slopes E. of the Lac de Savine to the crest of the ridge dividing the *Clarea* from the *Cenise*, and then descending along that ridge to the Mont Cenis road above Jaillon. This route commands fine views of the *Rochemelon* and of the *Susa* valley.' (W. M.)



I  
V  
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2  
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## CHAPTER III.

## DAUPHINÉ ALPS. (COTTIAN ALPS. II.)

## SECTION 8.

## AIGUILLES D'ARVES DISTRICT.

Route.

- A. Grenoble to Briançon by the Col du Lautaret.
- B. St. Michel de Maurienne to La Grave. Ascent of the Aiguilles d'Arves.
- C. La Grave to St. Jean de Maurienne.
- D. Bourg d'Oisans to St. Jean de Maurienne.
- E. Bourg d'Oisans to La Chambre. Ascent of the Grandes Rousses.
- F. Grenoble or Chambéry to Allevard. Excursions and Passes from Allevard.
- G. Allevard to Bourg d'Oisans. The Sept Laux.
- H. Allevard to La Chambre.
- I. Grenoble to Uriage. Ascent of Belledonne.

## SECTION 9.

## PELVOUX DISTRICT.

Route.

- A. Bourg d'Oisans to La Bérarde. Valley of the Vénéon.
- B. Excursions and Ascents from La Bérarde.
- C. Vénéon Valley to La Grave and the Lautaret Road.
- D. La Bérarde to Vallouise.
- E. Vénéon Valley to the Valgaudemar.

Route.

- F. Vénéon Valley to the Valjouffrey.
- G. Briançon to Vallouise. Ascent of the Mont Pelvoux.
- H. Vallouise to La Grave.
- I. Vallouise to Monétier.
- K. Vallouise to the Valgaudemar.
- L. Vallouise to Gap or Embrun by Champoléon or Orcières.
- M. Valgaudemar to Champoléon.
- N. Grenoble to Bourg d'Oisans by La Mure.
- O. La Mure to the Valgaudemar by the Valjouffrey and Valsenestre.
- P. Corps to Grenoble by the Dévoluy, the Vercors, and the Royannais. The French Dolomites.
- Q. Briançon to Grenoble by Gap.

## SECTION 10.

## GRANDE CHARTREUSE DISTRICT.

Route.

- A. Culoz to Chambéry by Aix les Bains. Lake of Bourget.
- B. Grenoble to Chambéry by the Left Bank of the Isère.
- C. Grenoble to Chambéry by the Right Bank of the Isère.
- D. Grenoble or Chambéry to the Grande Chartreuse.
- E. Chambéry to Lyons or Grenoble by Aiguebelette and Pont de Beauvoisin.

THE extensive mountain region which lies between the principal ridge of the Cottian Alps (described in Chapter II.) and the valley of the Rhône occupies nearly the whole of the ancient province of the Dauphiné, whose limits correspond to the three modern departments of the Drôme, the Isère, and the Hautes

Alpes. The first and most westerly of these, lying between the Rhône and the Drac, is traversed by mountain ranges, chiefly calcareous, of which but two or three summits exceed 7,000 ft. in height. It is rarely visited by foreign travellers, though it contains much picturesque and pleasing scenery, which is not, how-

IV. THE COTTIAN ALPS.  
(B). The Central Dauphiné Alps.



SCALE, 1 : 250,000, 4 ENGLISH MILES TO 1 INCH (NEARLY)  
1 2 3 4 5 6 7 8 9 10  
TO METERS

London: Longmans & Co

Published Geographical Dept. London





ever, sufficiently Alpine to fall within the scope of this work, save for the brief indications given in § 9. Rte. P. The higher mountains, or Dauphiné Alps proper, are included within the two departments of the Isère and the Hautes-Alpes, but in this Chapter only the main mass is described, the glens E. of the Durance valley being more conveniently placed in Chapter II., §§ 3-6. This mass is, as stated in the Introduction to the preceding Chapter, separated from the principal ridge of the Cottians by the valley of the Durance and of its tributary the Guisane, which rises in the neighbourhood of the Mont Thabor. The entire mass is deeply cut through by the valley of the Romanche, through which the most direct route (but not now the shortest, in consequence of the railway by Gap) runs from Grenoble to Briançon, crossing from the valley of the Romanche to that of the Guisane branch of the Durance valley by the comparatively low (2,075 m., 6,808 ft.) pass of the Col du Lautaret.

The Dauphiné Alps described in this Chapter fall into three groups. The loftiest and most extensive of the three is that lying S. of the Romanche and Guisane valleys, which we shall call, from its best known, though not its highest, peak, the **Pelvoux District** (§ 9). No part of the Alps is so nearly isolated as this huge mass, since, save for the isthmus of the Col du Lautaret, it is completely enclosed on the N. by the Romanche and Guisane valleys, on the E. by that of the Durance, and on the S. and W. by the valley of the Drac, which is connected with that of the Durance by the Col de la Croix Haute, over which is carried the railway from Grenoble by Gap to Embrun (§ 9. Rte. Q).

The next most considerable group of the Dauphiné Alps is that lying N. of the Romanche valley, limited on the E. by the Col du Galibier (over

which there is now a good char road), on the N. by the valley of the Arc, and on the W. by the Graisivaudan or Isère valley, between Montmélan and Grenoble. It is called in these pages the **Aiguilles d'Arves District** (§ 8), from the name of the highest peaks comprised in it, but it also includes the ranges of the Grandes Rousses, of Allevard, and of Belle-donne. In many ways it may serve as an approach or gate of entry to the mightier Pelvoux group, of which it commands most superb views.

The last of the three groups brought together in this Chapter is that composed of the ranges round the monastery of the **Grande Chartreuse** (§ 10), on the W. of the Graisivaudan valley. Though resembling in point of scenery, height, and geological character the hills of the Drôme rather than the more Alpine groups of the Pelvoux and Aiguilles d'Arves, it yet is well worth visiting (especially in early summer or autumn), apart from the historical associations which gather round the great religious house which lies enbosomed in its midst.

The Chartreuse group was for long the best known and most visited of the three into which we have divided the Dauphiné Alps. But of late years the others have received much attention, for their natural attractions are of a high order. Looking to the height of the principal peaks, and the grandeur of the rock and glacier scenery, the **Dauphiné Alps** (the name given to the Pelvoux group *par excellence*) rank next after the Pennine and Bernese Alps, and some of the higher valleys are scarcely to be matched anywhere for wild and savage sublimity. They were visited, first, by a few foreign men of science, such as the botanist Villars, and the geologists Elie de Beaumont and Lory, while as far back as 1749-1754 General Bourcet made surveys on the spot for his great map of the country (mainly designed for military purposes, and still in certain points

unsurpassed), and in 1830 another surveyor, Captain Durand, attained the highest basin of the Mont Pelvoux. The Lautaret, too, was crossed by a few stray English travellers. But it was not till 1841 that a beginning was made of the exploration of the higher glacier passes. This was done by the late Principal J. D. Forbes, who, however, hid his remarks away in an appendix to a book on Norway, so that they are not as well known as they deserve to be. In 1855 Mr. Blackstone traversed the Col de la Lauze, and in 1858 Mr. Nichols the Col de la Temple. But it was only from 1860 to 1865 that the systematic examination of the higher Dauphiné Alps was undertaken. Hence the names of Mr. W. Mathews, Prof. T. G. Bonney, Mr. Whymper, Mr. F. F. Tuckett, Mr. H. Walker, and Mr. A. W. Moore should be held in honour by all interested in the gradual 'discovery' of the Dauphiné Alps. The early explorers, however, devoted themselves rather to the piercing of the mountain ranges by passes than to the ascent of the higher peaks, the conquests of the N. summit of the Grandes Rousses (1863) and of the **Pointe des Ecrins** (1864), the culminating point of the entire mass, being nearly the only exceptions to this rule.

The task of later explorers was greatly facilitated by the publication in 1866 and 1876 of the two sheets of the French Ordnance map ( $\frac{1}{50000}$ ) which represent this part of the Alps. In June, 1870, Mr. Coolidge visited the Dauphiné Alps for the first time, and turned his attention chiefly to the peaks of Dauphiné. From 1873 onwards the minute exploration of these Alps was carried on by a small band of mountaineers, among whom we may name Mr. Coolidge, Mr. Frederick Gardiner, and Mr. R. Pendlebury, together with a few French climbers, such as MM. F. Perrin, H. Duhamel, P. Guillemin, and P. Moisson. Gra-

dually they vanquished all the conspicuous peaks, and explored many high passes, some, indeed, of but little practical utility.

By 1887 this second period of exploration may be said to have come to an end, though many details remained, and even still remain, to be filled in, in order to complete the minute knowledge of the country. In that year a really good mountain inn was opened by the energetic 'Société des Touristes du Dauphiné' at La Bérarde, the natural climbing centre of the district; while Mr. Coolidge, with MM. Perrin and Duhamel, published a 'Guide du Haut-Dauphiné,' specially written for climbers, which was followed two years later by the issue of some most admirable and exact maps of the Pelvoux group, due to the unremitting labours of M. Duhamel.

Before 1887 the Dauphiné inns enjoyed a reputation which was not adapted to encourage travellers to remain in them longer than they could possibly help. Many Club huts, indeed, had been built, but not a few of these (especially in the Department of the Hautes-Alpes) were allowed to go to ruin. Since 1887 the Dauphiné inns have been vastly improved (save in some of the outlying valleys), and every year sees a steady and rapid advance. Bourg d'Oisans, La Grave, the Lautaret, Briançon now possess hôtels with many modern conveniences and even luxuries, while the recent opening of the steam tramway from Vizille to Bourg d'Oisans, the railway from Grenoble by Gap to Briançon, the well-organised services of diligences of the modern type on the Lautaret and Galibier roads, help to make communications easy, and so to diminish the fatigue of getting from the plains into the mountains. There are, too, now a few really good native guides, especially at St. Christophe and La Grave; but from want mainly of experience in other parts of the Alps these men are far

better as rock-climbers than as glacier guides, and the traveller is still advised to insist on the usual precautions being taken on ice and snow. In time, no doubt, the Dauphiné cragsmen will acquire a competent knowledge of snow craft. A tariff for all the principal climbs has been published by the above-mentioned S.T.D., which issues licences to the guides and porters whom it has approved.

In 1892 Mr. Coolidge and his colleagues put forth a thoroughly revised English edition of their book, under the title of 'The Central Alps of the Dauphiny' ('Climbers' Guides' Series), accompanied by a corrected edition of M. Duhamel's maps. This book should be consulted for further details than can be given in these pages as to all climbs in the Pelvoux group, and also in the Aiguilles d'Arves group between the Col du Galibier and the Olle valley. The original French work (to which a supplement was issued in 1890) must, however, still be referred to for the old names of peaks and passes, quotations from old topographical authorities, and a complete list of books and maps relating to the district. For the Allevard and Belledonne ranges Joanne's 'Alpes Dauphinoises,' vol. i. (1890), will give all necessary information, while Joanne's 'Dauphiné' (1898) contains a general account of the whole district. The valleys E. of the Durance are included in Chapter II., §§ 3-6, of the present work. For the Chartreuse, and its surroundings, Joanne is the best general book, but may be supplemented by the local guide-books mentioned in § 10. Rte. D.

The Briançon (No. 189) and St. Jean de Maurienne (No. 179) sheets of the great French map ( $\frac{1}{800000}$ ) include most of the ranges described in this Chapter, with the Grenoble (No. 178) and Vizille (No. 188) sheets for some of the minor ridges. It is said that the  $\frac{1}{1000000}$  map (*Carte du Service Vicinal*) is more accurate (though by

no means perfect) as regards the Belledonne group.

It has been stated that the earlier part of the summer should be preferred for climbs in the Pelvoux district, because snow then lies in gullies and on slopes which are scarcely accessible without its aid. But this statement is only exact to a very limited extent, though of course in the height of the summer there is here, as in other parts of the Alps, less snow than early in the season. It must not, however, be supposed that spring snow melts faster in Dauphiné than in portions of the Alpine chain further to the N., as this most certainly is not the case. The district, however, seems to rejoice in more steady fine weather than other districts, and early visitors will be enchanted by the richness and beauty of the flora, especially in the neighbourhood of the Lautaret.

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## SECTION 8.

### AIGUILLES D'ARVES DISTRICT.

Two streams unite at Briançon to form the **Durance**. One, the *Clairée*, which is the main source of that river, flows in from the N.W., having risen in the neighbourhood of the Mont Thabor. The ridges which enclose it have been described in § 6. Rtes. D and E. The other, the *Guisane*, runs in also from the N.W., but has its origin further W., near the Lautaret and Galibier passes. These last-named passes form the S. and E. limits respectively of the district described in the present Section. The valley of the Arc on the N., and that of Graisivaudan on the W., are the other boundaries. The ranges enclosed within these limits are really the most westerly outliers of the Cottian Alps, and indeed of the entire Alpine chain. But they have no one centre, and are,



in these pages, grouped together simply for reasons of practical convenience. In olden days they formed the line of division between Dauphiné and Savoy, and the highest summits, besides many minor ones, are on the Savoy side of the watershed. Yet, as they are usually attacked from the Dauphiné side, they may be included, without confusing the reader, among the Dauphiné Alps, which are the subject of this Chapter. Many travellers, too, approach the higher peaks of Dauphiné over the peaks and passes of this group, which for want of a better name may take that of its loftiest summits.

As has been pointed out already, these ranges are made up of several more or less independent clusters of mountains. Three, or even four, may be distinguished.

1. The most easterly of these includes the ridges between the Col du Galibier and the Col des Prés Nouveaux, or, in other words, between the Valloirette and Arvan torrents. It includes the **Aiguilles d'Arves**, three rock pinnacles so extremely steep as to be nearly clear of snow, the Central (3,511 m., 11,520 ft.) and Southern (3,509 m., 11,513 ft.) points being the highest summits described in the present Section. They lie nearly N. of La Grave, but are wholly on the Savoy side of the watershed. From these points a high ridge extends to the N. between the Valloirette and Arvan torrents, of which the *Grande Chible* (2,936 m., 9,633 ft.) is the N. end.

2. Next comes the range of the **Grandes Rousses** (3,473 m., 11,395 ft.), which stretches in a long snow-clad ridge, with many glaciers, from N. to S. between the Col des Prés Nouveaux and the winding course of the Olle on the W. This range includes by far the most extensive snow fields in the entire district, as there are but two small glaciers on the E. side of the Aiguilles d'Arves, and the snow basin of the Glacier Lombard on their S.

3. W. of the Grandes Rousses, and separated from them by the valley of the Olle, is a lofty, but much longer, ridge. This extends parallel to the course of the Isère on the W. from Vizille nearly to Aiguebelle, and its influence on the direction of the valleys is seen in the bend which the Arc makes to the N., and the Romanche to the S., before they respectively join the Isère. The Col de la Coche and the plateau of the Sept Laux really subdivide this group into two distinct portions. That on the N. and E. may be roughly described as the **mountains around Allevard**, of which the highest summits are the *Puy Gris* (2,992 m., 9,816 ft.) and the *Rocher Blanc* (2,931 m., 9,617 ft.), while the *Pic du Frêne* (2,808 m., 9,213 ft.) is the last lofty peak at the N. end of the ridge. S.W. of the Col de la Coche and W. of the middle bit of the Olle glen is the tangled cluster of peaks culminating in **Belledonne** (2,981 m., 9,781 ft.), which is also their best known summit.

All these ranges are described in succession in the following Section—the Aiguilles d'Arves group in Rtes. B and C, that of the Grandes Rousses in Rtes. D and E, and the Allevard mountains in Rtes. F, G, and H, while Rte. I is devoted to Belledonne and its neighbours. It is also most convenient to include in this Section accounts of the Col du Lautaret (Rte. A), its S. boundary, and of the Col du Galibier (Rte. B), its E. limit. The valley of the Arc (N. limit) is described in § 7. Rtes. A and B, and the Graisivaudan (W. limit) in § 10. Rtes. B and C. § 9 is taken up with the main mass of the high Dauphiné peaks, which form a great mountain peninsula, linked to the rest by the isthmus of the Col du Lautaret.

## ROUTE A.

GRENOBLE TO BRIANÇON BY THE  
COL DU LAUTARET.

	M.
Vizille station . . .	9
Vizille (town) . . .	11
Séchilienne . . .	14
Rochetaillée-Allemont	26
La Paute-Ornon . . .	23 $\frac{1}{2}$
Bourg d'Oisans . . .	30 $\frac{1}{2}$
Pont St. Guillaume . . .	33 $\frac{1}{2}$
Le Freney . . .	38
Le Dauphin . . .	40
La Grave . . .	46
Villard d'Arène . . .	48
Col du Lautaret . . .	53
Le Lauzet . . .	55
Monétier les Bains . . .	59 $\frac{1}{2}$
Briançon . . .	69

Railway to Vizille station in about 25 min.; thence steam tramway to Bourg d'Oisans in about 2 hrs., and by breaks over the col in 8 $\frac{3}{4}$ –9 $\frac{1}{2}$  hrs. (reverse direction, 8 hrs.) to Briançon station (including 1 hr. halt for lunch).

Grenoble (215 m., 705 ft.), the ancient capital of Dauphiné, and the present capital of the department of the Isère, as well as a fortress of the first class, stands on the Isère, a little above its junction with the Drac, into which, some way S., near Vizille, the Romanche (coming from the Col du Lautaret) has poured its muddy waters. No city in France and scarce any other in Europe enjoys so fine a position as Grenoble, which lies in a plain at the meeting point of three great valleys, and is surrounded on all sides by mountains. Of these the most conspicuous are *Belledonne* on the E., *Taillefer*, with its two humps, on the S.E., and the *Moucherotte* on the S., while to the N. the picturesquely placed fortifications climb from the ancient quarter of St. Laurent (the original town) up the heights of the *Mont Rachais*, the last spur of the ranges of the Grande Chartreuse. The city has about 64,000 inhabitants, and its chief manufacture is kid gloves ('gants Jouvin'), while

there are important factories of Portland cement. For further particulars as to this pleasant city the traveller should refer to M. Duhamel's handy 'Grenoble considéré comme Centre d'Excursions Alpestres' (1893), or the 'Excursions dans le Dauphiné,' issued by the 'Syndicat d'Initiative de Grenoble' (at the office of which, 2 Rue Montorge, and corner of the Place Grenette, the centre of the town, information is readily given gratis to all strangers, who may also there purchase tickets for various circular tours in the environs), or Joanne's 'Alpes Dauphinoises,' vol. i. (1890), and his 'Dauphiné' (1898).

Grenoble is an admirable centre for excursions. That to the Grande Chartreuse is described in § 10. Rte. D, the ascent of *Belledonne* from Uriage in Rte. I. below, the neighbourhood of *Allevard* in Rtes. F and G, below, and the ascent of the *Taillefer* in the present Rte. But the finest mountain ascent which can be made hence in one day up and down (10 hrs. in all) is that of the *Moucherotte* (1,906 m., 6,253 ft.), which forms so conspicuous a feature in the view to the S. *St. Nizier* is the best starting point for the actual climb, and may be gained by char road from Grenoble by *Seyssinet*, and the *Tour Sans Venin* in 3 $\frac{3}{4}$  hrs., or by a longer route past *Sassenage* to *Engins* (9 m.), in the gorges of the same name (see Rte. P), whence a foot path leads over to St. Nizier by the *Pas du Curé* in 1 $\frac{1}{2}$  hr. (There are foot paths from *Seyssinet* which are both shorter and more picturesque than the new road.) From St. Nizier a point W. of and below the *Ravix* farmhouse is reached in  $\frac{1}{2}$  hr., and by a steep path the pretty 'prairie du Volant' in another  $\frac{1}{3}$  hr. The path, henceforth indicated by signposts, mounts through a chimney, then by pastures, and finally reaches the summit from the W. (2 $\frac{1}{2}$  hrs. from St. Nizier.) The view includes the whole of the Dauphiné Alps, as well as Mont Blanc and the Taren-

taise, while the plain of Grenoble lies unrolled at the spectator's feet. This excursion cannot be too highly recommended.

As stated above Grenoble is situated at the meeting point of three valleys, and these afford the easiest means of approach by three main lines of railway (not to speak of some local branches). On the N.W. is the line to Lyons (75 m.), by which Grenoble is reached from Paris in 12–14 hrs. On the N.E. is that (30½ m.) to Montmélian (§ 10. Rte. B), where the main line from Geneva to Turin is joined. To the S. is the mountain line (§ 9. Rte. Q) to Veynes (69 m.), whence one branch leads to Marseilles (121 m.), and another (§ 9. Rte. Q) to Gap (16 m.) and Briançon (51 m. from Gap). It is this last-named line that a traveller must follow for a short way, if bound for the Col du Lautaret.

The head of the valley of the Durance is reached from the Italian side by lower and easier passes than any which traverse the main chain of the Alps between the Tyrol and the Mediterranean. But to reach it from Grenoble it is necessary either to cross the Dauphiné Alps, intervening between the Isère and the upper Durance, or to make a long circuit by the valley of the Drac and Gap. This circuit is actually made by the railway, which runs from Grenoble over the Col de la Croix Haute and by Gap to Briançon (136 m. of very hilly ground, covered in 7¼–8 hrs.—Rte. Q). But the direct route is by the carriage road over the Col du Lautaret, described in this Rte. That Col, however, is considerably higher than the Mont Genève (by which Briançon is best reached from Turin: see § 6. Rte. A), and is approached on the W. side by the valley of the Romanche, beset with formidable obstacles to the construction of a road. The old Roman track passed along the heights above the gorges: the new road was begun by the great Napoleon in 1808, but constructed at irregular

intervals, and only completed by Napoleon III. in 1861. It may vie with the most celebrated Alpine passes in point of wild and striking scenery visible from the road, and for the remarkable engineering works by which the difficulties of the undertaking have been surmounted.

On leaving Grenoble the line to Vizille runs in a S. direction, parallel for a time with the fine boulevard of the *Cours St. André*, to the station of *Pont de Claix* (5 m.), where there is a remarkable bridge, built in 1611, from the parapets of which a fine view of the surrounding mountain ranges may be gained. The line now turns S.E., and passes the junction of the Drac and the Romanche a little before reaching the station of *Vizille* (9 m. from Grenoble). Here the railway to Veynes is quitted for the new steam tramway (another leads to Uriage: see Rte. I), which in 2 m. reaches the town of *Vizille*, after passing through a narrow gorge of the Romanche. The old *Château* was much enlarged and adorned (1610–23) by the famous Constable Lesdiguières, though a wing was burnt in 1865. In 1788 the tennis court in this castle was the scene of the great meeting of the deputies of the Dauphiné, sitting without distinction of ranks, who demanded the calling together of the *Etats Généraux* of France, and thus took the first step towards the French Revolution. The *Périer* family (who sold it in 1895) established in it an extensive factory for cotton spinning, &c., which employed 1,500 persons. The tramway runs through the narrow streets of *Vizille* and keeps along the right bank of the Romanche, gradually turning E. through a deep gorge. In a green basin is *Séchilienne* (3 m. from the town of *Vizille*).

[This is the usual starting point for the ascent of *Taillefer* (2,861 m., 9,387 ft.), which commands a most admirable view of all the Dauphiné Alps, small and great. A char road goes in 1 m. to *St. Barthélemi*, whence a mule path



leads up in less than 3 hrs. to *La Morle* (1,420 m., 4,659 ft.), a small hamlet near which the 'Société des Touristes du Dauphiné' has built a little inn for the use of travellers. Hence 4-4½ hrs. are required to reach the summit. The track mounts E. by meadows, brushwood, and pine forests to the upper pastures, and gains the *Pravourey* lake. A bad path strikes across rocky slopes to the deserted mine of *Brouffier*, easily found, owing to its yellow colour. A ridge is crossed to the *Emay* ravine (here falls in the way from *Lavaldens*: see § 9. Rte. N. *b*), the ridge on the l. (or E.) side of which is climbed by stones and snow to the top of the peak. It is perfectly easy to go straight down from the depression between the two summits (¼ hr. from the higher) by snow and a stony couloir to the picturesque, lake-dotted pasture plateau on the N. of *Taillefer* (there is a pretty mule path from the *Poursollet* lake to *Gavet*, in the *Romanche* valley). The smaller lakes can be gained in less than an hour from the depression (under favourable circumstances), and thence paths on either side of the torrent (those on the l. bank are shorter but steeper) lead down in 1½-1½ hr. to the village of *Ornon*, a little above the hamlet of *La Palud*, which is 4½ m. by char road (coming from the Col d'Ornon: see § 9. Rte. N) from *Bourg d'Oisans*, or the steam tramway from *Vizille* can be taken half way at the station of *La Paute-Ornon*.]

(For the track from *Séchilienne* to *Premol* see Rte. I.)

The valley now contracts between *Taillefer* and the spurs of *Belledonne*, and runs in a N.E. direction. The gorge is called the *Combe de Gavet*, and the hamlets of *Gavet*, *Rioupéroux*, and *Livet* (for the way hence to *Chanrousse* see Rte. I). The wild torrent of *Vaudaine* is crossed, and at the end of the long gorge the valley opens out at *Les Sables*, where is the station of *Roche-taille-Allemont* (15 m. from the town

of *Vizille*). (For *Belledonne* see Rte. I; for the *Sept Laux*, Rte. G; and for the pass to *La Chambre*, and the *Grandes Rousses* see Rte. E.) *Les Sables* is at the confluence of the *Olle* with the *Romanche*, and at the entrance to the basin or plain at the further end of which is *Bourg d'Oisans*, 4½ m. distant past the station of *La Paute-Ornon* (see above for *Taillefer*, and for the Col d'Ornon § 9. Rte. N). This plain was the scene of one of the most remarkable geological catastrophes the history of which has been preserved by authentic records. In the course of the twelfth century a terrific bergfall from the *Vaudaine*, a great spur of *Belledonne* which encloses the *Combe de Gavet* on the N. side, completely barred the course of the *Romanche*, which rose to such a height that the plain on which *Bourg d'Oisans* and other villages now stand was converted into a large lake, known as the *Lac de St. Laurent*, more than 30 ft. deep. Villages and farms with a large part of the population utterly disappeared, and the survivors gained a subsistence by fishing on the site of their former dwellings. This state of things continued until the night of September 14-15, 1219, when the barrier gave way, and the pent-up waters, suddenly set free, swept with fearful violence down the valley. Of the villages near the valley not a trace remained, and the inundation reached even to *Grenoble*, where crowds of fugitives, stopped in their flight by a gate over the stone bridge, were carried off by the flood. The present fertility of the plain of *Bourg d'Oisans*, and the transported blocks which are scattered over the valley of the *Romanche* about *Vizille*, owe their origin to this catastrophe, more enduring in its effects than the storms of war which have repeatedly swept over the same district.

*Bourg d'Oisans* is a small country town (729 m., 2,392 ft.) agreeably situated, with a view of the opening of the

Combe de Malaval to the S.E., and of the valley of the Vénéon to the S. The neighbouring mountains are rich in minerals, especially the mines of Chalanches, near Allemont (see Rte. E). Bourg d'Oisans is generally made the starting point for the valley of the Vénéon (§ 9. Rte. A), and for the Col du Lautaret to Briançon (see below).

[Pleasant excursions may be made hence to the villages of *Villard Eymond* and *Villard Raymond*, lying on a great grassy shelf above the precipices which overshadow Bourg d'Oisans on the W. and S.W.; and also to the *Plateau de Brandes* on the E. (gained in 2½ hrs. by way of *La Garde* and *Huez*), where are extensive remains of buildings attributed to the Romans. The guide will point out the site of many mines, now abandoned, and higher up considerable deposits of anthracite. Rather more than 1 hr. above Brandes is the *Lac Blanc*, one of the highest lakes, for its dimensions, in the Alps. It is nearly ½ m. long, and 110 yards wide. On its N.E. shore are seen the traces of ancient mining works, and the remains of a paved road, constructed at some early period for the use of the miners. It is in some places either covered over or carried away by the moraines of existing glaciers. It is easy to pass from the lake between the Petites Rousses and the main chain of the Grandes Rousses along the upper of the two Rousses terraces mentioned in Rte. E to the Col du Couard (3 hrs.), or to descend from the Fare lake to the Fare Club hut (20 min.) That Club hut (belonging to the S.T.D.), whence the various summits of the Grandes Rousses chain are accessible (see Rte. E), is best reached from Bourg d'Oisans in 4½ hrs. by La Garde, Huez, the Alpe huts, the lower lake terrace, and the Carrelet lake.]

At Les Sables the range coming down from Belledonne has turned the course of the Romanche at right angles to its previous direction. Beyond

Bourg d'Oisans this direction is again changed by the great ridge extending W. from the Meije. The road on leaving Bourg d'Oisans crosses to the r. bank of the Romanche and runs S.E. along that bank, through an avenue of poplars, over a nearly level reach of richly cultivated country, enclosed between mountains of moderate height, till it regains the l. bank (3 m.) by the *Pont St. Guillaume*. (Here turns off the char road up the Vénéon valley towards La Bérarde, § 9. Rte. A.) Between this point and Le Freney the valley of the Romanche is contracted to a mere defile, enclosed between vertical rocks of gneiss. The river has cut for itself a channel at a great depth below the level of the road, which is carried along the l. bank, sometimes on ledges cut into the rock, sometimes supported on terraces of masonry, and in one spot carried through a tunnel 180 m. (591 ft.) in length. This is the *gorge of Inferney*, or *Malaval*, and is the finest bit of the road. On issuing from it a green basin is reached, in which stands *Le Freney*, 7½ m. from Bourg d'Oisans. (For the Col des Prés Nouveaux hence to St. Jean de Maurienne see Rte. D. 1, and for the Col de l'Alpe in the opposite direction to Vénosc, in the Vénéon valley, see § 9. Rte. C. 1.) Another narrow gorge is traversed before passing the miserable houses of *Le Dauphin*, standing in the midst of huge fragments of fallen rock. The cliffs forming the S. wall of the valley are crowned by the great *Glacier du Mont de Lans*, the largest in Dauphiné, and projecting portions of its frozen mass are seen through the ravines that open into the Combe. At Le Dauphin the road crosses to the r. bank, and soon after passes the fine waterfall of *La Pisse*, which comes down from a height of 200 m. (656 ft.) The Romanche flows through a deep and gloomy ravine, the *Combe de Malaval*, which sometimes opens a little, and exhibits, in wild confusion, huge masses of rock torn

down from the crags above; at other times the precipices approach more nearly together, and the glacier streams that reach their verge spring from a considerable height into the chasm through which the road is carried. The finest is that of La Pisse, mentioned above; another, the *Saut de la Pucelle*, or *des Fréaux*, falling 80 m. (262 ft.), is nearer La Grave, and just beyond some extensive lead mines, now no longer worked. Soon after (15½ m. from Bourg d'Oisans) the road turns a corner and enters the village of **La Grave** (1,526 m., 5,007 ft.), the houses of which are huddled together on a steep slope N. of the high road.

*La Grave* is placed in the midst of very grand Alpine scenery. Just opposite rises the *Meije* (3,987 m., 13,081 ft., the second peak in the district), streaming with glaciers, above which towers the grim black final ridge. The view is one of the finest to be obtained from a road in the Alps, as the glaciers and peaks are close at hand, and is said to be equalled only by that from the Stelvio.

[**L**a Grave is one of the best centres in the district for a stay of some days. Besides the excursions to the foot of the glacier coming down from the Brèche de la Meije (just W. of the Meije), 1 hr., and to the *Plateau de Paris* (on which there is now a small inn), on the N. side of the valley (2 hrs.), to enjoy the view of the Meije (far better seen from a height above the village than from the village itself), it is worth while visiting two little mountain inns: one is near the *Puy Vachier* lake, on the way to the Col de la Lauze (§ 9. Rte. C. 2), and the other at *Alpe*, on the way to the Col du Clot des Cavales (§ 9. Rte. C. 4.), each about 3 hrs. off. A delightful expedition is to go on from the former in 2½ hrs. to the *Col de la Lauze*, then keeping to the W. along the S. edge of the splendid snow field of the Glacier du Mont de Lans, and

descending to the Lac Noir Club hut (3 hrs.), whence Le Freney or St. Christophe can be gained.

The chief belvédères around La Grave are the *Aiguille du Goléon*, 3,429 m., 11,251 ft. (5 hrs. by the S.E. face or arête), and the *Pic des Trois Evêchés*, 3,120 m., 10,237 ft. (4 hrs. by the N.E. ridge); both are on the N. side of the valley, and command superb views of the Meije group opposite. The *Bec de l'Homme*, 3,457 m., 11,342 ft. (5 hrs.), affords a nearer sight of that wonderful group, but if the projected Club hut at the Rocher de l'Aigle (4 hrs. from La Grave), at the S. foot of the Bec, is built it is almost a pity not to climb the very beautiful and not difficult *E. Summit of the Meije* (3,911 m., 12,832 ft.), accessible in 2¼–3 hrs., according to the state of the snow, whence the sudden sight of the Central Summit of the Meije is overwhelming, and one understands why the Monétier folk call it 'Le Doigt de Dieu.' This *Central Summit* (3,970 m., 13,025 ft.) can be gained in rather less time from the Club hut, but is harder as a climb than the E. Summit. From it the traveller can marvel at the long jagged ridge which connects it with the *W. and highest Summit* (3,987 m., 13,081 ft.), and admire the audacity of Herren O. and E. Zsigmondy and L. Purtscheller, who were the first (and that without guides) to force it in 1885. This route has since become better known, and is now frequently traversed every summer, 2¾–4 hrs. being required. Another attraction at La Grave to the climber is the *S. Aiguille d'Arves*, which is thence reached in 7 hrs. or so by way of the Col Lombard (Rte. B. 3). (For the numerous passes from La Grave see Rtes. B and C for those to the N., and § 9. Rtes. C and H, for those to the S. For the alternative route to Monétier by the *Col d'Arsine* see below.)

Beyond La Grave the road traverses two tunnels (always lighted by lamps),



and passes above the village of *Villard d'Arène* (1,651 m., 5,417 ft.), and, later, the hamlet of *Pied du Col*, in order to mount by many great zigzags (pedestrians can find many short cuts) towards the Col du Lautaret. From one of these zigzags a glimpse of the Ecrins, the monarch of the district, is caught through the upper Romanche glen. This valley turns S. from Villard d'Arène, and from the road fine views of it are gained, backed by the graceful snowy pyramid of the *Montagne des Agneaux* (3,660 m., 12,008 ft.) The stone Hospice on the **Col du Lautaret** (2,075 m., 6,808 ft.) is attained in 7 m. from La Grave, and opposite it is the new inn, built in the style of a Swiss chalet. The summit of the pass is a wide sweep of pasture, and, like the slopes towards Villard d'Arène, and also on the way to the Col du Galibier, is celebrated for the variety of rare Alpine plants to be found there. A list would include a large part of the Alpine flora. The view of the Meije and its attendant peaks, the *Pavé*, the *Pic Gaspard*, and the *Pics de Neige du Lautaret*, with glaciers streaming from them, all seen above the great ice basin of the Homme glacier, is one of the most striking scenes in the entire range of the Alps, and is alone worth the trouble of visiting the Lautaret. The Hospice was originally founded by the Dauphins in the eleventh century at the spot on the E. of the pass still called *La Madeleine*, and was only later transferred to the summit of the Col. The geologist will not fail to notice the singular relations of the limestones and slates on the W. side of the Col with the adjoining crystalline rocks. In several places the former are seen to underlie extensive masses of gneiss or schistose granite, affording a remarkable example of the so-called fan structure. One section, on the S. side of the valley, opposite Villard d'Arène, has been noticed and described by M. Elie de Beaumont; while Principal Forbes pointed out the

existence of another in the lower part of the Combeynot group, which separates the Col from the upper valley of the Romanche. The section is equally well seen from both sides of the promontory between the two torrents.

【The first excursion to be made from the Lautaret is that to the top of the *Col du Galibier*, 2,658 m., 8,721 ft. ( $1\frac{1}{2}$ –2 hrs.), over which a char road (described in Rte. B) now runs to St. Michel de Maurienne, in the Arc valley. A curious winding foot path (the 'sentier des crevasses') leads round the N.W. flank of the Combeynot group to the mountain inn at *Alpe* (2 hrs.), whence many passes (§ 9. Rte. C) lead to La Bérarde, and the Col d'Arsine in 3 hrs. to Monétier.

Among the ascents from the Lautaret that of the *Roche du Grand Galibier* (3,242 m., 10,637 ft.) is especially recommended; it takes  $3\frac{1}{2}$ – $4\frac{1}{2}$  hrs. or so, and the panorama is most wonderful, extending to Monte Viso. The *Pic de Combeynot* (3,163 m., 10,377 ft.) may be reached by a steep climb of 3 hrs. from the Hospice, and the *Pic des Trois Evêchés* (3,120 m., 10,237 ft.) by an easier one of 4 hrs.】

The road descends in zigzags, soon meets the Guisane, coming down from the Col du Galibier, and follows it on its left bank to Briançon. *La Madeleine*, where the Hospice originally was, is passed, and later *Le Lauset*, with some anthracite mines. (Hence the *Col de la Ponsoinière* leads in  $6\frac{1}{2}$  hrs. to Valloire.) The valley becomes more smiling as the road, passing above the stony plain whereon stands the hamlet of *Le Casset* (overhung by the fine *Pic Gardiner*, 3,400 m., 11,155 ft.), approaches **Monétier les Bains**,  $6\frac{1}{2}$  m. from the Col. There are mineral waters here, used for baths and also internally. The village is at the height of 1,493 m. (4,898 ft.), yet is still surrounded by barley fields and fruit trees.

【It lies too low as a starting point

for any ascent, save, perhaps, that of the *Pic des Prés les Fouds*, 3,363 m., 11,034 ft. ( $6\frac{1}{2}$  hrs.), though the *Montagne des Agneaux* (3,660 m., 12,008 ft.) and other summits may be taken on the way over to the Tuckett Club hut by glacier passes (§ 9. Rte. I). On the W. the *Col d'Arvine* (2,400 m., 7,874 ft.) leads in under 4 hrs. to the mountain inn at Alpe (§ 9. Rte. C), while on the N.E. the grassy *Col de Buffère* (c. 2,000 m., 6,562 ft.), or the *Col de Cristol* (2,500 m., 8,202 ft.), more to the E., with its pretty lake, enables a traveller to gain Névache, in the Clairée valley (§ 6. Rte. D), in  $4\frac{1}{2}$  hrs. from Monétier. (For the passes to the Vallouise see § 9. Rte. I.)

From Monétier the road descends gently down the Guisane valley, which is fertile and populous on its l. bank, while that opposite is covered with splendid pine forests. As the traveller advances he gains fine views of the little town of **Briançon**, on its heights, crowned by its formidable forts, and backed by the cone of the *Rochebrune* (3,324 m., 10,906 ft.) The road to the station avoids the town itself, passing round its W. side in order to go down to the level plain below, where is ( $9\frac{1}{2}$  m. from Monétier) the railway station of Briançon. The railway descends the Durance valley in order to gain Gap and Grenoble, while on the E. the great carriage road over the Mont Genève leads to the Mont Cenis line at Oulx. For a description of Briançon and its neighbourhood (including passes to Château Queyras, to Bardonnèche, and to St. Michel) see § 6.

## ROUTE B.

## ST. MICHEL DE MAURIENNE TO THE LAUTARET ROAD. ASCENT OF THE AIGUILLES D'ARVES.

The valley of the Romanche, through which passes the Lautaret road, described in the preceding Rte., runs, as far as Bourg d'Oisans, near its junction with the Olle, in a direction which is roughly E. and W. A not very different course is followed by the Arc (through which passes the route to the Mont Cenis—§ 7. Rtes. A and B), between St. Michel de Maurienne and La Chambre. But these two valleys are separated by an intricate set of mountain ridges, of which the Aiguilles d'Arves and the Grandes Rousses are the loftiest points. Hence there are many passes from one to the other. In this Rte. those leading from St. Michel de Maurienne, in the Arc valley, to the Romanche valley are enumerated, in Rtes. C and D those leading to St. Jean de Maurienne, and in Rte. E that to La Chambre.

In the case of the passes from St. Michel, La Grave, on the Lautaret road, is the natural point for which to make, but since the opening of the char road over the Col du Galibier the Lautaret Hospice is the spot on the Lautaret road most easily attained from St. Michel. Besides this convenient way, a pass which even moderate pedestrians can cross without difficulty is described, and finally the high level route recommended to mountaineers.

1. *By the Col du Galibier* ( $26\frac{1}{2}$  m. to the Lautaret Hospice by a good char road, over which runs a break, in connection with the P.L.M. railway, taking  $8\frac{3}{4}$  hrs., including 1 hr.'s halt for lunch, from St. Michel, and 6 hrs. in the reverse direction).

On leaving St. Michel the road traverses the Arc, and then the torrent from the Valmeinier, before mounting by means of a great

series of zigzags (some very long) the steep forest-clad slopes leading up to the ridge above the r. bank of the Valloirette torrent, which flows through a deep gorge to join the Arc below St. Michel. Fine views are obtained towards the N. over the glaciers of the Pécelet group. A final very long zigzag ends in a tunnel by which that ridge is pierced, and the road then turns sharply to the S., keeping high above the Valloirette, in the direction of the smiling pasture basin in which lies the large village of *Valloire*. The road gradually descends to and crosses the stream before reaching the village (10 m. from St. Michel, about 3 hrs.' walk). (Pedestrians are strongly recommended to leave the last very long zigzag mentioned above in order to mount S.W. by the old stony mule path to the chapel on the ridge, by which stand three crosses ( $\frac{1}{4}$  hr.) Hence there is a superb view of the Ecrins, as well as of the Aiguilles d'Arves. By descending on the other side the hamlet of *Le Clos*, on the high road, is gained in  $\frac{1}{4}$  hr.)

**Valloire** (1,430 m., 4,692 ft.) is a charmingly situated village, which may tempt the traveller who is not in a hurry to halt there for a day or two.

[On the W. the valley is shut in by a high jagged ridge, over which lie many rough, but not difficult, passes to the lower bit of the Arvan glen. Its N. end, the *Pointe de la Grande Chible* (2,936 m., 9,633 ft.), can be reached without any difficulty in  $4\frac{1}{2}$  hrs. by way of the hamlet of Pointg Ravier and the S.W. or E. ridge: it commands a very extensive view. A better point whence to study the Aiguilles d'Arves—not seen from Valloire or its immediate neighbourhood—is the *Aiguille de l'Épaisseur* (3,241 m., 10,633 ft.), which may be attained in  $5\frac{1}{2}$  hrs. from Valloire through the Combe des Aiguilles—see 3. below—and by the S.E. arête, there being no difficulty, though some snow, on the way. On the E. the

Valloirette valley is bounded by a long ridge separating it from the Plagnetta glen, through which lies the rough track to the *Col de l'Aiguille Noire*, by which Névache, in the Clairee valley (§ 6. Rte. D. 1), may be reached in 7 hrs. Just W. of the pass is the striking double peak of the *Aiguille Noire* (2,892 m., 9,489 ft.), which, despite its formidable appearance from afar, can be gained by a short scramble up its S. arête in about 1 hr. from the Col, or in  $4\frac{1}{2}$  hrs. from Valloire (see § 6. Rte. D. 1).]

Soon after quitting the village the road crosses to the l. bank of the Valloirette, and a distant view is obtained of the *Roche du Grand Galibier* (3,242 m., 10,637 ft.), with a steep snow gully between its two summits, at the head of the valley. The stream is again crossed at the hamlet of *La Ravine* (here turns off the way to the Aiguilles d'Arves: see 3. below), and continues to mount slightly in a S. direction. Opposite the opening of the Combe des Aiguilles a fleeting glimpse of the Aiguilles d'Arves is obtained. The road passes beneath the hamlet of *Bonnenuit*, passing, at the junction of the further path from that hamlet, the path to the Col du Goléon (below, 2) and to a short cut to the Galibier by the Losettes huts, and beyond gains the base of the final ascent to the Col du Galibier.

[Here— $2\frac{1}{4}$  hrs.' walk from Valloire—turn off the paths to the *Col des Rochilles*, leading in  $4\frac{1}{2}$  hrs. to Névache (§ 6. Rte. D. 2), and the *Col de la Ponnouillère*, leading to Le Lauzet, on the Lautaret road, in 6 hrs.].

Many great zigzags lead up to a pasture basin in which are some huts, and then more zigzags to the tunnel, which pierces the ridge of the Col a little below the crest of the pass ( $10\frac{1}{2}$  m. from Valloire). But even the most moderate walkers are advised to follow the old char road across the crest itself, a very slight détour, and one rewarded by an extremely fine view, in which the Ecrins and the



Aiguilles d'Arves are the principal features. The height of the pass is 2,658 m., 8,721 ft., and the road is the highest in Europe save that over the Stelvio (2,760 m., 9,055 ft.) The descent on the other side by a fresh series of zigzags is far shorter than the ascent has been. At the *Mandette* huts pedestrians can strike S.W. across the pastures direct to the Hospice. The road goes down to that of the Lautaret, and then mounts slightly to the Hospice, 6 m. from the Col. A fast walker can go in 4 hrs. from Valloire to the Hospice, but 5 are amply sufficient. Many of the rarest plants in the Alps are found on the S. slope of the pass, which is really the continuation of the famous pastures of the Col du Lautaret.

2. *By the Col du Goléon* (foot path in 6½–7 hrs. from Valloire to La Grave).

From Valloire the Galibier road is followed for 1½ hr. till the *second* cross, marking a branch path to Bonnenuit, is reached. The Goléon route descends into the Losettes glen, and goes up it in order to gain by a steep ascent the Losettes huts (1 hr.) Care must now be taken to turn *sharp W.* up the glen just beyond the huts.

[By keeping up the glen which opens to the S. the *Pic des Trois Evêchés* (3,120 m., 10,237 ft.) may be ascended in 3 hrs. by the N.E. arête, the glorious view from the summit enjoyed, and the descent made from the same ridge to the Goléon track at the edge of the steep descent to be mentioned below.]

This glen bears gradually N.W., and a zigzag path up shale slopes brings the traveller to the Col (2,880 m., 9,449 ft.) in 4 hrs. from Valloire. It is the lowest point in a ridge of contorted shale and commands a view of great magnificence, which may be very much extended by following the easy arête to the N.W. to the top of the *Pointe de l'Argentière* (3,240 m., 10,630 ft.), in 1½ hr. from the Col. A steep slope of shale and grass leads down to a large marshy plain, the

numberless streams in which must be crossed as soon as possible to the r. bank. In this way the edge of a steep descent into the lower glen is gained (¾ hr.), and a path leads down into that glen, which in early summer is one mass of narcissi and June lilies. After the first hamlet, *Pramelier*, is passed (1 hr.), La Grave may be reached by either side of the glen, the path on the r. bank gradually becoming a char road long before La Grave is attained (¾ hr.)

3. *By the Col des Aiguilles d'Arves* (6 hrs.), and *the Col Lombard* (6 hrs.)—This route requires two days from Valloire, the intervening night being spent in the chalets of Rieublanc, where strangers are most hospitably entertained. It passes through very grand scenery, and is strongly recommended to all mountaineers bound from Valloire to La Grave, as they can climb any of the *Aiguilles d'Arves* on the way.

The Galibier road is followed for ¾ hr. to the hamlet of *La Ravine*. The bridge is not crossed, but the path along the l. bank of the Valloirette followed till it passes above a knoll, seen from afar, and then turns up the Combe des Aiguilles on the W. This glen is mounted by a path above the l. bank of the torrent, care being taken to keep up the more southerly of the two arms into which the glen is divided by the great spur from the Aiguille del'Épaisseur. In this way by pastures and stones the head of the glen, at the foot of the three Aiguilles d'Arves, is attained, 3½ hrs. from Valloire.

[Hence the *Col des Trois Pointes* (3,150 m., 10,335 ft.) leads in 3 hrs. across the ridge just N.W. of the *Pointe de l'Argentière* (3,240 m., 10,630 ft.) direct to the first plain below the Glacier Lombard, while from the head of the glen it is also possible to climb direct by the Gros Jean gl. and gullies in very steep rocks to the base of the difficult bit on the S. Aiguille d'Arves.]

Débris and a short easy gl.

enable the traveller to gain in 1 hr. more the **Col des Aiguilles d'Arves** (3,200 m., 10,499 ft.), between the Central and N. Aiguilles d'Arves: it was first crossed in 1864 by Messrs. A. W. Moore, H. Walker, and E. Whymper, the first foreigners to explore this splendid group. (The gap between the Central and S. Aiguille d'Arves, or *Col de Gros Jean*, has only once been traversed, the cliffs on this side of the pass presenting considerable difficulties.)

It is one of the greatest surprises in Alpine history to find how long the three noble rock pinnacles of the **Aiguilles d'Arves** were ignored by maps, and neglected by travellers. It is only in the very latest issues of the great French map that they are even named, though they are spoken of in the 'Philosophical Transactions' as far back as 1791. The relative height of the two loftiest peaks is still uncertain, but the difference between them does not exceed 3-6 ft. The *Central Aiguille* was first climbed in 1839 by three St. Michel hunters, whose ascent remained unknown to history till 1878, while the Southern Aiguille was only conquered in 1878 by Mr. Coolidge, who, with Miss Brevoort, had in 1873 reached the lower peak of the N. Aiguille, and had in 1874 made the second ascent of the Central Aiguille.

From the *Col des Aiguilles d'Arves* there is a fine view to the W. over the valley of the Arvan and its mountains. But no climber should omit to ascend in 2½ hrs. the *Central Aiguille* (3,511 m., 10,520 ft.) by way of its N.E. and S.E. rock faces, or at least the *higher point of the N. Aiguille*, 3,330 m., 10,926 ft. (1 hr.), by the notch between the two horns and then by very steep rocks on its W. face.]

The Rieublanc huts are at the W. foot of the Col, and are best gained thence by a gully to the N. of the great central couloir in the steep rock wall, and so by stones and grass, in 1½ hr. They afford better night quar-

ters than those of *La Saussaz*, ½ hr. lower. (For the path hence to St. Jean d'Arves see Rte. C. 1.) The first party (Mr. Moore's) went next day from the *La Saussaz* huts to *La Grave* over the peak now known as the *S. Aiguille de la Saussaz* (3,315 m., 10,876 ft.), just above the *Col de Martignare*. A far better route has been struck out by later explorers in the **Col Lombard**. This pass is just S.W. of the *S. Aiguille d'Arves*, and is gained from *La Saussaz* in 2½ hrs. by bearing S.E. up pastures, a shale ridge, and a great snow slope. Its height is about 3,100 m. (10,171 ft.)

From here starts the best route yet discovered up the *S. Aiguille d'Arves* (3,509 m., 11,513 ft.), the proudest of the three sisters. It is necessary to gain the crest of the S.E. arête by one of the small gullies close under the S. face of the peak. A rock ledge soon leads to the base of the very difficult, though short (c. 15 ft.), *mauvais pas* by which the rock rampart surrounding the peak can be pierced, and so the upper slopes gained. It requires some good climbing to overcome this obstacle, after which the roof-like ridge which forms the summit is easily reached (1½-2 hrs. from the *Col Lombard*). If the traveller do not care to attempt this hard ascent he should not fail to cross the *Lombard gl.*, and scale the steep though easy shale or snow slopes or ridges (many possible routes) which give access to the great cairn on the *Aiguille du Goléon*, 3,429 m., 11,251 ft. (1½ hr.) The panorama which rewards the slight effort of the ascent is one of the finest in Dauphiné.]

From the *Col Lombard*, shale, the *gl.* (near the foot of which is the **Lyon Républicain Club hut**, 2,400 m., 7,874 ft.), and a marshy plain lead to the *Col du Go'éon* route, joined on the second marshy plain, and followed henceforth to *La Grave* (3½-4 hrs. or less from the *Col Lombard*).

## ROUTE C.

## LA GRAVE TO ST. JEAN DE MAURIENNE.

There are at least three main passes over the ridge which extends from the Aiguilles d'Arves to the Col des Prés Nouveaux. They all descend into the *Arvette* glen (or *Combe Froide*), which comes from the W. base of the Aiguilles d'Arves, and soon turns due N., joining the Arvan valley at *Entraigues*, below St. Jean d'Arves. The most easterly of these passes, the Col Lombard, was described in the preceding Rte., for it is better adapted for a traveller coming from Valloire to La Grave by the high level route than as a way to St. Jean de Maurienne. The two other passes are not quite as long, but are both fatiguing and not very interesting, though of course they command fine views of the Meije, just opposite.

1. *By the Col de Martignare* (11-12 hrs.)

From La Grave a very stony ascent leads to a grassy depression just N.E. of the last hump on the long ridge stretching S. from the *Aiguille du Goléon*: the track then winds along the mountain slopes on the W. side of that ridge in a N. direction, keeping high above the left bank of the torrent in the *Martignare* glen. It approaches the stream before gaining the pass, 2,600 m., 8,531 ft. (4 hrs.) The descent from the shaly ridge leads at first into a basin or ravine, whence it is necessary to mount in order to gain a great grassy promontory on the right, from which a zigzag path leads down to the *Arvette* glen, near the *La Saussaz* huts (1¼ hr.) Hence there is a mule path which mounts to the *Rieublanc* huts, and then wanders N.W. over pastures till it descends to *Le Vallonet*, a good way lower down the *Arvette* glen. It is shorter, though rougher, to go from the *La Saussaz* huts down that glen direct

by an ill-marked foot path, which crosses and recrosses the torrent several times. There is at least one pretty green basin on the way, while the *Palère* precipice, on the E. side of the gorge, is striking. By one or other route *Entraigues* is gained in about 2½ hrs. from *La Saussaz*. The traveller can now mount to St. Jean d'Arves, and then cross the grassy Col d'Arves (Rte. D. 1) to *St. Jean de Maurienne*, or may follow the new char road direct through the Arvan valley to the same place, reached in 3 or 4 hrs.

2. *By the Col de l'Infernet* (10½-11 hrs.)

The ascent begins directly behind *La Grave*, and leads to *Les Terrasses*, whence the path bears N.W. to *Le Chazelet*. The route overlooks the stream, which, falling over a granite ledge, forms the beautiful waterfall of *Les Fréaux* (Rte. A). This stream intersects the junction of the granite with the overlying strata of Jurassic limestone. The mule path mounts along the left bank of the *Buffe* torrent, through many groups of chalets, but the glen is bare and uninteresting. The final ascent is up disintegrated slate slopes, with not unfrequently large patches of snow. The pass (2,690 m., 8,826 ft.) is attained in 4¼ hrs. from *La Grave*. On the other side snow slopes, steep shale, and grass bring the traveller to the highest huts, those of the *Pré des Bruns* (1 hr.) The mule path starts again here, and leads by zigzags down into the *Arvette* glen at the point where it turns N. (½ hr.), whence that glen is followed to *Entraigues* (1½ hr.) From this hamlet one or other of the two alternative routes given under 1 is followed to *St. Jean de Maurienne* (3-4 hrs.)

An active walker can make a pleasant variation on this route by bearing to the N.W. from the upper portion of the *Buffe* glen and gaining the S. ridge of the *Pic du Mas de la Grave* (3,023 m., 9,918 ft.), the highest summit between the *Aiguille*



du Goléon and the Cîme des Torches. It may be attained in about  $1\frac{1}{2}$  hr. from the Buffe glen or the ruined hut near the Col (or 5 hrs. from La Grave). There is no difficulty in descending E. or N., then bearing N.W., and gaining the Prés Nouveaux ridge by a track which passes that ridge some way E. of that Col (Rte. D. 1), the usual path over which is joined at the highest huts ( $1\frac{1}{2}$  hr. or so).

## ROUTE D.

## BOURG D'OISANS TO ST. JEAN DE MAURIENNE.

Char road to Besse or Clavans d'en Haut; thence mule path (or snow) to St. Jean d'Arves, whence another char road descends to the Arc valley. From Le Freney 11- $11\frac{1}{2}$  hrs. by the Col des Prés Nouveaux;  $10\frac{1}{2}$  hrs. by the Col des Quirliès.

A direct line drawn from Bourg d'Oisans to St. Jean de Maurienne would traverse the mass of the Grandes Rousses. To avoid this formidable obstacle (which can be overcome by active climbers: see Rte. E) it is necessary to make a considerable détour, for the easiest route lies on the E. of the Grandes Rousses chain.

The high road to Briançon (Rte. A) is followed for 8 m. until a little above Le Freney a stone bridge crosses the Romanche just beyond its junction with the Ferrand. The char road ascends steeply by zigzags to *Mizoën*, 1,206 m., 3,957 ft. ( $\frac{1}{2}$  hr.), which commands a fine view of the Combe de Malaval. It then gradually descends to and crosses the *Ferrand*, which runs in a deep gorge, at the end of which ( $1\frac{1}{4}$ - $1\frac{1}{2}$  hr. from Le Freney), at the foot of a steep bluff, it bifurcates. The branch to the right goes N.E. to Besse for the Col

des Prés Nouveaux, the left-hand branch due N. to Clavans for the Col des Quirliès.

1. *By the Col des Prés Nouveaux.* The char road crosses to the left bank of the Ferrand, and by several zigzags mounts to *Besse* (20 min.) Hence the mule path mounts at first to the N. up pastures to a narrow promontory, along the W. side of which it runs high above the Valette torrent, which is gradually approached and crossed before the last chalet is reached. Thence less than  $\frac{1}{2}$  hr.'s ascent by zigzags suffices to gain the *Col des Prés Nouveaux*, 2,293 m., 7,523 ft. ( $3\frac{1}{2}$ -4 hrs. from Besse), a pass quite enclosed by higher mountains on all sides and commanding no distant view. There are some huts on the Col itself, and the pastures on both sides are of extraordinary luxuriance, owing, no doubt, to the rapid disintegration of the rock, a fissile argillaceous rock. The descent is at first gentle, but then come steep zigzags which wind down shale slopes to the highest chalets in the Arvan valley ( $\frac{1}{2}$  hr.) From this point it is quite possible to follow the pasture valley of the Arvan due N., and on reaching St. Sorlin d'Arves to turn S.E. to St. Jean d'Arves. But it is in every way better to follow from the chalets just mentioned a good mule path which rises gently over grassy slopes to the pretty *Col d'Ornon* (c. 2,000 m., 6,562 ft.), leading over the ridge which compels the Arvan to make this great loop. The path descends along the left side of a grassy glen to *Chambon*, where the Arvan is crossed, and a further ascent leads to the hamlet of *La Tour*, the principal hamlet (most beautifully situated on an upland shelf of pastures, with glorious views) of the wealthy commune of *St. Jean d'Arves* (2 hrs. from the highest huts). Another mule path leads up in less than  $\frac{1}{2}$  hr. to the low *Col d'Arves* (1,754 m., 5,755 ft.), with a fine view of the Grandes Rousses and the Aiguilles d'Arves.

It descends on the other side to *Fontcouverte*, whence there is a char road down to *St. Jean de Maurienne* (2½ hrs. from the Col d'Arves). In 1895 a char road was opened from *St. Jean d'Arves*, which descends to *Entraigues*, and then follows the lower portion of the Arvan valley to *St. Jean de Maurienne* direct.

The *Col de la Valette*, or *Col Perrant* (2,250 m., 7,382 ft.), is a mere variation of the route just described. From the last hut on the Besse side of the *Prés Nouveaux* keep to the l. up the *Grand Sauvage* glen, and gain the ridge some way N.W. of the *Prés Nouveaux*, descending by the *Aigues Rousses* huts to the highest chalets in the Arvan glen, where the *Prés Nouveaux* route is rejoined. The *Col de l'Agnelin* (2,875 m., 9,433 ft.) is a most circuitous route, which leaves the *Prés Nouveaux* track on the narrow promontory mentioned above, and winds in very intricate fashion through several ravines till the pass is gained just at the S.E. foot of the *Cîme des Torches*, 2,957 m., 9,702 ft. (accessible in 20 min.) The descent is made by a lateral glen to the *Arvette* ravine at *Le Vallonet*, where the *Col de Martignare* route (Rte. C. 1) is joined and followed to *Entraigues*. This pass is not recommended save to those who like devious ways.

2. *By the Col des Quirliès*. By keeping up the l.-hand road at the bifurcation the traveller in a few minutes gains the upper portion of the *Ferrand* valley, and passing by *Clavans* soon after reaches the village of *Clavans d'en Haut* (1,394 m., 4,574 ft.), ½-¾ hr. from the bifurcation, which has a fair inn, and is the best headquarters in these parts. The char road continues for a short distance further, but comes to an end before the traveller arrives at the foot of a fine waterfall of the *Ferrand*. Zigzags lead up the slopes on the E. side of the fall, and thus the uppermost bit of the *Ferrand* glen is attained. The mule path continues to

the last chalet, whence grassy and stony slopes lead in a N.W. direction to the considerable *Quirliès* gl. This presents no difficulty, and is mounted to the wide opening of the *Col des Quirliès*, 2,950 m., 9,679 ft. (4 hrs. from *Clavans d'en Haut*.)

The pass is nearly on a level with the great snow fields of the *St. Sorlin* gl., on which the *Col de la Cochette* route (Rte. E) is soon joined, and followed to *St. Jean d'Arves* (3½ hrs.) The chief use of the *Col* is to afford access from *Clavans* to the usual route up the N. Summit of the *Grandes Rousses* (see Rte. E); but it may be used simply as a pass, and with it may be combined the ascent (1 hr.) of the *Cîme du Grand Sauvage* (3,229 m., 10,594 ft.), on its E., whence a very striking view of the *Grandes Rousses* is obtained. A traveller bound from *Clavans* for the South Summit of the *Grandes Rousses* should bear to the N.W. before the waterfall, and keep up the pastures high above the right bank of the *Ferrand*, thus gaining the *Grand Sablat* gl. The icefall of this glacier is not, however, practicable under all circumstances, and in that case it would be best to go to the *Quirliès* gl. (as above), and from its S. bit climb up to the *Col du Grand Sablat*, on the S.E. ridge of the desired peak, between it and the *Mont Savoyat*; or if preferred it is quite possible to gain the *Mont Savoyat* (3,340 m., 10,959 ft.) by its S.E. arête, and to simply follow the ridge in the same direction to the S. Summit.

#### ROUTE E.

BOURG D'OISANS TO LA CHAMBRE.  
ASCENT OF THE GRANDES ROUSSES.

Steam tramway to *Rochetaillée*; char road to *Rivier d'Allemont*, or *Vaujany*; thence mule path or foot path to *St. Coloman des Villards*, whence a char road leads to *La Chambre*.

11 $\frac{3}{4}$  hrs. by the Olle valley, 10 $\frac{3}{4}$ -11 $\frac{1}{2}$  hrs. by Vaujany.

Although the distance in a direct line from Bourg d'Oisans to La Chambre is greater than that to St. Jean de Maurienne (described in the preceding Rte.) the way is not much longer, and certainly less laborious. The track crosses the *Col du Glandon*. This pass is most easily reached by following the very winding course of the Olle torrent, but there are two short cuts by the Cols du Sabot and du Couard. A guide is scarcely required for the way through the Olle valley, but it might be difficult for a stranger to find the short cuts without assistance.

From Bourg d'Oisans the new steam tramway (Rte. A) should be taken for 20 min. (4 $\frac{1}{2}$  m.) as far as the *Rochetaillée-Allemont station*, at Les Sables, close to the confluence of the Romanche and the Olle. Thence a char road crosses first the Romanche by the *Pont des Sables*, soon the Olle by the *Pont de Pernière*, and then runs along the r. bank of the Olle to the large village of **Allemont**, 800 m., 2,625 ft. (1 hr.) This overlooks the hamlet of *La Fonderie*, and is itself overlooked by the ruined castle of *Rochechinard*, which commands a magnificent view of the glaciers of the Grandes Rousses and the other neighbouring mountains. (For the ascent of Belledonne from the Club hut, 3 hrs. distant, see Rte. I; for the way to the Fare Club hut, 4 hrs. distant, see below; and for the excursion to the Sept Laux, Rte. G.) The ranges enclosing the valley above Allemont are extraordinarily rich in metallic ores, which, elsewhere, are rarely or never found together. Neither the iron works nor the silver mines are now, however, worked, whether from the inherent difficulties of the undertaking or from want of capital and skill in the management.

☐ The silver mines of *Chalanches*, discovered in 1767, are situated on the

mountain slopes W. of and 1,200 m. (3,937 ft.) above the village. They may be reached in 2 $\frac{1}{2}$  hrs., and cannot fail to interest the mineralogist. On this single mountain gold, silver, mercury, nickel, cobalt, copper, zinc, iron, manganese, and antimony have been found variously combined, besides beds of anthracite. ☐

From Allemont the char road continues up the Olle valley, soon crossing to the l. bank, and recrossing to the r. bank, after traversing the *Flumet*, coming down from Vaujany. The valley runs due N. for 2 hrs. to the hamlet of *Rivier d'Allemont* (1,280 m., 4,200 ft.), which stands several hundred feet above the stream. The scenery is rich and pleasing, with some fine views of the surrounding mountains. Above Rivier (here the track to the Sept Laux turns off—Rte. G) the Combe d'Olle bends to the E., and the scenery becomes wilder. The mule path descends to the level of the Olle, and, passing close to the fine waterfall, enters the very narrow and picturesque gorge of *Maupas*. At the further end, the *Grande Maison*, a large chalet, used by the Provençal shepherds, is reached (2 $\frac{1}{4}$  hrs.) This is in a small pasture basin, and opposite the junction of the Olle with the *Cochette* torrent, which descends N.W. from the Grandes Rousses. (Here fall in the tracks over the Cols du Sabot and du Couard : see below.) The main valley here turns N.E., and becomes much broader, and one long series of pasturages. Many tributary torrents are passed. (The first on the r. bank is the *Lanne*, and leads up to the *Col de l'Agnelin*, by which the inn at the Sept Laux may be reached in 4 hrs. from the Grande Maison.) Some way beyond the path passes below the *Quatre Maisons* or Riou Claret chalets (hence the Rocher Blanc or the Rochers de l'Argentière can be ascended : see Rtes. G and H). 1 $\frac{3}{4}$  hr. above the Grande Maison the path gains the last huts (*Plan du Seuil*) in the Olle valley, close to the



junction of the two torrents which make up the Olle. One of these descends from a wild glen, the *Combe de Bramant*, containing a succession of small lakes, of which the highest lies at the N. end of the chain of the Grandes Rousses: through it, or the ravine of the Rif Blanc, rather further W., the great gl. of St. Sorlin can be attained from the Olle valley in about 5 hrs. The other arm of the Olle valley leads in 20 min. nearly due E. to the *Col de la Croix de Fer* (2,062 m., 6,765 ft.), whence it is  $1\frac{1}{2}$  hr. to St. Jean d'Arves, on the route from Bourg d'Oisans to St. Jean de Maurienne, described in the preceding Rte. (This course might be taken to St. Jean de Maurienne, but it is much more circuitous than that by the Col des Prés Nouveaux, save for travellers coming from Allevard or the Sept Laux.)

The path to La Chambre quits that of the Croix de Fer about 5 min. beyond the last chalets, and turning to the N.E. mounts in  $\frac{1}{4}$  hr. to the huts of *Plan du Col*, on the *Col du Glandon* (1,951 m., 6,401 ft.), which is at the head of a lateral glen, the *Combe du Glandon*, or *des Villards*, descending in a nearly straight line to the valley of the Arc. By the route we have just described the Col is about 2 hrs. from the Grande Maison, or  $7\frac{3}{4}$  hrs. from Bourg d'Oisans. There is a pretty view from the Col, looking down this glen towards the mountains above Moûtiers, in the Tarentaise. The descent by zigzags is at first rather rapid, and then becomes more gentle, following first one, then the other, bank of the torrent, and passing many chalets in rich pastures. On the l. several glens lead to the passes to Allevard described in Rte. H. About  $1\frac{1}{2}$  hr. from the Col the large village of *St. Colomban des Villards* is reached, whence a char road leads in 7 m. to La Chambre.  $\frac{1}{2}$  hr. below St. Colomban is the first of the scattered hamlets that make up the commune of *St. Alban des Villards*. The

valley of the Arc is gained about 1 m. above La Chambre (§ 7. Rte. A), which is thus about 4 hrs. from the Col, or  $11\frac{3}{4}$  hrs. from Bourg d'Oisans.

A glance at the map will show that the valley of the Olle between Allemont and the Col du Glandon describes a wide curve, and thereby involves a long détour. Hence there are several short cuts, which pass by the village of *Vaujany*. Vaujany may be reached from Allemont in  $1\frac{1}{2}$  hr. either direct by a char road (5 m.) which quits that up the Olle valley after it has crossed the Flumet, or by another on the l. bank of the Flumet past *Oz*, a hamlet surmounted by the remains of an ancient stronghold. **Vaujany** (1,253 m., 4,111 ft.) lies in the Flumet glen, and 25 min. higher is *La Villette*, at the junction of the two streams which join to form the Flumet. By keeping up the N. branch the *Col du Sabot* (2,100 m., 6,890 ft.) is gained in 1 hr., and the Grande Maison in 40 min. more. If the N.E. branch be followed, the *Col du Couard* (2,130 m., 6,989 ft.) is attained in less than  $1\frac{3}{4}$  hr., and then by the Cochette ravine the Grande Maison in a long hour more. Thus by the Sabot the distance from Allemont to the Grande Maison is  $3\frac{3}{4}$  hrs., and by the Couard  $4\frac{1}{4}$ — $4\frac{1}{2}$  hrs., while the round through the Olle valley takes  $4\frac{1}{4}$  hrs.

*Ascent of the Grandes Rousses.* Between the valley of the Olle and those of the Ferrand and Arvan (see Rte. D) rises the considerable snow-clad mass of the *Grandes Rousses*, which extends about 6 m. from S.S.W. to N.N.E. It forms a long ridge crowned by several peaks, the two highest being in the centre, and said to be both of exactly equal height (3,473 m., 11,395 ft.) On the W. side numerous short and steep glaciers are drained by torrents which, after forming two series of small lakes on two successive rocky terraces (called *Petites*—the higher—and *Balmes Rousses* respectively),

flow into the Olle through steep ravines. On this side the best starting point is the *Fare Club hut*. On the E. side the glaciers are larger and less inclined, those of St. Sorlin and Sarennes at the N. and S. ends being very extensive snowfields. The St. Sorlin glacier feeds the main branch of the Arvan; those of Quirliès and Grand Sablat pour their streams into the Ferrand (which unites with the Romanche at Le Freney), while that of Sarennes sends forth a torrent which soon bends sharply to the W., and joins the Romanche opposite Bourg d'Oisans. *Clavans d'en Haut*, in the Ferrand glen, and the *Aigues Rousses huts*, at the head of that of the Arvan, are the best starting points on the E. side of the range (see Rte. D). Three principal passes traverse this chain—the *Col de la Pyramide* (to the S. of the S. Summit) to the Sarennes gl., the *Brèche des Grandes Rousses* (between the S. and N. Summits) to the Quirliès glacier, and the *Col de la Cochette* (N. of the N. Summit) to the St. Sorlin gl. On the E. side the lateral passes of the *Col du Grand Sablat* and the *Col des Quirliès* cross the ridges thrown out by the main chain.

The **N. Summit** (locally called *L'Etendard*) was first climbed in 1863 by Prof. Bonney and Messrs. W. and G. S. Mathews, who started from the highest hut in the Cochette glen and ascended by the rocky N. face. It is now usual to start from the **Fare Club Hut** (belonging to the S.T.D.), 2,216 m., 7,321 ft., which lies rather above the lower lake terrace, and may be gained from Allemont in 4 hrs. by way of Oz and the Carrelet lake. Thence the upper lake terrace is reached, and a N.E. direction kept till the *Col de la Cochette* (c. 3,100 m., 10,171 ft.), on the E., can be attained by the *Rousses* gl. and a steep rocky wall (3 hrs.) Hence the N. arête or the N.E. snow slope is climbed to the summit (40 min.),

which may also be gained in 2 hrs. from the *Rousses* gl. by mounting the rocky N.W. spur. The panorama which is thence obtained is extremely extensive, and the excursion is most highly to be recommended. It is, of course, easy to descend from the Col across the St. Sorlin gl. in a slightly N.E. direction to the *Aigues Rousses huts* (2 hrs. or less), whence a path goes down to the head of the Arvan glen, and reascends the opposite slope to the grassy *Col d'Ornon* (c. 2,000 m., 6,562 ft.—see Rte. D. 1); a second descent to the Arvan (which makes a huge loop), followed by a second ascent, brings the traveller to St. Jean d'Arves in 2½ hrs. from *Aigues Rousses*.

The **S. Summit** (sometimes called *Pic Bayle*) was first attained in 1874 by M. Bayle, the *curé* of Oz. From the Club hut it is best reached by way either of the *Col de la Pyramide* (c. 3,380 m., 11,090 ft.) or of the *Brèche des Grandes Rousses*. The former Col (whence Bourg d'Oisans may be reached by the Grand Sablat and Sarennes gls.) is easily gained in 2½ hrs. from the Club hut by snow slopes, and the peak by the easy snow slopes of the Grand Sablat gl. in ½ hr. more. The *Brèche des Grandes Rousses* (c. 3,100 m., 10,171 ft.) can be gained without difficulty in about 3 hrs. from the Club hut (the descent to the Quirliès gl. is not easy, owing to a short but very steep icefall), whence the N. arête, rocky at first, then snowy, leads to the summit in 1½ hr. more.

A very fine expedition, recommended to active mountaineers, is to ascend the S. Summit from the Club hut by the *Col de la Pyramide*, as described above, then to go down by the ridge to the *Brèche des Grandes Rousses*, and to remount by the difficult rocky S. arête of the peak in 3 hrs. to the N. Summit, and reach St. Jean d'Arves by the *Col de la Cochette* route. If it is desired to avoid the hard S. arête of the N.

Summit (hitherto climbed but once, by Mr. Coolidge, in 1887) it is easy to descend from the Col du Grand Sablat (just S.E. of the S. Summit) to the Quirlyies gl., to traverse both branches of it in a N. direction, and then the Col des Quirlyies to the St. Sorlin gl., whence the N. Summit can be attained by the usual route, and St. Jean d'Arves reached by the Col de la Cochette route. This last traverse is specially convenient when the start is made from a point on the E. side.

#### ROUTE F.

##### GRENOBLE OR CHAMBÉRY TO ALLEVARD. EXCURSIONS AND PASSES FROM ALLEVARD.

Allevard is most easily reached from the *Pontcharra* station (§ 10. Rte. B), on the railway between Grenoble (26 m. distant) and Chambéry (13 m. off). Thence a new steam tramway runs up to Allevard (9 m.) This line mounts along the right bank of the Bréda through very beautiful park-like scenery and commands pleasing views of the surrounding mountains. Near the village of *Détrier* (5 m.) the valley turns sharply to the S., and the line, always keeping to the right bank of the Bréda, mounts gradually above the stream which flows in a deep gorge below. The snowy mass of the Gleyzin appears to close the head of the valley. There is also a carriage road from Pontcharra (in 8 m.) along the left bank of the Bréda, and another (see below, *a*), very picturesque, from the Goncelin station, 7 m. nearer Grenoble than Pontcharra.

The sulphur waters of **Allevard** have only of comparatively recent years attracted notice, but are now annually frequented by many hun-

dreds of visitors. In composition and qualities they are said to resemble those of Eaux Bonnes, in the Pyrenees. Allevard, no doubt, owes much of its attraction to the beauty of its scenery and the mildness of its climate, which is unusually free from fog. The village stands on both banks of the Bréda, at a height of 475 m. (1,558 ft.) The Etablissement Thermal has very lately been rebuilt, and much improved. The Château is not remarkable, but the grounds are prettily laid out, and much resorted to by visitors.

Many excursions can be made in the environs of Allevard, for details of which consult Joanne's 'Alpes Dauphinoises,' vol. i. (1890), Rte. 26, or the Guide Book published in 1895 by the local Syndicat d'Initiative. That most frequently made is to the rocky *cirque* called the *Bout du Monde* ( $\frac{1}{4}$  hr.), passing the great iron foundry on the way. 20 min. from the Baths is a curious ruin (now restored inside) commanding a fine view: it is called the *Tour du Treuil*, and dates from the ninth or tenth century. A charming excursion (2 hrs. by carriage road) is past Arvillard (5 m.) and through the Bens glen to the picturesquely situated ruins of the *Chartreuse de St. Hugon* (827 m., 2,713 ft.), founded c. 1175 by St. Hugh of Grenoble. The route passes by the remarkable Pont du Diable, whence a pedestrian may vary the return by regaining the high road at *Pont de Bens* by way of *Montgaren*.

The ascent of the *Brame Farine* (1,231 m., 4,039 ft.), a point N.W. of the village, in the ridge between the valley of the Bréda and that of the Isère, may be made in  $1\frac{1}{2}$  hr. by a mule path, which passes by the hamlet of *Crozot*. The ridge is thickly wooded, so that it is only from two or three points that an uninterrupted view—extending to the glaciers of the Tarentaise—can be obtained. (To the S. the *Cinq Pointes*, accessible from the Col de



Bariot—see *a.* below—command an even finer view.) In descending from the Brame Farine chalet (20 min. below the top) visitors often avail themselves of the sledges which are used for the conveyance of wood, reaching the Baths in 15 min. This descent *à la ramasse* has been vividly described by M. Alphonse Daudet in 'Numa Roumestan.' S. of the Baths the *Trillat* (1,359 m., 4,459 ft.), on which are the extensive iron mines that play an important part in the history of Allevard, is often ascended ( $1\frac{1}{2}$  hr.) for the sake of the view.

More energetic persons will prefer to ascend the *Petit Charnier*, 2,124 m., 6,969 ft. ( $4\frac{1}{2}$ –5 hrs.), or the *Grand Charnier*, 2,564 m., 8,412 ft. (6 hrs.), to the E. of the Baths (see Rte. H. 1). The way lies through the Veyton glen to the *Col de Claran* (horses go as far as the Col), to the N.W. of the *Petit Charnier*; the Col can also be reached by the Grand Collet ridge on the N.W. From the Col the *Petit Charnier* is reached in  $\frac{3}{4}$  hr.; the *Grand Charnier* is  $1\frac{1}{4}$  hr. further on, and can also be attained from the Col de Bourbière (between the Bens and Veyton glens), on the S.E.

The great excursion from the Baths is that to the *Sept Laux*, described in the next Rte. The best headquarters for climbers in that group is at Le Curtillard.

The principal passes from Allevard to the Romanche and Arc valleys are described in Rtes. G and H respectively. Many other easier passes lead in various directions (especially to the valley of the Arc, on the E.), and may be briefly noticed here.

(*a*) *To Grenoble.*—A much-frequented carriage road passes by *St. Pierre d'Allevard* (2 m.), where a ruined tower is the only remaining vestige of a Cluniac monastery, dating from the eleventh century. 2 m. further is the village of *Morétel*, near which are seen the remains of two ruined castles. In traversing by a comparatively low pass the ridge which

separates the Bréda from the Isère the road commands a fine view of the range of the Grande Chartreuse, opposite. About 7 m. from the Baths is *Goncelin*, a railway station 19 m. from Grenoble. Another carriage road (very picturesque) leaves the last-named route at *Saille* (3 m. from the Baths), crosses the *Col de Bariot*, 1,053 m., 3,455 ft. (hence the Cinq Pointes may be ascended), and descends by Theys to *Tencin* station, 16 m. from Grenoble.

(*b*) *To Chamousset.*—A char road leads in about 5 m. to Arvillard, and thence in 2 m. to *La Rochette* (2 m. by tramway from Détrier), in the valley of the *Gelon*. Following one or other bank of that stream, it reaches Chamousset station (§ 7. Rte. A), in the valley of the Arc, in about 20–22 m. from the Baths.

(*c*) *To Aiguebelle.*—The *Gelon* torrent makes so sharp an angle at *La Rochette* that by turning slightly to the right at that village from the road just described it is possible to ascend the upper *Gelon* valley by a carriage road, and at its head reach by mule path a low pass, the *Col de Mont Gilbert* (1,271 m., 4,170 ft.), by which Aiguebelle is attained in  $5\frac{1}{2}$  hrs. from the Baths.

(*d*) *To Epierre.*—Three paths lead hither, but, though the distance in a direct line is less than to Chamousset or Aiguebelle, from 6 to 7 hrs. are required. The easiest, but most circuitous, way is by *La Rochette*. The road mounts hence by the left bank of the *Gelon*, passing the hamlets of *Presle* and *Le Verneil* ( $2\frac{1}{2}$  m.), whence a mule path turns to the S.E. through a lateral valley leading to the *Col d'Arbarétan* or *Herbariétan* (1,847 m., 6,060 ft.), and then descends to *St. Pierre de Belleville* (5 hrs.), on the l. bank of the Arc, about  $1\frac{1}{2}$  m. below Epierre. Another path mounts from Presle by the glen of the *Joudron* to the *Col de la Perche* (c. 2,000 m., 6,562 ft.),  $2\frac{3}{4}$  hrs. from Presle. From the Col the easiest way is to descend the Ar-

barétan ravine to the N.E., which leads to St. Pierre de Belleville ( $1\frac{1}{2}$  hr.) Another, and rather shorter, way is to pass a second Col, lying to the E. of the Col de la Perche, which leads direct to *St. Léger*, a short distance above Epierre on the opposite or l. bank of the Arc.

(e) *To St. Rémy*.—The most direct course from Allevard to the upper valley of the Arc is by the *Col de la Fraîche* (2,181 m., 7,156 ft.), which leads by a path in 6 hrs. to St. Rémy, about half-way between Epierre and La Chambre. From Arvillard the road follows the r. bank of the Bens torrent for about 1 hr. to the Chartreuse de St. Hugon (2 hrs. from the Baths), mentioned above. Keeping to the N. side of the valley, often called the *Combe de St. Hugon*, the foot path reaches the hamlet of *Plan* in  $\frac{1}{2}$  hr. further, and then, ascending by zigzags the mountain slope to the l., attains the Col in  $2\frac{1}{2}$ –3 hrs. from the Chartreuse. From the summit St. Rémy is reached in  $1\frac{1}{2}$  hr. of rapid descent. By a slight détour of less than  $\frac{1}{2}$  hr., through wilder and more striking scenery, the traveller may reach another pass, the *Col d'Arpington* (2,225 m., 7,300 ft.), lying a short distance further S. than the Col de la Fraîche. The paths unite again a short distance above St. Rémy.

#### ROUTE G.

##### ALLEVARD TO BOURG D'OISANS. THE SEPT LAUX.

7–8 hrs. to the inn at the Sept Laux by char road to Fond de France, and mule path thence; 6–7 hrs. to Bourg d'Oisans by foot path to Rivier d'Allemont, char road thence to La Rochetaillée station, and so by steam tramway to Bourg d'Oisans.

This is an interesting excursion, but the distance is too great for a

day's walk (unless under exceptional circumstances), and it is better to sleep at Le Curtillard, or at the inn at the Sept Laux. The Col du Merdaret and the Col de la Coche enable a traveller to go direct from the Sept Laux to Grenoble, but it is probably more convenient now to descend to the new steam tram line at La Rochetaillée.

The char road from Allevard to the upper valley of the Bréda follows the r. bank of that stream, the Gleyzin and its glaciers forming a fine feature in the view in front. It is 4 m. to *Pinsot*, at the junction of the Bréda with the Gleyzin torrent. (For the pass to La Chambre see next Rte., as well as for the ascent of the *Pic du Gleyzin* (2,789 m., 9,151 ft.)) The ascent continues, not steep, along the same bank of the Bréda to *La Ferrière* (3 m.), and a short distance beyond, after passing *Grand Thiervoz*, is *Le Curtillard* (9 m., or 2 hrs.' drive from Allevard), with the good little H. de Bains, the best starting point for excursions in this valley. (For the Col de Valloire to La Chambre, see next Rte.) The road here passes to the l. bank of the Bréda, and in  $\frac{1}{2}$  hr. more comes to an end at the hamlet of *Fond de France* (see next Rte. for the Col de la Croix to La Chambre), which is at the mouth of the Combe de Madame, and at the foot of the steep ascent towards the Sept Laux. The basin of the Fond de France is formed by the union of three lateral valleys—those of *Madame*, *Pleyney*, and *Bréda*. At its upper end is the fine *waterfall of Pissou*, which is seen from afar, and may be visited by a détour of a few minutes. Near it the path mounts steeply up a slope where beeches are still seen among the birches and pines to a wooded plateau, whence a second and steeper ascent brings the traveller ( $1\frac{1}{2}$  hr. from Fond de France) to the *Gleyzin de la Ferrière* chalet (1,610 m., 5,282 ft.)

[This is the best point from which to gain, in 2 hrs., by a path

winding round the mountain slopes to the S., and then making a great loop towards the N., the *Col du Merdaret* (1,823 m., 5,981 ft.), which commands an admirable view of the peaks of the Allevard group. It may also be gained by a good path from La Ferrière. A path leads down in a N.W. direction to *Theys* (2 hrs.), a village which is said to have the finest position in the Graisivaudan valley. It is 4 m. hence by a char road to *Tencin* station (§ 10. Rte. B), 16 m. from Grenoble. This is one of the most frequented routes from Grenoble to the valley of the Bréda, and the most agreeable, though of course not the shortest, from Allevard or the Sept Laux to that city.]

The Gleyzin chalet stands on a shelf, and a third ascent, by many zigzags, is required (a pretty waterfall of the Bréda is passed on the way) to gain the *Lac Noir*, the first of the Sept Laux. The way henceforward is nearly level, and passes between the *Lac de la Motte* and the *Lac de Cotepeu* (leaving the Lac Blanc above on the l.) before skirting along the W. shore of the *Lac du Col* (pronounced Cos), above which stands (4 hrs. from Fond de France) the convenient little **mountain inn** (2,185 m., 7,169 ft.) built here in 1881 by the indefatigable 'Société des Touristes du Dauphiné,' which has done so much to attract travellers to the Dauphiné Alps. There is a boat on the lake. The scenery has more of wildness than sublimity, but it affords an agreeable change for water drinkers from Allevard or Uriage, and even for those who do not limit themselves to snow-clad mountains.

【Several of the neighbouring points can be ascended. That usually visited is the **Rocher Blanc**, or **Pic de la Pyramide** (2,931 m., 9,617 ft.), which is the highest, and so commands the finest view, while the traveller may descend from it on several different sides. The ascent is made by passing round the N. end of the Lac du Col, then going up stony

slopes to a small gl., and mounting by this or its l. bank to the gap called *Col de la Pyramide*, or *d'Anyranthe*, just S. of the peak (2-2½ hrs.) Hence the summit is ½ hr. distant by rounding a little on the E. side, and then following the ridge. The view is very fine, including the Mont Blanc chain, the Grand Combin, and many of the Zermatt peaks, besides all the great summits of the Tarentaise and the Dauphiné, not to mention the nearer points, the Lac du Bourget, and a bit of the Graisivaudan valley. From the Rocher Blanc it is easy to descend to the N.E. by a small gl. into the Combe de Madame, and so reach the Pissou waterfall in about 3 hrs. from the summit. From the gap to the S. of the peak the traveller can go down a small gl., or the rocks on its r. bank, to the *Riou Claret* glen, through which a path along the l. side leads down to the Quatre Maisons chalets, in the upper Combe d'Olle (1½-2 hrs.), on the Col du Glandon track (Rte. E), which may be followed either to La Chambre or to Bourg d'Oisans. (By crossing the Col de la Croix de Fer (Rte. E), at the very head of the Olle valley, St. Jean d'Arves (Rte. D) may be gained in 3-3½ hrs. from Quatre Maisons.】

The Lac du Col is the highest of a group of lakes lying amidst the cluster of peaks that separate the Combe d'Olle from the sources of the Bréda. The largest, which lie near the path, are seven in number, three being beyond the Col des Sept Laux, and so having a S. outfall. There are several small lakes at hand, so that the total number is eleven.

From the inn an ascent of 5 min. leads to the *Col des Sept Laux* (2,184 m., 7,166 ft.), and then the track runs S. over a dreary rock plateau, with two lakes, to the **Col de l'Homme** (1 hr.), whence a very fine view is gained of the lower bit of the Olle valley, just at the spectator's feet, with the Grandes Rousses and other snowy peaks as a background.

【A faintly marked path winds hence



round the mountain buttresses in a S.W. direction to gain the *Col de la Coche* (1,979 m., 6,493 ft.), 2-3 hrs. from the inn. Hence the foot path descends to *Prabert* in  $2\frac{1}{2}$  hrs., whence a char road leads in  $1\frac{1}{2}$  hr. by *Laval* to *Brignoud* station, 12 m. from Grenoble. If bound for Grenoble it is more direct from the inn not to cross the *Col de l'Homme*, however, but the *Col de la Vache*, rather further to the W. over the same ridge, whence too there is an easy descent to *Rivier*. ]

The descent to *Rivier d'Allemont* is long and steep. A faint track leads down a narrow rock gorge, bearing the alarming (but totally unjustified) name of '*Cheminée du Diable*.' (It is easy to avoid it, by keeping by the stream all the way, or to cross it, when some way down, to its r. bank, and then bear S.W. past the *Chômes* huts.) In either way the hamlet of *Rivier d'Allemont* is attained ( $1\frac{1}{2}$ -2 hrs. from the *Col de l'Homme*), and thenceforward the *Col du Glandon* route (Rte. E) is followed to the *Rochetaillée* station,  $4\frac{1}{2}$  m. from *Bourg d'Oisans*, or 26 m. from Grenoble

#### ROUTE H.

##### ALLEVARD TO LA CHAMBRE.

A glance at the map suffices to show that the line of peaks extending from the *Rocher Blanc* to the *Pic du Frêne* divides two glens which are roughly parallel to each other. That on the W. side is the upper valley of the *Bréda*, described in the preceding Rte., while that on the E. (running from N.E. to S.W. rather than due N. and S., like the *Bréda* glen) is the *Combe des Villards*, opening out into the *Arc* valley at *La Chambre*. There are thus many passes leading over this ridge, through the glens on either side; while (as was pointed

out in the last Rte.) one way down the *Rocher Blanc* leads to the *Col du Glandon* route (which goes over to the *Villards* glen), and another to the *Allevard* side of the *Col de la Croix*, so that it is possible to take that summit on the way to *La Chambre*. The passes proper are described in order from N. to S.

1. *Col du Merlet*.—Leaving *Allevard* by the char road leading above the iron works in the direction of the *Fond de France* and *Sept Laux* (see Rte. G), the hamlet of *Panissières* is traversed, and the road left where it crosses the *Veyton* torrent by a bridge. The mule track now turns S.E. and follows the *Veyton* glen, sometimes close to the stream, sometimes at a height above it, till in  $2\frac{1}{4}$  hrs. it reaches the *Chevrette* saw mill.

[Hence the *Petit Charnier* (2,124 m., 6,969 ft.) is easily ascended in  $2\frac{1}{2}$  hrs. by the *Col de Claran* on its N.W. The *Grand Charnier* (2,564 m., 8,412 ft.) is  $1\frac{1}{4}$  hr. further off, but is better climbed from the S.E. by way of the *Col de Bourbière* (see below). The latter peak commands an extensive view, but is overlooked by its neighbour, the *Pic du Frêne*.]

The path to the *Col*, soon after passing *Chevrette*, reaches the base of a long and steep slope, called *Tirequoy*. It now becomes a mere foot path, and ascends this slope by numerous zigzags. This leads to a rocky hollow, followed, after another ascent, by a second, and this again by a third, still wilder and more desolate.

[At the last chalet a path bears to the N.E. over the *Col de Bourbière* to the head of the *Bens* glen, whence there is a rough pass, the *Col du Frêne* or *de la Pierre*, by which *St. Rémy*, a little below *La Chambre*, may be gained in 7 or 8 hrs. from the *Baths*. Near the head of the *Veyton* glen a ravine to the N.E., that of *Frêne*, affords the best route to the summit of the *Pic du Frêne*, or *Grand Clocher du Frêne* (2,808 m., 9,213 ft.), the highest

point in these parts: it is gained in 3 hrs. from the head of the Veyton glen by way of the *Jérusalem* chalet.]

From the head of the glen the Merlet path turns due E., and soon disappears amid the loose rocks, intermixed with patches of snow, that lead up to the *Col du Merlet*, 2,294 m., 7,527 ft. (5 hrs. from Allevard), with the *Pic du Merlet* (2,566 m., 8,419 ft.) on the N. The descent lies at first down a huge pile of débris, below which is the highest chalet on the E. side. Keeping to the N. side of the torrent, two hollows, forming successive steps in the descent, are passed, and then the torrent is crossed to and fro three times, till, after passing the *Vellé-chaud* chalet, the traveller finds himself on the verge of a precipitous slope, down which the stream plunges in a succession of rapids and waterfalls. The track keeps to the r., and winds down the mountain-side till, in the valley below, it falls into a rough char road. This leads to *Le Molard*, the chief hamlet of *St. Alban des Villards*, 1½ hr. (There is a shorter way by following the bank of the torrent itself.) The char road thence descends the Glandon or Villards valley to La Chambre (1½ hr.), reached in 8 hrs. from Allevard.

**2. Col du Grand Glacier.**—The track to this pass starts from *Pinsot*, 4 m. from Allevard on the road leading up towards the Sept Laux (Rte. G), and ascends the Gleyzin glen. After passing several chalets, those of *Combe Grasse* are reached (3 hrs.), where the mule path comes to an end.

[Hence the *Pic du Gleyzin* (2,789 m., 9,151 ft.) can be best climbed in 4½ hrs. from the gap to its S., though the ascent is usually made by the Veyton glen by the N. face.]

A long ascent leads to the Gleyzin gl., over which (or by its N. side) the pass (2,740 m., 8,990 ft.) is gained (3 hrs.) It lies to the S. of the *Pointe du Grand Glacier*

(2,827 m., 9,275 ft.), which is probably accessible from this point.

[Hence the *Puy Gris* (2,992 m., 9,816 ft.), the highest summit in the ranges round Allevard, can be climbed by gaining the Col of the same name to its W., and then clambering over a ridge of rotten rocks, or by going from the Col down to the *Clévaus* gl., and thence by a gully attaining the W. ridge higher than the great tower which forms the chief obstacle. About 1½ hr. suffices from the Col du Grand Glacier.]

The descent is made by the *Puy Gris* gl. and the deep-cut *Arbe* glen to *St. Colomban des Villards* (2 hrs.), some way above *St. Alban des Villards*, and about 7 m. by road from La Chambre.

**3. Col de Valloire.**—The starting point for this pass is *Le Curtillard* (9 m., or 2 hrs.' drive from Allevard). The way lies to the S.E. through the *Grande Valloire* ravine. To avoid the narrow gorge through which the torrent rushes to join the *Bréda*, the path mounts along the slopes above its r. bank, then crosses to the opposite side, and makes a détour to reach the farther side of a lateral ravine. In less than 1 hr. the path returns to the r. bank at the Upper Valloire chalets, and mounts easily to the end of the glen, which is occupied by three small lakes. (Hence the *Col de Comberousse* enables a traveller to reach the ridge W. of *Puy Gris*, and so to take this peak on the way from *Le Curtillard* to *Pinsot* and *Allevard*.) A steeper ascent, finally over a small gl., leads to the *Col de Valloire* (c. 2,720 m., 8,924 ft.), just N. of the *Rocher d'Arguille* (2,887 m., 9,472 ft.), 2 hrs. 20 min. (leisurely walkers take 3 hrs.) from *Grand Thiervoz*, near *Le Curtillard*. On the E. side the track keeps to the l. bank of the torrent, and, passing through the *Tepey* glen, in 2 hrs. reaches *St. Colomban des Villards*, whence it is 7 m. by road to La Chambre. In all the distance from *Grand Thiervoz* to La Chambre has

been done in 6 hrs. 35 min., but ordinary travellers will probably take longer. Joanne allows nearly 12 hrs. for the pass.

4. *Col de la Croix*.—Close to the waterfall of *Pissou* (Rte. G), above *Le Curtillard*, is the opening of the *Combe de Madame*, through which a track leads in 2-3 hrs. to the *Col de la Croix* (2,558 m., 8,393 ft.), at its head. Many zigzags lead down on the E. side to the very head of the Villards glen, through which the *Col du Glandon* route is followed to *La Chambre*. It is said that 4 hrs. suffice for the whole of the descent, but probably more is really required. Travellers are warned *not* to take a so-called short cut to the *Col de la Croix* from *St. Coloman des Villards* by the S.W. arm of the *Combe de Tepey* and the *Col de Brabant*. From the S.W. bay of the *Combe de Madame* the *Rocher Blanc* (2,931 m., 9,617 ft.) may be attained direct (see Rte. G). The highest and central point (c. 2,945 m., 9,662 ft.) of the fine rocky mass of the *Rochers de l'Argentière*, between that summit and the *Col de la Croix*, long defied all assaults, but was finally climbed in 1893 by way of a gully (accessible from N. and S.) which led up to the ridge to the E. of the peak, and then of the rocks of the N. face. The start was made from the *Riou Claret* huts, or *Quatre Maisons*, in the *Olle* valley, and the descent effected into the *Combe de Madame*.

#### ROUTE I.

GRENOBLE TO URIAGE. ASCENT  
OF BELLEDONNE.

Uriage is now best reached from Grenoble by the new steam tramway, which starts from the P.L.M. railway station, and takes about 1 hr. to traverse 8 m. (going on from Uriage by *Vaulnaveys* to *Vizille*, 6 m. further). At *Gières* (4 m.), on the main

line from Grenoble to *Chambéry* (§ 10. Rte. B), the traveller coming from *Chambéry* (35 m.) may join this Route. Beyond *Gières* the tramway mounts through the pretty wooded gorge of the *Sonnant*, past the hamlet of the same name, to *Uriage*, the station being at the N. end of the village.

*Uriage* (414 m., 1,358 ft.) is a hamlet of *St. Martin d'Uriage*, which is nearly 200 m. (656 ft.) higher up. Its waters were known to the Romans, but it is only since 1841 that, owing to the enterprise of the *Marquis de Ferriol*, the proprietor, *Uriage* has become a favourite resort of invalids, the waters being specially efficacious in the case of skin diseases and nervous affections. The annual number of visitors, almost exclusively French, is estimated at 5,000. The buildings are handsome and convenient, and include a fine Casino, as well as an admirably appointed *Etablissement des Bains*, &c., all built in an English park. Immediately above the village ( $\frac{1}{4}$  hr.) is the *Château* (507 m., 1,663 ft.), which contains a collection of local and Egyptian antiquities, some good pictures, and a natural history museum, all open to visitors. It belongs to *M. de St. Ferriol*, who is the owner of the entire place, and has laid out large sums in improvements. The village of *St. Martin d'Uriage* is a little way above the *Château*, and is frequented by those who desire greater quietness than can be obtained at the Baths themselves. There are many agreeable excursions in the neighbourhood. The *Montagne des Quatre Seigneurs* (940 m., 3,084 ft.) may be reached in  $1\frac{1}{2}$  hr., and commands a fine view, but its highest point is now crowned by a fort, and is therefore inaccessible to visitors. The *Cascade de l'Oursière* ( $3\frac{1}{2}$  hrs.), and the *Chartreuse de Prémol* ( $1\frac{3}{4}$  hr.), are often visited from *Uriage*, particularly by those who are on their way up *Chanrousse* or *Belledonne*.



These two mountains form the chief inducement for a mountaineer to visit Uriage. The ascent of **Chanrousse** is often made by pedestrians who do not undertake the more laborious escalade of Belledonne. The summit (2,255 m., 7,397 ft.) is marked by a cross, which from its great size is apt to mislead those who suppose themselves near the top of the mountain. The view is very fine, but to the N. and N.E. the panorama is closed by the higher summits of the Belledonne range. The usual way up it is to mount by a mule path to the picturesquely situated ruins of the old Carthusian house of *Prémol*, 1,095 m., 3,593 ft. ( $1\frac{3}{4}$  hr.), destroyed at the Revolution. (The *Col de Prémol* is  $\frac{1}{2}$  hr. distant, by a char road which descends in 2 hrs. to Séchilienne, in the valley of the Romanche. Rte. A). 2 hrs. beyond is the *Roche Béranger inn* (1,850 m., 6,070 ft.), built by the 'Société des Touristes du Dauphiné' (Alpine garden close by), and  $1\frac{1}{4}$  hr. further (always by mule path) is the summit of Chanrousse, 5 hrs. from Uriage. (There is a steeper and shorter way from Uriage for pedestrians by the *Recoin* gorge, E. of the Baths.) The most interesting way for the descent is to go by the *Lacs Robert* to the Cascade de l'Oursière ( $1\frac{1}{4}$  hr.), on the Belledonne route. (From those lakes a traveller bound for Bourg d'Oisans may reach the *Col des Grandes Escobailles* in 2 hrs., and descend in 1 hr. 40 min. more to Livet, in the valley of the Romanche. Rte. A.)

To a mountaineer the most interesting excursion to be made from Uriage is the ascent of **Belledonne**. (In these regions the  $\frac{1}{100000}$  French Government map is better than the  $\frac{1}{80000}$ .) This mountain is composed of three peaks — the *Grand Pic* (2,981 m., 9,781 ft.), the *Pic Central* (2,928 m., 9,607 ft.), and the *Croix de Belledonne* (2,903 m., 9,525 ft.), in order from N.E. to S.W. The last-named is that most frequently climbed from Uriage. A mule path mounts

from the Baths past St. Martin d'Uriage, and then through a thick forest to the striking *Cascade de l'Oursière* (1,480 m., 4,856 ft.), fed by the snows of Belledonne ( $3\frac{1}{2}$  hrs.) It then continues to ascend, in a N.E. direction, and, passing through several rocky and grassy basins, with small lakes, gains the natural amphitheatre of *La Pra*, at the upper end of which stands the inn built by the French Alpine Club ( $1\frac{1}{2}$ –2 hrs.), 2,145 m., 7,038 ft., where it is usual to pass the night before making the ascent.

Here falls in another path, coming from Domène, in the Graisivaudan, by Revel, and the *Crozet* lake, this tarn being very finely placed in a gorge between the Grande Lance de Domène and the Colon. The track then goes over the *Col de la Pra* to the inn, 5 hrs. from Domène, the way being marked throughout by the telephone poles. The Crozet lake can also be reached direct from Lancey, N.E. of Domène, by the gorge of Lancey. ]

Beyond the inn a fairly good mule path leads E. up a series of steps, past the smaller and the larger *Doménon* lakes, mountain tarns often frozen over in the summer. The foot track now becomes fainter and a N.E. direction must be kept, avoiding the snow slope on the N. which leads to the Col de Freydane. A steep slope of névé must be mounted, and so the *Col du Grand Doménon* (leading into the Baton glen) attained. The route now turns to the E., and the traveller finally reaches a considerable, nearly level, snow field, in which in hot summers a small lake is formed, though it sometimes entirely disappears. A further ascent of  $\frac{1}{2}$  hr. leads hence to the *Croix de Belledonne* ( $2\frac{1}{2}$ –3 hrs. from La Pra). With the slight drawback of the horizon being broken by the Grand Pic (which just hides Mont Blanc) the panorama is magnificent, as might be expected from the position of the peak, the westernmost high summit in the range of the Alps. The Croix is also accessible

from Allemont, in the Olle valley (Rte. E), by way of the **Club hut** (2,165 m., 7,103 ft.) near the Belle-donne lake (3 hrs.), whence a further climb up a steep couloir (of snow or stones, according to the season) leads to the foot of the final snow field described above, the summit being thus gained in  $1\frac{1}{2}$ -2 hrs. from the Club hut: the bit of this route above the hut is very steep and rapid, though toilsome rather than difficult. The Croix may also be reached from Les Sables, in the Romanche valley (Rte. A), or from Allemont by way of the *Baton* glen between the Grande Lance d'Allemont and the Grande Voudène, the Col du Grand Doménon being gained in 5 hrs., and the usual route there joined. The *Baton* glen is reached from Allemont by a steep and rapid path, which winds round the lower spurs running from the Grande Lance d'Allemont before gaining the bank of the *Baton* torrent, or better by the good path to the Chalanches mines ( $2\frac{1}{2}$  hrs.), and thence in 1 hr. by the Col de la Portetta.

The *Grand Pic* is more difficult of access than the Croix. It may be reached by the N.E. face (on which iron ropes are fixed) in 2-3 hrs. from the Club hut (mentioned above) at its S.E. foot, or in  $1\frac{1}{4}$  hr. by its N. face from the *Col de la Balmette* (accessible in  $1\frac{1}{2}$  hr. from the Club hut, or better in 3-4 hrs. from the La Pra inn by way of the Col de Freydane, beyond and N. of the larger Doménon lake). Of recent years (first in 1890) it has also been attained from the Croix by way of one side or the other (specially that on the S.E., on which iron ropes are now placed) of the jagged rock ridge between them: 1 hr. or less suffices for the good climber to go from one peak to the other over the *Central* peak.

Another excursion from La Pra is the ascent of the *Grande Lance de Domène* (2,813 m., 9,229 ft.), which is accessible in 2- $2\frac{1}{2}$  hrs. by way of the smaller Doménon lake, and the

rocky S. slope of the peak; it commands a fine view over the Graisivaudan. The rather higher *Grande Lance d'Allemont* (2,844 m., 9,331 ft.), to the S., is best climbed from Allemont ( $6\frac{1}{2}$  hrs.) by the Chalanches glen and the Col de la Portetta (S.W. of the peak), or from the *Baton* glen, which is gained from La Pra by the Col du Grand Doménon.

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## SECTION 9.

### PELVOUX DISTRICT.

As stated in the Introduction to this Chapter, the almost isolated group of high mountains, of which the best known peak is the Pelvoux, lies between the Romanche and Guisane, the Durance, and the Drac, in an irregular triangle, whose sides are about 45 miles long. If the level of the sea were raised 5,000 ft. the entire district would form a peninsula, connected with the main range of the Cottian Alps only by the narrow neck of land forming the Col du Lautaret. Nothing can be more irregular and complicated than the disposition of the ridges which go to make up this highland region; and the direction and grouping of the valleys show a similar absence of apparent order. The three ridges which include all the highest peaks, excepting the Ecrins and the Mont Pelvoux, show indeed indications of a regular plan, for they form the sides of a quadrangle, open to the W. (strictly N.W.), and following pretty closely the direction of the cardinal points. Further S. again the valleys show a general tendency to run E. and W.; but a number of lofty promontories, including peaks of 11,000 ft. and upwards, diverge in every direction, while between them

short and tortuous glens bear down the drainage of the glaciers which cover the upper level. The traveller coming from any other district of the Alps will be particularly struck by the way in which the peaks here are packed close together on countless short ridges, and by the number of steeply descending small glaciers, some of which are literally hanging glaciers. There are thus a really remarkable number of peaks to be climbed and passes to be traversed when the comparatively small area of the district is considered. But the scenery is as a rule stern and savage, in parts almost unbearably stony, while small steep rock steps bar the way down from the passes to the level of the streams in the valleys in so provoking and annoying a fashion that it has been said with truth that in Dauphiné a pass has never really been made till the torrent in the valley has been gained. The most extensive glaciers or snow fields in the Pelvoux group are the Mont de Lans gl., the Glacier Blanc, the Glacier Noir, and the Pilatte gl. Next after these come the Selle, Homme, Plate des Agneaux, Chardon, Sélé, Sellettes, and Lanchâtra gls. The loftiest summit of the group is the **Pointe des Ecrins** (4,103 m., 13,462 ft.), which rises nearly in the centre of the E. wall of the quadrangle. Like the Finsteraarhorn it can scarcely ever be seen from a village or a high road. It is attended by two lesser summits, the *Pic Lory* (4,083 m., 13,396 ft.)—the point of junction with the great E. wall—and the *Pic de la Bérarde* (3,980 m., 13,058 ft.), which are really but knobs on the Ecrins ridge. The second of the great summits of the district is the **Meije** (3,987 m., 13,081 ft.), one of the most splendid rock peaks in the Alps. It towers majestically over La Grave, on the Lautaret road, and has also two dependent summits, the *Pic Central* (3,970 m., 13,025 ft.) and the

*Pic Oriental* (3,911 m., 12,832 ft.) The Meije stands not very far W. of the point (called the *Pavé*, 3,831 m., 12,569 ft.), at which the E. and N. walls of the quadrangle join. In a very nearly corresponding position (but rather N. of the junction of the E. and S. walls) rises the **Ailefroide** (3,925 m., 12,878 ft.), with two minor points, a feature which is common to all the great Dauphiné peaks. This fine summit, with the Pelvoux, faces the Ecrins across the deep basin of the Glacier Noir, which is thus a spot to be visited by every traveller in these parts. 3,925 m. is the official height of the Ailefroide on the French Government map, but it is allowed on all hands that it is pretty certainly higher than the Pelvoux, and in 1862 Mr. Tuckett came to the conclusion (from the Pelvoux) that the real height was 3,959 m. (12,989 ft.) After or before the Ailefroide is the **Mont Pelvoux** (3,954 m., 12,973 ft.), with two minor tops, the only great peak in the group which is not on or near one of the walls of the quadrangle, standing rather E. of it, and so looking forth towards the Durance valley and Italy. Among the lesser but striking peaks of the group are the massive *Pic Gaspard* (3,880 m., 12,730 ft.), the splintered *Grande Ruine* (3,754 m., 12,317 ft.), the delicately beautiful *Montagne des Agneaux* (3,660 m., 12,008 ft.), the snowy mass of the **Sommet des Rouies**, 3,634 m., 11,923 ft. (perhaps the finest panoramic point in the district), the crags of the triple-pointed *Pic d'Olan* (3,578 m., 11,739 ft.), and the graceful *Roche de la Muzelle* (3,459 m., 11,349 ft.) The best headquarters in the district is **La Bérarde** (1,738 m., 5,702 ft.), which is just in the centre of the great quadrangle, and now possesses an excellent mountain inn. *La Grave*, on the Lautaret road, is the next best in all respects. *Monétier* and *Vallouise*



are too low for starting points for high ascents; but the former has a good inn, the latter only two bad ones, with a poor one at Ailefroide, above. The inns in the Valgaudemar, Valjouffrey, and Val de Champoléon are not adapted for a long stay. Those at *St. Christophe*, in a far better position, are singularly poor, but *Bourg d'Oisans* possesses what are now the best inns in the entire group. Unluckily the town is not well placed for mountaineers, and the same holds good even of the *Lautaret Hospice*, where the inn has been very much improved of late, and whence the Mont Cenis railway may be gained direct by the char road over the Col du Galibier. The mountaineer in the Pelvoux district will not, of course, fail to provide himself with the Dauphiné volume (1892) of the 'Climbers' Guides' series, and the accompanying revised edition of the admirable maps by M. Duhamel.

#### ROUTE A.

##### BOURG D'OISANS TO LA BÉRARDE. VALLEY OF THE VÉNÉON.

Char road to St. Christophe, post cart in 4 hrs. (12 m.); thence mule path (3 hrs.)

The highest ridges of the Dauphiné Alps form, as has been said, a quadrangle, closed to the N., the E., and the S., but open to the N.W. All the streams that fall into the interior of this great enclosure sooner or later unite with the *Vénéon*, which flows first W., then N.W., till it joins the Romanche, that drains the outer slope of the N., and a portion of the E. wall of this quadrangle. It naturally follows that the easiest way of reaching the centre of this highland region is to follow the valley of the *Vénéon* up to *La Bérarde*, at its

head. This hamlet consequently, and particularly since a good mountain inn was opened there in 1887, is the natural headquarters of the mountaineer who desires to explore most of the higher portions of the district.

From the plain or basin of Bourg d'Oisans (30½ m. by steam tramway from Grenoble: see § 8. Rte. A) the course of the *Vénéon* seems to be the natural prolongation of the valley of the Romanche, the gorge through which that stream descends from near the Col du Lautaret being too narrow to attract much attention at a distance.

The way to La Bérarde follows the Lautaret high road (§ 8. Rte. A) for 3 m. till this has crossed the *Pont St. Guillaume*, and then branches off to the S., soon running between high walls of limestone on either hand, which show that the traveller has entered the *Vénéon* valley, through which the drainage of many glaciers is borne down. Looking back, the plain wherein stands Bourg d'Oisans is seen backed by the bold crags of Belledonne. The road follows throughout the right bank of the *Vénéon* (which joins the Romanche a little below the Pont St. Guillaume), amid scattered blocks and through scenery which constantly increases in grandeur. The snowy *Tête de la Muraillette* towers overhead on the S. Soon the hamlet of *Les Gauchoirs* is seen in a pretty position on the opposite bank of the *Vénéon*, and at the mouth of the *Lauvitel* glen, through which there is a little frequented pass to the Valsenestre (Rte. F. *ad fin.*) At a turn in the main valley the picturesque village of *Vénosc* (for the path thence by the Col de l'Alpe to Le Freney, on the Lautaret road, see Rte. C. 1), at a height of 1,049 m., (3,442 ft.), on a green slope to the left, comes into sight, and this oasis in the midst of the desolate surroundings is very refreshing to the eye of the traveller. The luxuriant vegetation here is due to the presence of dark limestone and slate. A tongue of

this formation extends from St. Jean de Maurienne, on the N., across the Romanche and Vénéon valleys to the Valjouffrey, being at once distinguished by its greenness, which is very striking. The Vénéon valley lies in a trough amidst the surrounding crystalline rocks. The new char road does not mount to Vénosc, but traverses one of its hamlets, *Bourg d'Arud* (5 m. from the Pont St. Guillerme).

¶ For the Col de la Muzelle, leading to the Valsenestre, and the ascent of the Pic du Clapier du Peyron, see Rte. F. The chief ascent to be made from Bourg d'Arud is that of the *Tête de la Muraillette* (3,020 m., 9,909 ft.), which may be made in 5½ hrs. by way of the Muzelle lake, and the *Brèche du Vallon*, N.E. of the peak; from the Brèche it is easy to descend in 1 hr. to the Lauvitel lake, on the W., and thence to regain Bourg d'Arud in 1½ hr. The view from the summit is interesting, for the peak stands as a sentinel at the entrance of the Vénéon valley. ¶

Above Vénosc there is no exit from the main Vénéon valley save by high glacier passes over the lofty ranges which enclose it. There are few other valleys in the Alps which are so completely shut in. From Bourg d'Arud the road crosses to the left bank of the Vénéon, and mounts rapidly through a gorge unsurpassed for ruggedness and desolation. Some overhanging peak has here fallen, and left its shattered fragments (known as the 'Clapier de St. Christophe') as a memorial of the catastrophe. One huge slab has fallen across the stream, and forms the 'Pont Naturel,' which was traversed by the old mule path. The new road crosses a little higher up, just as it enters the stone-strewn plain called the 'Plan du Lac' (rather over 1 m. from Bourg d'Arud). Here the snowy summits of the *Tête des Fétoules* (3,465 m., 11,369 ft.) and some of its lower neighbours to the N. form a striking background. On the right there is a fine waterfall descend-

ing from the *Lanchâtra* glen, the peaks and passes around which are briefly noticed in Rte. F. c. The new road winds by gentle gradients up the stony slopes on the N.E. side of the valley above the Plan du Lac, but after passing the fine springs known as the 'Fontaines Bénites' mounts more steeply, being carried along a rocky shelf. After making some zigzags it traverses the *Diable* torrent by a bridge, whence there is a fine glimpse of the roaring torrent below, and by some more zigzags mounts round the churchyard to the village of **St. Christophe**, 1,470 m., 4,823 ft. (2½ m. from the Plan du Lac), the small *chef-lieu* of the Vénéon valley. It is built amid trees on the steep slopes between the S.W. foot of the Aiguille du Plat and the Vénéon, which roars far below. Opposite are the two summits of the *Tête de Lauranoure* (3,299 m., 10,824 ft., and 3,341 m., 10,962 ft.), while more to the left are the *Bec du Canard* (3,270 m., 10,729 ft.), and the white-faced *Tête des Fétoules* (3,465 m., 11,369 ft.), but the *Aiguille du Plat* (3,602 m., 11,818 ft.), immediately N.E. of the village, is not visible from it.

¶ All these peaks can be climbed from St. Christophe. The *Canard* is most conveniently taken from the La Lavey huts (see Rte. E. 4), whence too the *Fétoules* can be climbed; but if bound to the latter peak from St. Christophe direct it is quite easy, when the upper level of the La Lavey glen has been reached, in 1¾ hr. from St. Christophe, to bear at once to the S.E., and by way of the N. arête to gain the summit in 4¼ hrs. more. Either of the *Têtes de Lauranoure* may be gained in 4½-5 hrs. from St. Christophe by crossing the Vénéon, remounting to near the chalets of the Alpe du Pin, and then ascending the respective glaciers flowing from them, and the N.E. or N.W. arêtes: it should be carefully borne in mind that the *highest* summit is that most to the W., despite appearances from

St. Christophe. But the chief climb from St. Christophe is the **Aiguille du Plat**, one of the best situated summits in the district whence to study the diverging ridges *within* the great quadrangle of the Vénéon valley. It is attained without any real difficulty in rather over 5 hrs. from the village by way of the *Plat* glacier and the S.W. ridge, and the ascent is strongly recommended. If coming from La Bérarde the ascent can be made by the N.E. ridge or S.E. face, 5 hrs. from Les Etages, but the rocks are very rotten on this side of the mountain. For the many passes from St. Christophe to La Grave, La Bérarde, the Valgaudemar, and the Valjouffrey, see Rtes. C, E, and F, below. ]

Few travellers will neglect to visit the graves (close to, but, for various reasons, not *in* the churchyard) of two victims of the Meije, Dr. Emil Zsigmondy (killed in 1885) and Monsieur E. Thorant (killed in 1896).

Soon after leaving St. Christophe the mule path circles round a deep ravine, and then mounts in a S.E. direction along the slopes high above the Vénéon. After passing above a small hamlet on the right, a short steep ascent leads to a bifurcation near a spring. The left-hand path *mounts* to the hamlet of Champ Ebran, but the traveller bound for La Bérarde must be very careful to take the *right*-hand path, which *descends* for a short distance, and passes an iron cross, at which St. Christophe disappears from sight. A small mill is passed on the left, and the path down towards La Lavey to the right, before the main track reaches the hamlet of *Champhorent*, just at the point, opposite the opening of the La Lavey glen, where the Vénéon valley bends from N.W. to E. A steep *descent* then leads down to near the level of the Vénéon, which is followed henceforth. The great range of snow-seamed peaks which bars the head of the valley soon appears, and remains long in

sight. But the *second* summit of the Ecrins only is seen, the Pic Lory (4,083 m., 13,396 ft.), *not* the highest, as is often believed. The view is especially striking from the miserable hamlet of *Les Etages* (1,595 m., 5,233 ft.), whence the deep-cut couloir leading up to the Col des Ecrins, on the left, is a prominent feature. Two side glens meet near Les Etages, that of *Les Etages* on the S., and that of *Soreiller*, with two arms, on the N., but the peaks around each will only interest a climber making a very special study of the district, and may be passed over here. Les Etages is about 2 hrs.' walk from St. Christophe, and a short hour beyond is the last hamlet in the valley, **La Bérarde** (1,738 m., 5,702 ft.), which is gained by crossing a bridge over the Etançons torrent, a little above its junction with the Vénéon.

## ROUTE B.

### EXCURSIONS AND ASCENTS FROM LA BÉRARDE.

The position of **La Bérarde** has been compared to that of Entrèves, a short distance above Courmayeur. In either case two torrents flowing in opposite directions along the base of a great snowy range, and having their sources in considerable glaciers, receive the drainage of the minor glaciers that descend through short lateral glens, and meet at a central point, from which they escape through a channel at right angles to their previous course, thus forming a **T**. In this case the *Etançons* torrent, flowing from the N., unites, close to La Bérarde, with that descending through the *Pilatte* glen on the S., the latter being held to be the true *Vénéon*. The parallel above suggested is true in yet another particular, for in each case a third short torrent joins one or other of the two main torrents not far



above the point where these unite; the *Bonnepierre* torrent is thus the representative here of the Brenva torrent. In other words, three glens and torrents practically unite to form the main valley, though one of these is unimportant compared to the others.

Among the many rare plants seen in this district the botanist will not fail to notice *Berardia subcaulis*, though this name has nothing to do with that of La Bégarde, being taken from that of M. Pierre Bégarde, a Grenoble apothecary who lived in the seventeenth century. In itself La Bégarde is most uninviting, for its few and humble houses stand in a very stony and almost barren spot, at the upper end of the little delta (whereon are some trees) formed by the Vénéon and the Etançons torrents. The latter, in particular, so often encroaches on the hamlet that an embankment has been constructed to protect the inhabitants against its ravages in the future. Two buildings alone are more than wretched houses—the chapel, quite recently built by the monks of the Grande Chartreuse, above Grenoble (La Bégarde is in the parish of St. Christophe), and the Chalet-Hôtel, constructed by the ‘Société des Touristes du Dauphiné.’ This comfortable little mountain inn stands at the upper end of the village, and a little way from it.

A traveller who comes for the first time to La Bégarde will certainly be struck by two facts. The first is that, with the exception of a bit of the Ailefroide, not one of the higher peaks of the district is visible from the village itself, though by crossing the Pilatte torrent or the Vénéon a glimpse may be had of the W. Summit of the Meije, and the ‘Glacier Carré.’ The other is that there are few *excursions* in the neighbourhood, for La Bégarde is in a very special degree adapted for Alpine climbers, as opposed to Alpine travellers. Yet the little hamlet has many charms of its own, and there may be some who

almost regret that it has to a certain extent lost its former primitiveness, uncomfortable in many respects as that was.

### 1. Excursions.

As noted above there are but few of these. The first, and chief, is the stroll by a made path up the belvédère of the *Tête de la Maye* (2,522 m., 8,275 ft.), on the N. The path branches off from that to the Etançons glen, in order to mount W. by zigzags, and offers no difficulties to even moderate walkers. The ascent takes 1½–2 hrs., and the trouble is richly rewarded. The Meije, in particular, is very well seen at the end of the stony Etançons glen, while the Ecrins, Ailefroide, and countless other summits surround the spectator on all sides, and make him realise that he is enclosed in a perfect Alpine labyrinth. The excursion to the *Chardon* glacier (1½ hr., Rte. E. 3) is much recommended; that to the *Pilatte* glacier (2 hrs., Rte. D. 3) may be taken by any one desiring to see near at hand one of the finest glaciers in the district; while that into the *Etançons* glen (2 hrs. to the Châtelleret Club hut, Rte. C. 3) is worth making in order to gain an idea of what a stony Dauphiné glen really is. There are now more or less good mule paths for some distance (in the two former cases to the glaciers themselves) up each of these glens.

### 2. Easy Ascents.

There are a considerable number of these round La Bégarde, the term ‘easy’ being employed to indicate those climbs which offer no great difficulties to a moderately practised mountaineer, while the views obtained from the respective summits are particularly noteworthy and extensive. It may be well at once to warn our readers that the ascent which looks almost the shortest from the village in reality takes nearly 5 hrs., for the peak in question, the *Grande Aiguille* (3,422 m., 11,228 ft.), rises so immediately above La Bégarde on the S.W. side of the

valley, that its summit is thence so foreshortened that it seems almost within a stone's throw.

(a) Perhaps the very finest panorama in the district is that to be obtained from the **Sommet des Rouies**, 3,634 m., 11,923 ft. (5 hrs. from La Béarde, Rte. E. 3), at the head of the Chardon glacier. The ascent is a very easy snow walk, and is most strongly recommended to those who do not wish to undergo a great amount of exertion. The view far away to the S. is most marvellous, while most of the Dauphiné peaks are included in the prospect.

(b) Scarcely inferior to this panorama is that from the **Pic Coolidge**, 3,756 m., 12,323 ft. (5½ hrs. from La Béarde, Rte. D. 2), the highest point on the ridge between the Ecrins and the Ailefroide. Its special feature is the unsurpassed view of the precipitous rock walls of the Ecrins, Pelvoux, and Ailefroide, which completely shut in the Glacier Noir. The ascent is a trifle more difficult than that of the Rouies, but is well within the reach of even moderate mountaineers.

(c) The *Grande Ruine*, 3,754 m., 12,317 ft. (7½ hrs., Rte. C. 5), on the E. side of the Etançons glen, is a rather long expedition from La Béarde and back, but may well be combined with the Col de la Casse Déserte on the way over to La Grave or the little mountain inn at Alpe, from the latter of which it is accessible in 4½–5 hrs. It commands a most extensive view on all sides, particularly of the Meije, which is quite close at hand.

(d) Nearly opposite the Grande Ruine, on the other side of the Etançons glen, is the *Plaret* (3,570 m., 11,713 ft.), the very easy ascent of which by the *Plaret* glacier and the great snowy E. face of the peak takes but 4½ hrs. The return may be varied by descending a couloir in the S.W. rock wall to the little glacier at its foot, and so down the *Combe d'Amont* to Les Etages. Like the Grande

Ruine this summit commands a very fine view of the great S. wall of the Meije, but the climb has the advantage of being a good deal shorter than that up the Grande Ruine.

These four peaks are perhaps the most to be recommended to those travellers who wish to obtain glorious views without too great an amount of exertion, but, of course, there are many others presenting some of the same characteristics in the ranges round La Béarde.

### 3. Higher Ascents.

(a) The **Pointe des Ecrins**.—This magnificent summit, the monarch of the Dauphiné Alps, attains a height of 4,103 m. (13,462 ft.), but was long ignored, or confounded with other peaks. It is one of the greatest services of Mr. F. F. Tuckett to Alpine exploration that in 1862, for the first time, he established the facts of the separate existence of the Ecrins, and of its undoubted supremacy in the Dauphiné Alps. Unfavourable conditions of weather and snow prevented Mr. Tuckett twice in 1862 from attempting the ascent, and, six weeks later, defeated Messrs. W. Mathews and Bonney. The first successful ascent was that effected on June 25, 1864, by Messrs. A. W. Moore, H. Walker, and E. Whymper, with Christian Almer and Michel Croz, who, mounting from the head of the Glacier Blanc (on the N. of the peak), ascended by one arête, and returned by the other, but encountered serious difficulties. Some of these were avoided by later parties, who cut mainly up the steep and icy N. face, and reached the N.E. arête but a short distance from the summit. Fourteen successful ascents were made after that of 1864, all by the N. face, and it was not till September 2, 1880, that Monsieur Henry Duhamel, with the two Gaspards, struck out a new route by the S. face, which has now practically superseded that by the N. face, save when the mountain is crossed. (For the Alpine history

of the Ecrins the monograph by Monsieur F. Perrin in the 9th volume of the 'Annuaire du Club Alpin Français' should be consulted.)

As regards the *N. route*, it need only be said that there is usually no great difficulty in making a way up snow slopes and through séracs from the Col des Ecrins ( $5\frac{1}{2}$  hrs. from La Bélarde, Route D. 1) to the bergschrund at the foot of the final slope (2-3 hrs.), the time required for the ascent of this slope varying, according to the conditions of the snow or ice, from 50 min. to 4 hrs. The *S. route* starts from the Col des Avalanches, at the S. foot of the S. face. This Col is reached by following the Col de la Temple route (Rte. D. 2) for 2 hrs. from La Bélarde ( $1\frac{1}{2}$  hr. may be saved by spending the night at the Carrelet Club hut), and then bearing N.E. to the *Vallon de la Pilatte* glacier, by the left side of which the Col, 3,511 m., 11,520 ft. (the great ice couloir on the other side has been traversed but once), is reached in  $2\frac{1}{2}$  hrs. from the bifurcation, or  $4\frac{1}{2}$  hrs. from La Bélarde. Thence the right-hand branch of a wide couloir in the S.W. wall of the mountain is ascended for some distance, when it is necessary to bear E. across two narrower gullies, and to make a traverse over a smooth overhanging rock in order to reach the watershed. A deep snow couloir (the one real difficulty of the climb) must then be crossed to the hanging *Ecrins* glacier, which is mounted, and then the rocks to its right direct to the summit, though by climbing the snow gully in which it ends the S.W. ridge may be gained between the *Pic Lory*, 4,083 m., 13,396 ft. (the highest point of the mountain seen from the Vénéon valley), and the highest point. 4 hrs. or less suffice for the ascent from the Col des Avalanches under favourable conditions. The *Pic Lory* can be gained by a détour of a few minutes, while the W. Summit of the Ecrins, or the *Dôme de Neige des Ecrins* (3,980 m., 13,058 ft.), is easily

reached in  $2\frac{1}{2}$  hrs. from the Col des Ecrins by the snowy S.E. arête, or by a harder route (exposed to falling stones) from its S. foot by a long ice couloir.

(*b*) Second to the Ecrins (not reckoning the Pic Lory) in height, and barely yielding to it in point of interest, is the *Meije* (this word means 'Midi'), the loftiest summit (the Western) of which, or the *Grand Pic*, is 3,987 m. (13,081 ft.) The Meije is a glorious rock wall crowned by three points, which rise in height from E. to W., and presents a most formidable appearance on all sides. The first attack made on it was on June 28, 1870, when Miss Brevoort and Mr. Coolidge, with Christian and Ulrich Almer and Christian Gertsch, made the first ascent of the *Central Summit* (3,970 m., 13,025 ft.), ascending from La Grave. The ridge leading onwards to the slightly higher W. Summit was thought to present insurmountable obstacles. Many attempts were later made to attain the W. Summit (for the Alpine history of the Meije MM. Leser and Verne's monograph in the 12th volume of the 'Annuaire du Club Alpin Français' should be consulted), but it was not till August 16, 1877, that the first ascent was achieved by Monsieur E. Boileau de Castelnaud, with the two Gaspards, a very noteworthy feat. On July 2, 1885, Monsieur Verne, with three Gaspards and J. B. Rodier, attained the Glacier Carré at the S.W. foot of the highest peak, by a very difficult and dangerous route from the Brèche de la Meije by the W. arête and the great ice couloir which furrows the N.W. face of the mountain, but this route has never been repeated. Finally, on July 26, 1885, Herren Otto and Emil Zsigmondy and L. Purtscheller, without guides, forced the arête between the Central and Western summits, the second of these mountaineers losing his life a few days after in a bold attempt to scale the S. wall of the mountain from the great snow band which traverses the greater part of it diagonally.



The 1877 route is now considered to be harder, at least so far as regards the *descent*, than the arête between the two highest peaks, but of recent years it has become quite an ordinary event for parties to traverse the mountain in either direction, though the *ascent* from La Béarde is to be preferred on the whole to the *descent* to that place. The *S. route* starts from the Châtelleret Club hut, in the Etançons glen (2 short hours from La Béarde, Rte. C. 3), that valley being mounted to the foot of the great S. buttress of the Meije, or the 'Promontoire,' by which the traveller gains the foot of the great S. rock wall, below the 'Glacier Carré,' which it supports (3-4 hrs. from the Club hut). The ascent of this wall constitutes the great difficulty of the ascent, and it must be mounted on the whole towards the *left*—that is, *not* immediately below the 'Glacier Carré.' The time required for scaling this wall varies, for divers reasons, from 1 to 3 hrs., or even more. It is then quite easy to mount the W. and N. edges of the 'Glacier Carré' to the opening (Brèche du Glacier Carré) between the *Pic du Glacier Carré* (3,860 m., 12,665 ft.), on the left, and the Meije, on the right ( $\frac{3}{4}$ -1 hr.) The S.W. rocky face is easy at first, but higher up there is a bad bit of smooth rock just on the N. side of the W. arête to be overcome before the summit is reached ( $\frac{3}{4}$  hr.-1 $\frac{1}{2}$  hr.) Under ordinary circumstances 8 hours or so are required from the Club hut, but of course a fast party will take less, and varying conditions retard or advance equally quick parties. In No. 5 of the 'Revue Alpine' for 1897 a list of the hitherto recorded ascents of the Meije is given, from which it appears that Mr. R. Corry, in 1893, succeeded in going from the Club hut to the summit in 5 $\frac{1}{4}$  hrs., about the same time having been taken for the return to La Béarde, a marvellous 'tour de force.'

If the ascent be taken *from La*

*Grave* it is necessary to mount by the right side of the *Tabuchet* glacier to the so-called *Rocher de l'Aigle* (4 hrs.), a rocky hump in the snowy ridge between that glacier and the *Homme* glacier, on the E. Thence the *Central Summit* (3,970 m., 13,025 ft.) may be gained in 2 $\frac{1}{4}$ -2 $\frac{3}{4}$  hrs. by its N.E. rocky face, reached from the gap to the E. The traverse of the ridge to the W. is said not to offer any great difficulties for a long way, the best route being to walk between the snow and the rocky teeth which stud the ridge. 1 $\frac{1}{4}$  hr. from the Central Summit suffices to reach the top of the last tooth, looking down into the deep gap (the *Brèche Zsigmondy*) between it and the *Grand Pic*. The descent into this is very difficult, but the reascent thence to the Grand Pic is made by good though steep rocks. 1 $\frac{1}{2}$  hr. or more may be required from the top of the last tooth to the Grand Pic, or 2 $\frac{3}{4}$  hrs. in all from the Central Summit. But of course the time needed varies with the state of the rocks and the nature of the party, and may take 4 hrs. or more.

The *Central* and *Eastern* Summits of the Meije have been noticed in § 8. Rte. A, as they will generally be climbed from La Grave. The latter (3,911 m., 12,832 ft.) was first climbed in 1878, by Monsieur Henry Duhamel, and commands a most amazing view of the Central Summit, known locally as the 'Doigt de Dieu.' The *Pic du Glacier Carré* (3,860 m., 12,665 ft.), just W. of the Western Summit, was first climbed in 1890 by Mr. Alfred Holmes, 1 $\frac{1}{4}$  hr. being required by the hard rocks of the S. face and W. side from the gap to the W. of the peak.

In the 21st volume of the 'Annuaire du Club Alpin Français' Monsieur Paul Guillemin has published a very curious list of the various engravings and drawings (*not* paintings or photographs) (216 in number) of the Meije; the earliest dates from 1799 only, and the next from 1827,

while as lately as 1860 18 only were known.

(c) In the **Pilatte glen** there are three peaks which are attractive to those who seek rock climbs: *Les Bans*, 3,651 m., 11,979 ft. ( $7\frac{1}{2}$  hrs. from La Bélarde, by way of the Col des Bans, Rte. D. 4); the *Fifre*, 3,630 m., 11,910 ft. ( $6\frac{1}{2}$  hrs. by way of the Col des Avalanches, above, a, and Rte. D. 2); and the *Pointe des Etages*, 3,564 m., 11,693 ft. ( $7\frac{1}{2}$  hrs. by way of the Col de la Lavey, Rte. E. 3). By the latter Col, or more directly, in 3 hrs., by the Vénéon valley, the La Lavey chalets can be reached, whence the *Pic d'Olan* (3,578 m., 11,739 ft.) is accessible in 7 hrs. (see Rte. E. 3).

(d) There are some other summits nearer La Bélarde which deserve a brief notice. The imposing *Tête du Rouget* (3,421 m., 11,224 ft.), on the N.W., may be climbed in 6-7 hrs. by the S.E. arête, which is best reached either by following the ridge from the Tête de la Maye, or from the *Plaret* glacier, on the N.E., by a long traverse. But it can also be attained from Les Etages by the Combe d'Amont and the steep smooth rocks of the W. side of the N. ridge. The *Pic Bourcet* (3,697 m., 12,130 ft.), or S. Summit of the Grande Ruine, may be climbed by a difficult route up the very rotten rocks of its W. face, which do not seem very attractive. Finally a traveller who for any reason wishes to ascertain by personal experience what stones in Dauphiné can be like should not fail to make the ascent of the E. and highest summit of the *Roche d'Alvau* (3,534 m., 11,595 ft.), which may be effected in rather over 5 hrs. from La Bélarde by way of the Col des Ecrins route (Rte. D. 1) and the S. arête of the peak. The W. summit of the Roche, a fine rock tooth (3,415 m., 11,205 ft.), may be climbed in  $4\frac{1}{4}$  hrs. from La Bélarde by way of the *Alvau* glacier, the S. face, and the W. ridge.

(e) Finally we may mention some

of the minor peaks round La Bélarde which can be scaled on an off day. The *Tête de Charrière* (3,442 m., 11,293 ft.), very conspicuous from the village, is 4 hrs. distant by way of the *Somme* or *Charrière* glacier and the Brèche of that name at its head. The *Tête de Chéret* (3,159 m., 10,365 ft.) on the S. also makes a great show from La Bélarde, and may be climbed in  $\frac{1}{2}$  hr. from the *Col de Chéret*, on its S., which is 3-4 hrs. from La Bélarde by way of the main and Petit Chardon glaciers (Rte. E. 2). The *Flambeau des Ecrins* (3,523 m., 11,559 ft.) and the *Pointe de Balme Rousse* (3,224 m., 10,578 ft.) are two rocky points on the ridge extending W. from the mass of the Ecrins: the former is accessible in 5 hrs. from La Bélarde by following the route of the Col de la Temple (Rte. D. 2) to the point where it leaves that towards the Col des Avalanches, and then mounting N.E. by the S.W. side of a tongue of glacier to the W. ridge; the latter in 6 hrs. by bearing W. from the same point, and then climbing the face direct or up to the N.E. arête.

It need only be added that by going from La Bélarde to the Alpe inn (Rte. C. 4), the Tuckett Club hut (Rte. D. 1), or the Provence Club hut (Rte. G) many other peaks may be attained. For the passes from La Bélarde, see Rtes. C, D, and E.

### ROUTE C.

#### VÉNÉON VALLEY TO LA GRAVE AND THE LAUTARET ROAD.

In the two preceding Rtes. we have described the main valley of the Pelvoux district, and indicated the principal ascents to be made from La Bélarde, at its head, which is the natural centre of the region. We

must now proceed to give some account of the passes which lead in many directions from that valley, and afford the only means of exit from it save through the valley itself.

It was pointed out in the Introduction to this Section that, roughly speaking, the Pelvoux group forms a quadrangle, open to the N.W., as it is there pierced by the Vénéon torrent. A glance at the map shows that N. of this quadrangle is the *Romanche* valley, E. the *Vallouise*, and S. the *Valgaudemar*, so that passes naturally lead into each of these three outer glens (Rtes. C, D, and E). But there are two main exceptions to this simple and symmetrical arrangement, one at the E. and the other at the W. end of the district.

So far from the whole of the E. slope of the E. wall of the quadrangle being occupied by the *Vallouise*, that valley includes but the southern half of that slope. The reason is that from the Roche Faurio, on the main watershed, and just N. of the *Ecrins*, a great ridge stretches in an easterly direction. This cuts short the N. extension of the *Vallouise*, and affords room for the *Romanche*, which, instead of flowing directly from the Col du Lautaret, takes its origin at the N. foot of this great lateral ridge. Hence, as we shall see below, passes lead from the Vénéon valley to La Grave and the Lautaret road not only over the N. wall of the quadrangle, as we should expect, but also over the N. half of the E. wall, while the existence of the great lateral ridge already mentioned enables *Vallouise* to communicate directly by passes both with La Grave and Monétier (Rtes. H and I).

At the W. extremity of the district somewhat similar conditions are found. Just about the point where the Vénéon valley is deflected from W. to N.W., the *Valgaudemar* on the S. is deflected from W. to S.W.

Hence the *Bonne* valley, or *Valjougfrey*, with its tributary the *Valsenestre*, is thrust up into the W. slope or S. wall of our district, so that the *Valgaudemar*, like the *Vallouise*, is, so to speak, deprived of some of the passes which would lead into it from the Vénéon valley if the arrangement of the outer valleys had been perfectly symmetrical. For this reason the passes from the Vénéon valley towards the S. lead, below the point where that valley is deflected to the N.W., into the *Valjougfrey*, or the *Valsenestre* (Rte. F), with a single exception; this is the *Brèche d'Olan*, which connects the glen of La Lavey with the head of the *Valjougfrey*, though the other chief passes from that glen lead directly into the *Valgaudemar*, thus affording a curious parallel with the *St. Pierre* glen, which forms the N. branch of the *Vallouise*.

One immediate consequence of this complicated state of things is that from the **Vénéon valley** a very great number of passes lie across the ranges separating it from the *Romanche* valley. Many of these are merely variations of better known passes, while others are not fitted for general adoption, such as the *Brèche Joseph Turc*, W. of the E. Summit of the *Meije*, and the *Brèche Maximin Gaspard*, S.E. of the same peak, both difficult and dangerous passes which were first forced in 1895 by Monsieur A. Reynier, with the guides whose names they bear. Referring then to the Dauphiné 'Climbers' Guide' for details as to *all* passes effected before 1892, we may confine ourselves in these pages to notices of the passes which are of greatest practical utility. It will be most convenient to describe them in topographical order from W. to E., thus beginning with the lowest and easiest, which lead from the lower portion of the Vénéon valley.

1. *By the Col de l'Alpe*.—This way is easy, as it is traversed by a mule path, and agreeable; but, apart from



the views gained from the pass, the traveller sees little more of the great glaciers in the neighbourhood than he would by following the Lautaret high road. From the hamlet of Bourg d'Arud, on the char road in the Vénéon valley, the mule path zigzags steeply up to the N., past the picturesque village of *Vénosc* (1,049 m., 3,442 ft.) to the chalets at the S. edge of the undulating pasture plateau which forms the Col, 1,660 m., 5,446 ft. (1½ hr.) The surrounding slopes are well known to botanists for the many rare plants which may there be found. From the plateau there is a noble view of the *Roche de la Muzelle*, to the S., and of the *Grandes Rousses*, on the N. About ½ hr. is required to cross the plateau to the chalets at its N. edge, whence the mule path bears right in order to gain the village of *Mont de Lans* (there is a short cut to the left before entering this village), from which a char road descends to *Le Freney*, on the Lautaret road (1 hr., or 3 hrs. from Bourg d'Arud). A slight détour may be made on the way down to visit the *Porte Romaine* (just above the Inferney Tunnel, and ¼ hr. from the high road), a relic of the old Roman road which passed high above the left bank of the Romanche, so as to avoid the great gorges, and was the usual route till the construction of the new high road through these gorges in the present century.

2. *By the Col de la Lauze.*—This is one of the easiest and most frequented glacier passes in the entire district, its name being taken from the local name for the black shaly slate which forms its summit. There are two ways by which it may be gained from St. Christophe, the former being the easiest, and affording a series of most glorious views *en route*.

(a) *By the Lac Noir.*—The *Lac Noir* is a considerable mountain tarn, which lies in a hollow below the S.W. end of the great *Mont de Lans* glacier, that covers the N. slope of

the rugged range forming the watershed between the Romanche and the *Diable* torrent, an affluent of the Vénéon. There is now a **Club hut** near it (2,820 m., 9,252 ft.), which may be reached from St. Christophe in 3 hrs. by the *Escaliers de la Mura*, leading up from the *Selle* huts, in the *Diable* glen, partly by a series of great stairs cut in the rock; but an easier though longer way (4½ hrs.) is by the *Brèche du Grand Creux*, attained direct from St. Christophe by the hamlet of *Le Puys*, and endless slopes of stones. The Club hut may also be attained in 5 hrs. from Vénosc by a roundabout way over pastures and a low pass from the plateau of the Col de l'Alpe, or in rather over 5 hrs. direct from Le Freney by way of *Mont de Lans* and *Millorsol*.

From the Club hut a stony ravine and snow slopes lead up in 1½ hr. to (or a point near it) the *Jandri* (3,292 m., 10,801 ft.), whence the S. edge of the great *Mont de Lans* glacier is followed without the slightest difficulty, but amidst very grand scenery, to the Col (3 hrs. or less from the Club hut).

(b) *By the Selle Gorge.*—This is the most direct way, and offers no real difficulties. From St. Christophe the path up the *Selle* or *Diable* gorge is followed, mainly along the right bank, to the **Selle Club hut**, 2,685 m., 8,809 ft. (3½ hrs.), above the right bank of the *Selle* glacier. The gorge is very stony and desolate, being shut in on both sides by high and steep rock walls. There are only a few chalets in it, but many gullies in the N. wall, through which the *Mont de Lans* glacier may be gained by a more or less rough scramble.

[This Club hut may serve as the starting point for explorations of the considerable *Selle* glacier at the end of the gorge, and the ranges that surround it. At its extreme head the *Brèche du Râteau* leads over to the *Châtelleret* Club hut, in the *Étançons* glen (4¼ hrs. from one hut to the

other). From the W. base of the pass the *Têtes du Replat* (3,432 m., 11,260 ft.), on the S., may be reached very easily in 2 hrs. by way of the depression between them, or the *Râteau* (3,754 m., 12,317 ft.), on the N., by way of its S.E. ridge (4 hrs.) On the S. side of the *Selle* glacier several gaps give access to the *Etançons* glen, while on its N. side the *Col de la Girose* (accessible by a broad and steep snow gully) leads over in about  $4\frac{1}{2}$  hrs. from the *Selle* Club hut to the little mountain inn above the *Puy Vachier* lake. ]

The *Selle* Club hut is just at the foot of the great stone-filled (often much snow) funnel which must be mounted direct to the *Col de la Lauze*, 3,543 m., 11,625 ft. (3 hrs. from the Club hut.)

Just W. of it is a low hillock of slate, which commands a more extensive view. This can be still further widened by climbing in  $1\frac{1}{2}$  hr. the *Pic de la Grave* (3,673 m., 12,051 ft.), on the E. of the pass, by way of the ice slope on its N. face, and the easy rocky N.W. ridge.

The Col is at the extreme S.E. corner of the great *Mont de Lans* glacier, which is rather a vast field of *névé*, about 6 m. in length and 2-3 in width. It appears to be of vast thickness, and is converted into glacier ice along its lower edge, which extends to, and is visible here and there from, the *Lautaret* road, whither there are several difficult lines of descent.

Bearing to the N.E. from the pass the great snow fields of the *Girose* glacier are soon gained, and continuing down them in nearly the same direction the rocky ridge of the *Col du Lac* is crossed to a rocky hollow. This must be descended in order to attain the shores of the beautiful little *Puy Vachier* lake, near which there is now a little mountain inn, 2,400 m., 7,874 ft. ( $1\frac{1}{2}$  hr. from the pass.) The view from the lake of the precipices of the *Râteau* overhead, and of the marvellous W. Summit of the

*Meije*, is most glorious. It is even finer from the hillock on the W. (1 hr. off), the *Peyrou d'Aval*, or from the higher *Peyrou d'Amont*, 2,862 m., 9,390 ft. (2 hrs.), on the S.E.

From the inn a mule path descends N.E. across pastures to the *Chalvachère* chalets, and across the torrent of that name (descending from the *Brèche de la Meije*) to the *Romanche*, which is crossed before *La Grave* is gained by a short ascent ( $1\frac{1}{2}$  hr. from the inn).

This expedition can hardly be too highly recommended.

### 3. *By the Brèche de la Meije.*—

This is the notch at the head of the *Etançons* glen, between the *Râteau* and the *Meije*, which, though a natural gateway, seems very formidable on the *La Grave* side, so that it was only crossed for the first time in 1864 by Messrs. Moore, H. Walker, and Whymper. The way thither from *La Béarde* (as for the two passes next to be described) lies through the *Etançons* glen, which forms the N. arm of the *Vénéon* valley. It is famed for its many stones, though really not worse than several other glens in this district. From *La Béarde* the mule path mounts round the E. flank of the *Tête de la Maye*, and then crosses to the left bank of the *Etançons* torrent, which is followed to the *Châtelleret Club hut*, 2,250 m., 7,382 ft. (2 short hours), on the green 'oasis' well known to older explorers of these ranges. On the way to and from the Club hut there is a very fine view of the S. wall of the *Meije* at the end of the glen, though it is here rather foreshortened, so that the scene is more impressive if the traveller mounts from the level of the glen a little way up the slopes on either side. This Club hut is the best starting point for many ascents, though of recent years active climbers have preferred to make them direct from *La Béarde*. Most are noticed in connection with the passes near

them, so that here it is only necessary to point out that the Meije has been described in the preceding Rte., and that the *Râteau* (3,754 m., 12,317 ft.) may be attained in 5 hrs. from the Club hut by way of the S.E. arête, which is more easily gained from the Selle glacier (see 2. above), while the route from near the N. foot of the Brèche de la Meije by the E. arête is long and difficult.

There is no difficulty (though many stones are traversed) in mounting the Etançons glen to the glacier of that name, or on that glacier itself, while the final rocks which defend the pass are quite easy, if attacked on the left. 3 hrs. suffice to go from the Club hut to the Brèche (3,300 m., 10,827 ft.), whence there is a sudden and striking view of La Grave, far below.

A steep slope of snow or ice, with a bergschrund which may sometimes be troublesome, leads down to the upper snows of the *Meije* glacier, it being best as a rule to bear far to the E. Those snows are then crossed in a W. direction to the great rocky *Enfatchores* buttress (not always easy to gain direct), which separates two fine icefalls. These rocks are not difficult, being made up of several shelves and being very firm and good. At their base the moraine below the E. icefall is traversed, and the path on the right side of the *Chalvachère* torrent followed, the path from the Col de la Lauze being joined on the way to La Grave.  $4\frac{1}{2}$  hrs. are required from the pass to La Grave. Naturally this pass is far more laborious when taken from La Grave, which is a good deal lower than La Bérarde. But the scenery is throughout first-rate, and, though not the easiest, it is by far the most direct route between La Bérarde and La Grave.

4. *By the Col du Clot des Cavales.*  
—At the beginning of this Rte. it was pointed out that the *Romanche* has its sources at the base of a great ridge which runs eastwards from the

Roche Faurio, and the two next passes to be described lead from La Bérarde to the head waters of that river. There is now a comfortable little mountain inn near the *Alpe chalets* on the La Grave side.

A great number of passes connect the Etançons glen with this inn, but in these pages two only need be noticed, a third, the *Col du Pavé*, close under the E. Summit of the Meije, being only mentioned here by reason of the amazing view thence across the S. wall of the Meije, even better seen from the *Pavé* (3,831 m., 12,569 ft.), which is accessible from the pass in  $2\frac{1}{4}$  hrs. by the W. face and S. ridge.

The *Col du Clot des Cavales* is the easiest way from La Bérarde to La Grave, while it has long been known to the natives, and offers no difficulties if the right way (rather intricate on the La Bérarde side) be hit; it is now well marked up to the base of the final couloir. This route starts from the Châtelleret Club hut, in the Etançons glen (see 3. above), and mounts E. by grass and stones to the upper débris slopes above the steep rocks descending to the valley. Here the traveller should be careful to turn his back on the basin filled by the *Grande Ruine* glacier on the E.; especially on a very tempting-looking notch (the *Col de la Grande Ruine*) in its N.E. corner. The right way to our pass here turns *due N.*, a track being followed over rocks between the precipices above the Etançons glen on the left, and the rock ridge rising on the right to the *S. Pic des Cavales*. In this way the névé in the hollow between the two Pics des Cavales is gained, and thence a broad snow couloir to the N.E. leads up to the Col (3,128 m., 10,263 ft.), which is the opening between them (3 hrs. from the Châtelleret). Either of these summits can be gained from the Col by a steep scramble up rocks. The Col commands a fine view of the Meije, though not so fine as from several other points of view. The



broad *Clot des Cavales* glacier, on the other side, offers as a rule no difficulties. It is quitted on its left bank, and then the crest of a huge old grass-grown moraine followed, and then stones on the left bank of the torrent, the *Clot des Cavales* hollow lying on the right hand. Soon after reaching the junction of the *Clot des Cavales* stream with the infant *Romanche*, flowing from the S., a quaint rock and earth bridge leads over to the right bank of the combined streams. The way is now nearly level, and becomes less and less stony till, after passing the ruined mine buildings on the left, a short ascent up grass slopes leads to the little mountain inn (2,100 m., 6,890 ft.) near the *Alpe chalets* (2½ hrs. from the Col). From the *Clot des Cavales* glacier there is a very fine view of the couloir-streaked precipices of the N. face of the *Grande Ruine*, while from the inn the E. most point on that ridge, the *Roche Méane* (3,700 m., 12,140 ft.), is a very striking object.

☐ This little inn offers admirable headquarters for exploring the neighbouring peaks. Of these the *Grande Ruine* (5 hrs.) is noticed under 5. below, the *Pic de Neige Cordier* in Rte. H, and the *Montagne des Agneaux* in Rte. I. 1. Few travellers will be tempted by the stony ascent of the *Pics de Neige du Lautaret* to the N.W., but that of the *Pic Gaspard* (3,880 m., 12,730 ft.), itself a splendid object, is recommended to active climbers. It was first vanquished in 1878 by Monsieur H. Duhamel, who gave it its present name in honour of his guide, Pierre Gaspard, the first conqueror of the *Meije* the year before. Its ascent takes 7-8 hrs. from the inn by way of the grass-grown moraine described above, the *Claire* glacier to the S.E. of the peak, and the E. face and a final rocky narrow ridge. It can also be scaled in 8 hrs. by a difficult climb up its very steep rocky S.W. face. The view of the *Meije* from the summit is most remarkable and impressive. ☐

From the little inn at *Alpe* it is easy to go in 1½ hr. or less by the narrow footpath, called the 'sentier des Crevasses,' round the flank of the *Pyramide du Laurichard* to the *Lautaret Hospice*. Should the traveller desire to reach *La Grave* he has only to follow the mule path from *Alpe* above and along the right bank of the *Romanche* to *Villard d'Arène*, 2 m. from *La Grave* by the *Lautaret* high road (1½-2 hrs. from the inn to *La Grave*). From the inn *Monétier* may be reached in 3 hrs. or less by way of the grassy *Col d'Arsine* (2,400 m., 7,874 ft.), on the S.E.

5. *By the Col de la Casse Déserte.*— This pass was discovered in 1863 by Messrs. Bonney and W. and G. S. Mathews, who reached it from the E., but it was first completely traversed in 1873 by Miss Brevoort and Mr. Coolidge. It is more difficult than the *Clot des Cavales* because the glacier on the *La Bérarde* side varies much. From the *Châtelleret* Club hut the way lies due E., as for the *Clot des Cavales*, this direction being for a time changed for one to the S.E., as the *Grande Ruine* glacier is mounted. On the left are seen the rotten, though not really very difficult, rocks leading up to the *Brèche Giraud-Lezin* (3,598 m., 11,805 ft.), at the N. foot of the highest summit of the *Grande Ruine*. The séracs of the *Grande Ruine* glacier must be forced (when possible) close under the *Pic Bourcet*, and then a snowy hollow and couloir lead up to the narrow notch of the pass, 3,510 m., 11,516 ft. (4 hrs. from the *Châtelleret* hut), between the *Pic Bourcet* (3,697 m., 12,130 ft.), on the S., and the *Grande Ruine* (3,754 m., 12,317 ft.), on the N. Both summits may be climbed hence. The former is a difficult rock climb of 6½ hrs. up the S.E. face, and has also been ascended from the S. and W. (see last Rte.), but the rocks are extremely rotten. The *Grande Ruine* is far easier, and may be

attained in  $1\frac{1}{2}$  hr. or less by the S.E. arête, gained from the Col by making a round over the lower portion of that ridge to the *Upper Plate des Agneaux* glacier, or by climbing up nearly direct from the snowy hollow just on the La Béarde side of the pass ( $5\frac{1}{2}$ –6 hrs. from the Club hut). The panorama from the Grande Ruine is one of the finest in the district, so that this ascent has become a favourite one, especially from the inn at Alpe.

A very short snow gully leads from the Col to the *Casse Déserte* glacier, by which and the stones on its left bank the *Lower Plate des Agneaux* glacier, on the S.E., is gained without any difficulty (1 hr.) This is a long and level ice stream nearly wholly covered by moraines, and deeply sunk in a hollow between high and precipitous ranges. At its W. end is seen the narrow and very steep snow couloir leading up to the *Brèche de Charrière*, and on the S. the still more repulsive ice slopes by which the *Brèche d'Alvau* is gained: both passes connect this glacier with La Béarde, but neither is fitted for general adoption, and indeed the second has been crossed but once. The Plate des Agneaux glacier offers no difficulties beyond stones. The great couloir of the Col de la Roche Faurio is seen on the S.E., while more to the E. is the *Agneaux* glacier, descending from the Col Emile Pic (for both passes see Rte. H). It takes about  $1\frac{1}{2}$  hr. to reach the *Etoile* tarn, at its lower end, the true Source of the Romanche. The right bank of the Romanche is then followed, the way from the Col du Clot des Cavales being joined where it crosses to that bank. The inn at Alpe may be reached in  $\frac{3}{4}$  hr. from the little tarn mentioned, or in  $3\frac{1}{4}$  hrs. from the pass.

In concluding this comparatively brief notice of the passes from the Vénéon valley to various points on the Lautaret road it may be once more pointed out that there are many other routes than those here indicated,

while active mountaineers will prefer to traverse peaks, even the Meije, as has of late years become quite fashionable. But ordinary travellers should bear in mind that such feats are not for every one.

## ROUTE D.

### LA BÉARDE TO VALLOUISE.

As the Vallouise is on the E. slope of the E. wall of the quadrangle formed by the Pelvoux group it is obvious that from no spot lower down the Vénéon valley than La Béarde can passes be effected across the dividing range. Hence the title of this Rte. differs slightly from those of the others which describe passes leading from the Vénéon valley.

There is not as great a choice of passes to the Vallouise as there is from La Béarde to La Grave, because, as noted in the last Rte., the ridge stretching E. from the Roche Faurio has deprived Vallouise of a great part of the E. slope of the group. Of the four main passes to be noticed below the Col de la Temple is by far the finest and easiest, considered as a mere route from one valley to the other. But the scenery on the Cols des Ecrins and du Sélé is also very grand, while the Col de la Pilatte will be visited only by those who are in search of difficulties.

1. *By the Col des Ecrins.*—This pass was first crossed in 1862 by Mr. Tuckett, and has been compared to the Strahlegg, though it appears to the present writer (W. A. B. C.) that the famous Oberland pass rather resembles the Col de la Temple. The Col des Ecrins is nowadays chiefly traversed by parties who have crossed the Ecrins from the Col des Avalanches. Practically, though the statement is not quite accurate topographically, the central of the three

branches which make up the Vénéon valley is the *Bonne Pierre* glen, which opens a little N.E. of La Bérarde, its torrent joining that from the Etançons glen instead of the combined streams of the Etançons and Pilatte glens. That torrent is crossed a little way above La Bérarde, and then its right bank and the crest of the gigantic moraine on the right bank of the glacier of that name followed till the upper level of that glacier can be attained. Hitherto there have been a vast number of stones even for Dauphiné, but this drawback is largely made up for by the wonderful sight of the pinnacle-crowned precipices of the mass of the Ecrins overhead, though of course the highest summit is not visible. The base of the very long, steep, and narrow ice couloir giving access to the Col may be reached in  $3\frac{1}{2}$  hrs. from La Bérarde. The ascent of the couloir takes more or less time, according to its condition, but 2 hrs. generally suffice, and it is often best to climb the steep rocks on its right bank. The pass (3,415 m., 11,205 ft.) is a narrow window in a jagged rock ridge, but on the other side is on a level with the upper snows of the majestic *Glacier Blanc*. The attention of the traveller will naturally be at once attracted by the sight of the great N. face of the **Pointe des Ecrins** (4,103 m., 13,462 ft.), the monarch of the Dauphiné Alps, which rises S. of the Col. It was by that face, or the ridges which frame it, that the first 15 ascents of that superb summit were made, all, that is, that were effected before the discovery by M. Duhamel in 1880 of the route up the S. face, which is now generally preferred. A full account of the peak was given in Rte. B. above, as it is one of the principal expeditions to be made from La Bérarde. A very good view of it may be obtained from the *Roche Faurio* (3,716 m., 12,192 ft.), on the N. of the Col, and easily accessible thence in  $1\frac{1}{4}$  hr. by either its S. or E. ridge.

The way down towards Vallouise lies over the gently inclined slopes of the *Glacier Blanc*, which are very easy, while the surrounding scenery is extremely grand, particularly the crags which rise on the ridge running N.E. from the Ecrins. (The highest of these, the *Barre Noire*, 3,800 m., 12,468 ft., is accessible by the W. face and N.W. arête in 40 min. from the notch to its S.W.) In about 1 hr. it is necessary to take to the left bank of the glacier to avoid the first icefall, and then to descend stones and rocks close to the edge of the ice to the rocky hollow at the S. foot of the *Montagne des Agneaux*, wherein is the **Tuckett Club hut**, 2,504 m., 8,216 ft. ( $2\frac{1}{2}$  hrs. from the pass.) It was near this spot, by a spring, that the early explorers of these regions used to bivouac. Hence there is a most glorious and famous view of the Pelvoux and its neighbours.

From this hut (which is rather damp) several ascents, besides that of the Ecrins, may be made. That of the *Montagne des Agneaux*—much recommended—is described in Rte. I., and that of the *Pic de Neige Cordier* in Rte. H. The *Pointe de la Grande Sagne* (3,779 m., 12,399 ft.), on the other side of the glacier, may be climbed in rather over 5 hrs. by way of the notch at the S.W. foot of the highest pinnacle, and the S.W. ridge; from that notch, the *Col de la Grande Sagne*, the *Glacier Noir* can be attained in  $1\frac{1}{4}$  hr. without any great difficulty by a deep snow couloir, and this is an alternative route from the Club hut to the *Pré de Madame Carle*.]

It takes a long hour to descend from the Club hut to the *Pré de Madame Carle*, the rocks on either side of the *Glacier Blanc* being practicable, those on the right bank being the most convenient. The *Pré* is a stone-strewn plain, whereon there are a few pine trees, amongst which is the *Céanne Club hut* (1,851 m., 6,073 ft.), which will in the future be but little used, as there is now at last a



little mountain inn at Ailefroide. The Pré was formerly the meeting point of the Glacier Blanc and the Glacier Noir, but the snout of the former has long retired high up the cliffs, while the latter is at its lower end so covered with stones that it is not always easy to determine where it ends. The singular name of this plain is derived from a noble lady who in the sixteenth century managed the estates (of which luckily the Pré was but a small part) of her deceased husband on behalf of her ten infant children, and has no connection with any legend, as is often supposed.

The path from the Cézanne Club hut soon crosses the *St. Pierre* torrent by a bridge, and leads along its left bank through the N. branch of the Vallouise to the little triangular green plain of **Ailefroide** (1 hr.), where stand a few miserable huts and (some way to the S.W.) the new Inn, by far the best headquarters for mountaineers at the head of the Vallouise. There are many fine trees on this plain, and several magnificent springs of the freshest and most sparkling water, while its position at the junction of the *St. Pierre* glen with that of *Celse Nière* (see 3. below, and for the ascent of the *Pelvoux*, Rte. G) makes it a very central spot whence to explore the neighbouring ranges. The mule path towards Vallouise 'winds among huge lichen-stained blocks, beneath the shade of scattered larches, and past rounded domes of rock, scored and chiselled by ancient glaciers, while in a deep ravine on the left roars the torrent which bears down the waters flowing from all sides of the *Pelvoux*' (W.M. revised). There are few more picturesque bits in the Dauphiné Alps, and the traveller will be almost sorry when a final stony descent brings him, at the last across the river, to the village of *Les Claux* ( $\frac{1}{2}$  hr.) It is just at the foot of the imposing precipices of the *Pelvoux*, and on the way to *Monétier* by the *Col de l'Eychauda* (Rte. I. 3). Thence it is 3 m. (a short hour) by a

char road along the left bank of the stream, now called the *Gyr*, which is crossed to *Ville Vallouise*, a little above the point at which it becomes the *Gyronde* by its junction with the *Onde* from the other main branch of the Vallouise.

2. *By the Col de la Temple*.—This is in almost every respect the best route by which to go from La Bélarde to Vallouise. The pass can easily be combined with the ascent of the *Pic Coolidge* (3,756 m., 12,323 ft.), an extremely grand view-point.

The way to the pass lies through the S. or main branch of the *Vénéon* valley, the *Pilatte* glen. The mule path runs along the right bank of the torrent. The opening of the *Chardon* glen (see next Rte.) is passed on the right, there being a small grassy plain, with some rude huts (mostly ruined), at the meeting of the two glens. About  $1\frac{1}{2}$  hr. from La Bélarde is the **Carrelet Club hut** (2,070 m., 6,792 ft.), to gain which a short stony ascent must be made along the *left* bank of the *Pilatte* lateral torrent. That torrent must be crossed on leaving the hut, and then a rough steep zigzag track mounted in an E. direction through a forest of dwarf pine trees to the edge of a considerable hollow ( $\frac{1}{2}$  hr.) Leaving here the way to the *Ecrins* and the *Col des Avalanches* (see Rte. B. 3) on the left hand, the way bears sharply to the S. across the stones at the foot of the S.W. spur of the *Pic Coolidge*, more stones then bringing the traveller to the *Temple* glacier, up which snow slopes lead without the slightest difficulty to the pass, 3,283 m., 10,771 ft. (3 hrs. from the Club hut), a pass which has long been known to the natives. On the E. the view is mainly limited to the great peaks round the *Glacier Noir*, which present a variety of fantastic forms; while on the W. the summits round the *Chardon* glacier are very striking. In  $\frac{1}{2}$  hr. from the *Col* the low *Pic de la Temple* (3,314 m., 10,873 ft.) can be easily attained. But it is far preferable either to

bear N.E. from the main Temple glacier (before making the last ascent to the pass) by a branch of that glacier, at the head of which the S. ridge of **Pic Coolidge** (3,756 m., 12,323 ft.) is gained by rocks in  $3\frac{1}{2}$  hrs. from the Club hut, and the summit, along that easy ridge, in a good  $\frac{1}{2}$  hr. more, or from the Col itself to mount by the whole of the S. ridge direct in  $1\frac{1}{2}$  hr. to that peak. From no other point can a finer view be gained of the precipitous rock walls of the Ecrins, Ailefroide, and Pelvoux which close in the deep Glacier Noir, while much else is seen, so that this peak deservedly attracts many visitors, who, while unable themselves to ascend the loftiest peaks of the district, yet desire to admire them.

【Looking N. from the Pic Coolidge over the rock tower of the *Fifre*, 3,630 m., 11,910 ft. (a rock scramble of about 2 hrs. from the Col des Avalanches), is the gap of the *Col des Avalanches* (3,511 m., 11,520 ft.) This is in a sense a variation of the Col de la Temple, but the formidable ice couloir on the E. side has been but once traversed, so that, as the pass is easily reached from the W., and forms one step in the ascent of the Ecrins from the S., it is more convenient to notice it in Rte. B. S. of the Pic de la Temple is the *Col de la Coste Rouge* (3,152 m., 10,342 ft.), a rather shorter variation of the Temple, reached on the W. by the *Coste Rouge* glacier, and accessible on the E. from the Glacier Noir by a short snow couloir.】

The descent from the Col de la Temple on the E. lies over débris, and then to the S. by an easy rock couloir (to the head of which there is a track), the *Glacier Noir* being attained in about  $\frac{3}{4}$  hr. from the pass. This considerable glacier is throughout nearly the whole of its length covered by stones, but the views of the great precipices on all sides, and of the striking couloir of the Col des Avalanches, serve to distract the atten-

tion of the wearied traveller. It is best to keep towards the left bank of the glacier, which is very nearly level, quitting it on the right bank in order to gain ( $3\frac{1}{4}$  hrs. from the pass) the *Cézanne Club hut*, on the Col des Ecrins route (I. above), which is two good hours from Vallouise. The Col de la Temple may for ease and beauty be compared to the Strahlegg or Tschingel Passes.

3. *By the Col du Sélé.*—At the extreme S. head of the Pilatte glen of the Vénéon valley is the splendid **Pilatte** glacier, one of the most extensive and magnificent in the Pelvoux district. From it, besides the Col du Says, leading to the Valgaudemar (see next Rte.), there are several passes over to the Vallouise. The easiest and most recommended of these is the *Col du Sélé*, though care must be taken, if *mounting* from La Bérarde, to strike the right spot on the ridge.

From the Carrelet Club hut the way lies up the right bank of the torrent to the *Pilatte* glacier ( $\frac{3}{4}$  hr.), which is then mounted, the icefall being easily turned by rocks on the left bank. (From the *lower* plateau the *Col de l'Ailefroide*, between the Ailefroide and the Pointe du Sélé, is due E., at the summit of a steep rock wall, above the *Coin* glacier.) The *upper* plateau once gained, the snow gap of the Col de la Pilatte (4. below) lies due S., but to gain the Col du Sélé it is necessary to bear gradually from S.E. to E. over snow slopes, thus sweeping round the head of the glacier, and finally climbing a short rocky barrier to the pass, 3,302 m., 10,834 ft. ( $4\frac{1}{2}$  hrs. from the Club hut.) The view is rather limited, so that travellers are strongly advised to ascend either the *Pointe du Sélé* (3,483 m., 11,428 ft.), N. of the pass (by a snow gully leading from its S.E. foot, and then round to the N. ridge,  $1\frac{1}{4}$  hr. up from the Col), or the highest summit of the *Crête des Baufs Rouges* (3,454 m., 11,333 ft.), on the S. ( $1\frac{1}{2}$  hr. by the E. side of the N.

ridge, and the rotten rocks of that ridge.)

[One of the finest objects to be seen from the Sélé glacier is the *Ailefroide* (3,925 m., 12,878 ft.), the highest and most westerly summit of which was first ascended in 1870 by Mr. Coolidge from this side. From the left edge of the lower portion of the Sélé glacier the *Ailefroide* glacier is gained and traversed to its right bank, whence the ascent is completed by the S.S.E. ridge, by snow and rocks (5½ hrs. from the left bank of the Sélé glacier). This peak has been gained from La Bélarde by a long and roundabout way viâ the W. ridge, but attempts to reach it from the Coste Rouge glacier, on the N.W., have, as yet, proved unsuccessful, so that the route of 1870 is still the best. It is possible that the *Ailefroide* is higher than the Pelvoux, and so should rank as the third independent peak in the district.]

The way down the *Sélé* glacier is easy, the cliffs of the *Ailefroide* on the left dividing the attention of the traveller with the rocky pinnacles on the *Crête des Bœufs Rouges* ridge on the right, which divides this glacier from the Bans glen of the Vallouise. In 1 hr. it is quitted on its left bank, where it descends steeply (if there is much snow leave the glacier on its right bank, and descend direct by snow to the *Celse Nière* glen). A steep rocky barrier leads down to a huge slope of shifting stones (locally called a 'clapier'), by which the head of the *Celse Nière* glen is attained. Many stones then bring the traveller along the left bank of the torrent to the huge overhanging boulder known as *Soureillan* (2,229 m., 7,313 ft.), used as a bivouac by the early explorers of this district, and for some time (but now no longer) fitted up as a rough Club hut, *Refuge Puiseux*. (For the ascent of the Pelvoux from the Provence Club hut, 1½ hr. higher up the mountain-side on the N., see Rte. G.) It is about 1 hr. further to the little inn at

*Ailefroide* (I. above). The *Celse Nière* glen is a barren and dreary spot, the fitting scene of a horrible event, which took place here in 1489, when many of the Waldensians of Vallouise were smoked to death in a cave high up on the side of the Pelvoux. This is the *Balme Chapelu*, which is said to be now inaccessible. The inn at *Ailefroide* is 1½ hr. above Vallouise (see I. above).

4. *By the Col de la Pilatte*.—This rarely traversed pass lies over the snowy ridge at the extreme S. extremity of the *Pilatte* glacier, and was first crossed in 1864 by Messrs. Moore, H. Walker, and Whymper, whose adventures on the way have been vividly described by two members of the party. There is no very great difficulty, beyond gradually steepening snow or ice slopes, in gaining (4 hrs. from the Carrelet Club hut) any one of several points on the snowy ridge extending between the foot of Les Bans and the highest summit of the *Crête des Bœufs Rouges*. This ridge has been crossed at at least three points, which may be thus distinguished:—

1. *Col des Bans*, forced in 1877 by Monsieur E. Boileau de Castelnau. This is close to the E. foot of Les Bans, and W. of several low snow humps.

2. *Col de la Pilatte*.—The 1864 party crossed E. of these snow humps, and W. of a much higher two-headed snowy summit.

3. Since 1877 some parties have traversed a pass still more to the E., between the double-headed snowy summit and the highest point of the *Crête des Bœufs Rouges*.

From any of these passes a very steep ice or snow couloir leads down to the small, but crevassed, *Bans* glacier (1¼ hr.), whence the *Col du Sellar* route (Rte. K. 1) is joined at the *Entraigues chalets* (2 hrs. above Vallouise) in 2 hrs. from that glacier.

These passes are practically useful for one reason only, since from no. 1 (½ hr. longer from no. 2) the fine



rocky summit of **Les Bans** (3,651 m., 11,979 ft.) can best be ascended in about 2 hrs. by its rocky N.E. face, it being necessary gradually to keep nearer and nearer the E. arête. It rises at the meeting point of three valleys, so that the view is singularly interesting. The first ascent was made in 1878 by Mr. Coolidge by the route described. In 1895 M. Reynier succeeded in effecting the difficult ascent of the slighter lower N. peak from the head of the Valgaudemar by way of the glacier at its W. foot, and then traversed the whole ridge in rather over  $1\frac{1}{2}$  hr. to the S. peak. In 1896 the same indefatigable climber effected a new route up the S. peak from the Bans glacier, by way of a rocky spur (reached from the N.) projecting from the great E. wall of the peak, the S. arête being then gained, and mounted to the summit. But these two routes are far harder and more roundabout than that of 1878, which has been adopted by the comparatively few travellers who have hitherto attacked this grand rocky summit.

#### ROUTE E.

##### VÉNÉON VALLEY TO THE VALGAUDEMAR.

It was explained in Rte. C that the direct passes from the Vénéon valley to the Valgaudemar on the S. cross only the E. portion of the great S. wall of the Vénéon valley; but, though the range which they traverse is thus of comparatively limited extent, there are no fewer than five main passes across it, the three first to be described leading from La Bérarde over to Le Clot, at the head of the Valgaudemar, and the two others from St. Christophe more directly to La Chapelle, its principal village. The Cols du Says and de la

Muande are the easiest, and the Col des Sellettes by far the hardest, while the Col des Rouies can very easily be combined with the ascent of the *Sommet des Rouies* (3,634 m., 11,923 ft.), one of the chief belvédères of the Dauphiné Alps.

1. *By the Col du Says.*—This pass has long been known to the natives, though the first passage by a foreign traveller seems to have been that by the late Principal Forbes in 1841.

The lower plateau of the great Pilatte glacier (see last Rte. 3 and 4) is joined by the crevassed *Says* glacier, flowing from the S.W. It takes about  $1\frac{1}{2}$  hr. from the Carrelet Club hut (Rte. D. 2)—which is itself  $1\frac{1}{2}$  hr. from La Bérarde—to reach that lower plateau. The icefall of the *Says* glacier is turned by easy rocks (crystalline overlaid by slate) on its left bank, and above, snow slopes, intersected by some crevasses, lead to the Col, 3,136 m., 10,289 ft. (2 hrs., or 5 hrs. from La Bérarde).

The most striking object from the Col is the *Ailefroide* on the N.E., which, generally having the appearance of a broad wall, from this point has the air of a tremendous rocky cliff, streaked here and there with snow. On the S.E. of the Col is the *Mont Gioberney* (3,350 m., 10,991 ft.), accessible in  $1\frac{1}{2}$  hr. by an easy snow ridge (also in 2 hrs. or so direct from the lower plateau of the Pilatte glacier), while on the N.W. is the S. Summit of the *Pics du Says* (3,409 m., 11,185 ft.), best reached from the foot of the icefall of the *Says* glacier in  $2\frac{1}{4}$ – $2\frac{3}{4}$  hrs. by the N.W. branch of that glacier, and then either the N. or S. rocky ridge.

The descent from the pass into the Valgaudemar lies down a short snow wall, succeeded by steep broken and partially disintegrated talcose rocks, which seem worse than they really are. Beyond, pastures are traversed horizontally along the N. side of the upper *Severaisse* glen till near a waterfall it is possible to descend to the level of that glen. At the head

of this glen there are gold and silver mines, worked a few years ago by an English company. The path from them along the left bank of the Severaisse, or (shorter) that along the right bank of the same stream, is followed to *Le Clot* ( $2\frac{1}{2}$  hrs. from the Col), in the Valgaudemar, of which more will be said under 3. below.

2. *By the Col du Chardon*.—This pass (3,092 m., 10,145 ft.) is rather shorter than the Col du Says, and is therefore here briefly noticed. It is reached from the *Chardon* glacier (see under 3) by the *Petit Chardon* glacier, which flows into it from the S.E., while on the other side, a good  $\frac{1}{2}$  hr. after leaving the pass, and crossing a small glacier, the Col du Says route is joined. This is the shortest way from La Béarde to the Valgaudemar; less than 5 hrs. suffice for the ascent from La Béarde, and rather more than  $2\frac{1}{2}$  hrs. for the descent to Le Clot.

3. *By the Col des Rouies*.—It is scarcely possible to imagine an easier route than that from La Béarde to this pass, so that travellers who do not desire to make any adventurous expeditions in the higher regions of the Dauphiné Alps should not fail to visit at least the *Chardon* glacier, if not the very easy *Sommet des Rouies*, at its head.

From La Béarde the Vénéon stream is crossed on leaving the inn, and then a mule path winds round the flanks of the *Rocher de l'Encoula*, passes high above the junction of the *Chardon* side glen with that of Pilatte, and some way beyond (many beautiful Alpine flowers are to be found *en route*) gradually descends to the level of the wide and nearly level *Chardon* glacier ( $1\frac{1}{2}$  hr. from La Béarde). This is mounted without the slightest difficulty, the traveller having on his left the very steep ice and snow wall of the *Vaxivier*, and on the right a series of precipitous rocky summits, on the ridge between the *Chardon* glen and that of Les Etages. At the end of the level por-

tion of the glacier grassy and rocky slopes on the right lead up to the small *Âne* glacier (2 hrs. from the point at which the *Chardon* glacier was entered upon).

Immediately to the W. is the *Col de la Lavey* (3,330 m., 10,926 ft.), reached in  $1\frac{1}{2}$  hr. more. It is in a most singular topographical position. The *Âne* glacier joins the La Lavey glacier, which sends one arm into the Etages glen on the N., while the main stream flows S.W. into the La Lavey glen. From this pass 2 hrs. suffice to gain the chalets in the La Lavey glen (see 4. below), while the bold rocky crag of the *Pointe des Etages* (3,564 m., 11,693 ft.) can be best ascended in  $2\frac{1}{2}$  hrs. from the Col by way of the S. face or W. ridge, a sharp rock ridge leading on from a lower summit to the culminating point. It is the second highest peak on the ridge between the *Chardon* and Etages glens, all of which, with this exception, can be climbed from either side.]

A traveller bound for the Col des Rouies should, from the *Âne* glacier, bear S.W., so as to gain the upper plateau of the *Rouies* glacier, above the great icefall by which it descends to the *Chardon* glacier, and then, passing along the base of the *Sommet des Rouies*, and bearing S.E., the snowy ridge of the pass (3,300 m., 10,827 ft.), just W. of a rocky mound, is attained ( $5\frac{1}{2}$  hrs. from La Béarde).

From the plateau of the Rouies glacier the *Sommet des Rouies* (3,634 m., 11,923 ft.) may be reached with ease by either ridge in about 5 hrs. from La Béarde. It was first ascended in 1873 by Messrs. Gardiner, Cox, and W. M. Pendlebury, and Rev. C. Taylor. In the opinion of some competent judges the panorama from this point ranks among the very finest in the whole of the Dauphiné Alps, the view over the ranges far away to the S. being extremely impressive. It can be attained from La Lavey either by way of the Col of that name—see above—or from the *Muande*

glacier, on the W.; the best route thence is that discovered by M. Reynier in 1894, who from close to the Col de la Muande crossed the *Pointe de la Muande* (3,319 m., 10,890 ft.) in 1 hr. 20 min. to the foot of the S. arête of the Rouies, by which that summit was attained in 2 $\frac{3}{4}$  hrs. more.]

The descent on the other side of the Col des Rouies lies down snow slopes and a snow gully to the lower part of the E. bit of the *Grande Roche* glacier, the E. bank of which is henceforth followed down several rocky steps, and then one or other bank of the torrent from the glacier; the right bank of the *Severaisse* torrent is gained  $\frac{1}{2}$  hr. above *Le Clot* (1,463 m., 4,800 ft.), the highest village in the Valgaudemar (2 $\frac{3}{4}$  hrs. from the pass).

[*Le Clot*, which now boasts a small mountain inn at the hamlet of *Le Plaine*, is very good headquarters for the exploration of the neighbouring peaks. Several have been mentioned under 1, 2, and 3, above, while the *Pic des Aupillous*—with the passes to the Vallouise—is described in Rte. K. below, as also the principal summits of the fine, but very rarely visited, Bonvoisin group on the E. Perhaps the finest ascent to be made from *Le Clot* is that of *Sirac* (3,438 m., 11,280 ft.), on the S.E., a very grand mountain, the N. precipices of which are torn by countless steep gullies, which give it a fluted appearance; it is 6 $\frac{1}{2}$  hrs. from *Le Clot*, the route being noticed in some detail in Rte. M. I, in connection with the Col de Vallonpierre, giving access from *Le Clot* to the head of the Drac valley.]

*Le Clot* is in a most savage and wild situation, surpassing even that of *La Béarde*. It is about 2 hrs. (mule path) hence through very desolate scenery, and over many stones, to *La Chapelle*, the principal village of the valley. The valley is remarkable for its narrowness, and the steep inclination of the slopes on either side. Several

miserable hamlets are passed on the way, and the stream is crossed once beyond the fine waterfall of *Le Casset*, where the char road (2 m.) begins. The *Valgaudemar* or *Severaisse* valley, E. of Villard Loubière, forms the commune of 'Guillaume Pérouse,' while the Navettes glen, which opens S. of *La Chapelle*, forms that of 'Clémence d'Ambel.' These curious names are derived from Clémence, a 15th-century descendant of one of the coheireses (in the 14th century) of the lordship, and Guillaume Pérouse, the purchaser (in the 16th century) from the heirs of another, and are still in official use.

*La Chapelle en Valgaudemar* is built in a very picturesque position, on the left bank of the *Severaisse*, amid trees, and at the mouth of the savage gorge on the S. through which thunders the *Navettes* torrent. (For the peaks of the *Parières* and the *Chaillol* ranges and the passes over them, see Rte. M. 2, 3, and 4.)

[N. of *La Chapelle* is the magnificent rock summit of the *Pic d'Olan* (3,578 m., 11,739 ft.), just at the point where the S. wall of the quadrangle formed by the great ridges of the Pelvoux group bends from W. to N.W. It has two principal peaks. The more southerly of these was first conquered in 1875 by Mr. R. Pendlebury, while in 1877 Mr. Coolidge pushed on to the slightly higher N. Summit: in both cases the ascent was made by a long and difficult route from *La Chapelle* by way of the *Clot* glacier, at the S.W. foot of the peak, and the great S.W. rock wall, a lower point being traversed on the way to the S. Summit (8-8 $\frac{1}{2}$  hrs. from *La Chapelle*), and the N. summit gained, by a descent into a deep gap, and a reascent, in an hour more. But this laborious route has now been superseded by two much better ones. In 1880 Mr. Cust climbed the N. Summit from near the *Brèche d'Olan* mainly by way of the great rocky N. ridge and its E. slope (3 $\frac{1}{2}$  hrs. from the Col, or 7 hr. from the *La*



Lavey Club hut). Finally in 1891 Mr. Alfred Holmes struck out another route from the Olan glacier, at the head of the *Combe Froide*, S.E. of the peak, climbing thence up the rocks on the left bank of the great snow couloir (at the end up the couloir itself), descending from the notch between the two summits to that notch, whence the 1877 route was followed.  $7\frac{1}{2}$  hrs. should be allowed by this route from La Chapelle: from near the upper end of the great couloir it is possible to avoid the notch, and to climb straight up to the S.W. ridge of the N. Summit. The Olan is a fine peak from all sides, especially on the N.W., from the head of the Valjouffrey. ]

There is a char road from La Chapelle along the right bank of the Severaisse to *St. Firmin en Valgaudemar*, at its entrance (10 m.), which is 11 m. from Corps, or 4 m. from the main road between Corps and Gap (Rte. P). On the way down from La Chapelle *Villard Loubière* ( $2\frac{1}{2}$  m.) and *St. Maurice* (6 m.) are passed; from both places, as also from La Chapelle, there are passes over to the Valjouffrey, which are noticed in Rte. O.

4. *By the Col de la Muande*.—Some distance higher up the Vénéon valley than *St. Christophe*, and just at the point where it bends from W. to N.W., a considerable side glen opens on the S. This is the *La Lavey* glen, the chalets in which (where there was formerly a small Club hut), 1,780 m., 5,840 ft., may be reached in  $2\frac{1}{2}$  hrs. from *St. Christophe*, or in 3 hrs. from *La Béarde*, the respective paths descending from the main mule path in order to cross the Vénéon, and then making a steep ascent by the right bank of the torrent to the upper level of the valley.

[Besides the *Pic d'Olan*—3. above—several other peaks can most conveniently be climbed from these chalets, such as the *Tête des Fétoules* (3,465 m., 11,369 ft.), on the E.,  $4\frac{1}{4}$  hrs., or the *Bec du Canard*

(3,270 m., 10,729 ft.), on the W., 4 hrs. For the *Aiguille d'Olan* and the *Aiguille des Arias* see Rte. F., as well as for the *Brèche d'Olan* to the *Valjouffrey*. For the *Col de la Lavey* to the *Chardon glacier*, the *Sommet des Rouies*, and the *Pointe des Etages* see 3. above. ]

The head of the *La Lavey* glen is closed by two glaciers, separated by the N. ridge of the *Cime du Vallon*, and unexpectedly extensive. Over that to the S.E. leads the *Col de la Muande*, while over that to the S.W. lies the route of the *Col des Sellettes* (5. below). For the former the *right* bank of the torrent is mounted for an hour to the end of the glen, whence a short two hours up grass and débris suffice to reach the right bank of the *Muande* glacier. This is then mounted in a S.E. direction to the natural gateway which forms the *Col*, 3,059 m., 10,037 ft. ( $1\frac{1}{2}$  hr., or  $4\frac{1}{2}$  hrs. from *La Lavey*.) (For the ascent of the *Pointe de la Muande* (3,319 m., 10,890 ft.), on the E., in 1 hr., and of the *Rouies* in 2 hrs. 50 min. more, see under 3. above.)

A steep snow or ice couloir leads down in  $\frac{1}{2}$  hr. to the *Lauzon* glacier, which is quitted on its right bank. Three-quarters of an hour below is a shepherd's hut, whence a rough path brings the traveller in  $\frac{3}{4}$  hr. more to the hamlet of *Rif du Sap* in the *Valgaudemar*, about 1 hr. above *La Chapelle* or below *Le Clot*, either being thus reached in 3 hrs. from the pass.

5. *By the Col des Sellettes*.—This is a much more difficult pass than the *Muande*, and in fact, so far as regards its N. side, one of the most difficult in *Dauphiné*, but in mere point of distance it is the most direct from the Vénéon valley to *La Chapelle en Valgaudemar*. It was first crossed by Mr. Coolidge in 1876. The *left* bank of the torrent is followed from *La Lavey* up the glen, and then by a diagonal ascent across the stones on the E. flank of the *Aiguille d'Olan* the plateau between the two icefalls of

the *Sellettes* glacier is attained (2 hrs.) Leaving to the W. the way to the Pic and Brèche d'Olan (which mounts by rocks on the left bank of the glacier to its upper plateau), this lower plateau is crossed to the foot of the final slope. Either the séracs must be forced far to the E., or a very steep rocky buttress climbed on the W., so as to gain the gentle snow slopes by which the pass (3,200 m., 10,499 ft.) is attained (4½ hrs. from La Lavey). It is worth while to mount by the snowy ridge to the *Cîme du Vallon*, 3,418 m., 11,214 ft. (a good ½ hr.), on the S.E.

A rocky barrier leads down to the E. bit of the *Olan* glacier, below which (1 hr.) the right bank of the *Combe Froide* is followed to the shepherd's hut at its junction with the *Combe du Clot* (¾ hr.), 1 hr. above La Chapelle (2¾ hrs. from the pass).

#### ROUTE F.

##### VÉNÉON VALLEY TO THE VAL- JOUFFREY.

At the Pic d'Olan the S. wall of the quadrangle formed (as observed above) by the main ridges of the Pelvoux group ceases to run E. and W., and takes a N.W. direction. This allows the long and winding valley of the *Bonne* (or the *Valjouffrey*), with its side glen of the *Béranger* (or *Valsenestre*) to thrust itself in between the Vénéon and Severaisse (or Valgaudemar) valleys, a fact which means that there are passes from the Vénéon valley to the two glens just mentioned, and it is well to devote a few words to them, since they enable a traveller to gain La Mure and the lower valley of the Drac direct from the Vénéon valley.

The *Valjouffrey* may be gained from St. Christophe through three side glens of the Vénéon valley.

(a) From the head of that of *La Lavey* (described in the last Rte.) it is necessary to bear round the E. base of the *Aig. d'Olan* (3,383 m., 11,100 ft.) to the upper and W. plateau of the *Sellettes* gl., across which is the *Brèche* or *Col d'Olan*, 2,962 m., 9,718 ft. (3½ hrs. from La Lavey.) An easy descent down a broad snow couloir leads into the head of the *Bonne* valley, through which a wearisome walk brings the traveller to Le Désert (Rte. O), in 3½-4 hrs. from the pass. From near the top of the pass the N. and highest summit of the *Pic d'Olan* (3,578 m., 11,739 ft.) may be climbed by its steep N. ridge (many falling stones) in 3½ hrs., while the *Aiguille d'Olan* (3,383 m., 11,100 ft.), opposite, may be climbed by its S. face in about 1½ hr.

(b) A more direct route lies through the *Mariande* glen, the entrance of which is gained by mounting the very steep path opposite St. Christophe to the *Alpe du Pin*, and then rounding the spurs of the Tête de Lauranoure. The pass at the very head of the glen, seen over the considerable *Mariande* gl., is the *Col de la Mariande*, above the main Valjouffrey valley, but by keeping more to the S.W. (finally nearly W.) the *Col de la Haute Pisse* may be crossed to the glen of that name. 7½-8 hrs. are required by either route, each pass being about 3,100 m. (10,171 ft.) high. If it is desired to climb the *Aiguille des Arias*, 3,401 m., 11,159 ft. (recommended), on the way, it is better to cross the ridge by the *Col des Arias*, just at the W. foot of the peak, which is thence attained in 2 hrs. by means of its S.W. arête; the lower summit ¼ hr. off, at the N. end of the final ridge, is visible from St. Christophe.

(c) Yet another glen is that of *Lanchâtra*, which joins the Vénéon valley at the N.W. end of the Plan du Lac. From the stone bridge a path mounts to the S. first gradually, then steeply to the hamlet of *Lan-*

*châtra* ( $2\frac{1}{2}$  hrs. from St. Christophe or Vénosc), high above the l. bank of the glen, and conspicuous from afar. The Lanchâtra glen is then followed to its head, in a due S. direction, and over the easy gl. the pass of *Les Berches* (3,050 m., 10,007 ft.), a notch between two rocky horns, being attained in  $4\frac{1}{2}$ –5 hrs. from the hamlet. (By bearing W. from the head of the glen over another branch of the gl. the E. foot of the **Roche de la Muzelle** (3,459 m., 11,349 ft.) may be reached, and the summit gained by the N.E. face in  $5\frac{1}{4}$  hrs. from Lanchâtra. The view is magnificent. It is possible to descend direct from the top to Valsenestre by the S.E. arête.) The descent down the Combe de la Pisse is straightforward, and in  $2\frac{1}{2}$  hrs. the Bonne valley is reached, 1 hr. above Le Désert.

There are also two passes which lead from the Vénéon valley into the **Valsenestre** branch of the Valjouffrey; the best starting point for both is Vénosc, though the second may also be taken from Bourg d'Oisans.

1. *Col de la Muzelle*.—This pass lies at the very head of the Muzelle glen, which joins the Vénéon valley just opposite Vénosc. The ascent to the *Muzelle lake* is long and steep (3 hrs.), thenceforth more gentle over shale and snow to the pass, 2,500 m., 8,202 ft. ( $1\frac{1}{2}$  hr.) It is certainly not passable for mules, as has been sometimes stated. A very steep shale slope leads down into a black gorge on the other side, through which the Béranger glen is reached in  $1\frac{1}{4}$  hr., and the hamlet of *Valsenestre* (Rte. O) in  $\frac{1}{2}$  hr. more; thence it is  $1\frac{1}{2}$  hr. ( $3\frac{1}{2}$  m.) by char road to La Chapelle en Valjouffrey. A climber will prefer to cross over the *Pic du Clapier du Peyron* (3,172 m., 10,407 ft.), going up the E. arête (attained from a point a little below the Col, on the Vénosc side) and down by the S.E. face.

2. *Brèche de Valsenestre*.—The Lauvitel glen opens out into the Vénéon valley at *Les Gauchoirs*,

between Vénosc and Bourg d'Oisans. The *Lauvitel* lake, one of the finest in the Dauphiné Alps and famous for its trout, some way above, is reached in 2 hrs. from Vénosc or  $2\frac{3}{4}$  hrs. from Bourg d'Oisans. The lake is crossed on a raft, or skirted by a track on its E. side, and then a long ascent over rocks, and up a small snow gully, brings the traveller to the pass (2,634 m., 8,642 ft.) in  $3\frac{1}{2}$ –4 hrs. from the N. end of the lake. (The *Signal du Lauvitel* (2,906 m., 9,534 ft.), on the W. of the pass, can be climbed on the way, either direct from the lake or by gaining its S. arête from the S.E.) A traverse to the r. (avoiding the steep gully just below the pass) brings the traveller to the head of a grassy hollow, where it is necessary to keep to the l. in order to descend straight down the gorge to the village of *Valsenestre* (3 hrs. from the pass).

## ROUTE G.

### BRIANÇON TO VALLOUISE. ASCENT OF THE MONT PELVOUX.

In the six preceding Rtes. we have described the main valley of the Pelvoux District, that of the *Vénéon*, but the Mont Pelvoux itself is not accessible, nor even visible, from any point in that valley or its immediate neighbourhood, though of course from the ranges which enclose it the Pelvoux is a conspicuous feature in the view. To approach that peak it is necessary for the traveller to make his way to the **Vallouise**, a glen traversed by the *Gyronde* stream, which joins the Durance under La Bessée. This valley occupies a unique topographical position. It is, in the first place, the only considerable valley of the main Pelvoux group which opens on its E. flank. It is further made up of two chief branches, those of the



*Gyr* on the N., and of the *Onde* or *Bans* on the W. (uniting at the principal village), which are again split up into a number of side glens. The more northerly (that of *St. Pierre*) of these two branches is the more remarkable, for not only, as might be expected, do passes lead through it to the *Vénéon* valley (Rte. D), but also to *La Grave* on the W. side, and to *Monétier* on the E. side of the *Col du Lautaret*; the reason is that from the *Roche Faurio*, on the main watershed, a great ridge runs N.E., then S.E., while from one of the highest points on it, the *Montagne des Agneaux*, a spur runs due N. through the *Combeynot* group to the summit level of the *Col du Lautaret*. In this way a great number of passes lead from the *Vallouise* to the *Romanche* valley, both indirectly through the *Vénéon* valley, and directly past the head waters of the *Romanche* itself, while others give access to that of the *Guisane* (Rtes. D, H, and I). If now we turn our attention to the more westerly (that of the *Onde* or *Bans*) of the two principal branches of the *Gyr*onde we find that by it not merely can the *Valgaudemar*, its natural continuation on the W., be attained, but also through various side glens the head waters of the *Drac* itself (Rtes. K and L), which ultimately receives the stream flowing from the *Valgaudemar*. The *Vallouise* is thus most important from a topographical point of view, but, as its chief hamlet, *Ville Vallouise*, lies low (1,150 m., 3,773 ft.), any ascents made direct from it are long and laborious, so that it will be visited mainly by those travellers who reach it by some pass. The new inn at *Ailefroide* (2 hrs. higher) is destined to become the principal resort of travellers in this neighbourhood, at any rate of those desirous of exploring the N. branch of the valley.

*Vallouise* is best reached by a char road (picturesque in parts) of 6 m. from the *L'Argentière-La Bessée* sta-

tion of the *Briançon* and *Grenoble* railway (Rte. Q), which is 8 m. below *Briançon* and 9 m. above *Montdauphin-Guillestre*, so that this valley is very easily attained by a traveller coming from the *Viso* district through the *Queyras* (§ 4. Rte. B). The road winds round a projecting spur past *Les Vigneaux*, in order to gain the wooded level of the valley, backed by the imposing mass of the *Peloux*. The left bank of the *Gyr*onde is followed, till it is crossed to enter the main village of *Ville Vallouise* (1,150 m., 3,773 ft.) There is here a fine parish church of the early fifteenth century, with a very remarkable and striking porch of the sixteenth century. But otherwise the village is composed of poor and miserable houses. In the Middle Ages the valley was named 'Vallis Puta' (or the infected valley), because it was inhabited mainly by heretical *Waldensians*. Many attempts were made by the Pope to convert them, and in the fifteenth century a number of bloody persecutions took place here. In 1478 the valley received its present name from *Louis XI.*, who took the inhabitants under his protection, but it had largely to be re-peopled, and the present dwellers are a stunted race, much subject to the *goître*. For the reason given above there are few climbs which can conveniently be made direct from *Vallouise*, most of the neighbouring summits being best attained by way of the various passes leading from the valley. With the single exception of the *Mont Peloux*, the *Pointe de l'Aiglier* (3,325 m., 10,909 ft.), to the S.W., is the expedition most to be recommended from *Vallouise* itself. It is accessible in little more than 5 hrs. by way of the pretty *Narreyroux* glen, and then the N.E. arête and S.E. face, or S.W. arête, no difficulty being encountered, although there are many stones at the end of that glen. It is a very fine *belvédère*.

But the main object of a mountaineer who finds his way to *Vallouise*

is the ascent of the **Mont Pelvoux**, the best known peak, though but the third (possibly only the fourth) in height, of the Dauphiné Alps. Its summit consists of a snow basin, with the edges irregularly chipped, and one side (the S.) quite broken away; on its rim rise the various points which together form the Mont Pelvoux, while the basin itself is supported upon a conical and very lofty pedestal of rock, which presents a magnificent sight from all sides. From this basin glacier tongues descend in different directions, but in these pages we may pass over that to the E., as well as the precipitous N.W. wall, by both of which daring climbers have forced their way to the summit. The usual route lies up the S. slope of the mountain, while there is another route by the W. slope, and these alone need here engage our attention. The uppermost basin was first attained as far back as 1830 by Captain Durand, who spent two nights there, but does not seem to have gone from the rock-crowned *Pyramide* (3,938 m., 12,920 ft.) to the snowy and rather higher *Pointe Puiseux* (3,954 m., 12,973 ft.), a little to the S.W. The latter point was attained in 1848 by M. Victor Puiseux, and is that ascended in 1861 by Messrs. Whymper and Macdonald, whose ascent first made known this fine mountain, which up to that time had been wrapped in mystery. In 1862 Mr. F. F. Tuckett discovered the true route to the summit, while in 1881 Mr. Coolidge effected a new and generally easy route from the W. It may suffice to simply mention Dr. Passavant's ascent in 1882 from the E., and that of Mr. Swan in 1891 from the N.W., the last-named expedition being one of the most splendid achievements of modern mountaineers. The night before the ascent is generally spent in the Club hut, known as the **Refuge de Provence** or **Lemercier** (2,724 m., 8,937 ft.), which is  $1\frac{1}{2}$  hr. from the old Refuge Puiseux, on the route of the Col du Sélé (see

Rte. D. 3), the latter being  $3\frac{1}{2}$  hrs. from Vallouise past Les Claus, and up the *Celse Nièvre* glen. Mr. Tuckett's route, which is by far the shortest and best, mounts direct N. by the rocks E. of the little *Clot de l'Homme* glacier, high up on the left bank of which a snow gully gives access to the upper basin; crossing this either of the chief summits is attained in 3 hrs. or less from the Club hut. The *old* route (that of 1861) from the Refuge crosses (not always easy) to the right or W. bank of the small glacier named, and then mounts the long and wearisome steep rocks known as the *Rochers Rouges*: this way is often preferred by the local guides, but is nearly an hour longer than that just described. When there is much snow on the rocks it is better to cross to the right bank of the glacier, as stated, and then to bear round in a W. direction to the edge of the *Sans Nom* glacier, some way up which a great snow wall on the E. gives access to the upper basin, reached close to the *Pointe Puiseux*, which may thus be attained under favourable conditions in  $3\frac{1}{2}$  hrs. from the Club hut.

From that glacier the *Pic Sans Nom* (3,915 m., 12,845 ft.) can be climbed by the rocky S.E. face and W. arête in  $4\frac{1}{4}$  hrs. from the Refuge, while by a further traverse to the W. the *Petit Pic Sans Nom* (3,588 m., 11,772 ft.) may be reached, mainly by its N.E. ridge, in  $5\frac{1}{2}$  hrs. from the Club hut.]

The prospect from the Pelvoux is very extensive and magnificent. One of its chief features is the wonderful sight of the S. wall of the Ecrins, seen across the deep hollow of the Glacier Noir. The Mediterranean is certainly not seen from the summit.

Besides the two principal summits, there are also the *Trois Dents*, and the *Petit Pelvoux* (3,762 m., 12,343 ft.), both S.E. of the *Pyramide*. It is easy, and a very pleasant excursion, to climb all four on the same day, which makes a splendid high-level

route. It is best to first reach the Pointe Puisseux, and then to follow the ridge towards the E., as the Petit Pelvoux is just E. of the snow gully by which the ascent to the upper basin is best made from the Provence Club hut.  $1\frac{1}{2}$  hr. or less should suffice for the round from and back to the point at which the upper snow basin is attained by Mr. Tuckett's route.

### ROUTE H.

#### VALLOUISE TO LA GRAVE.

It was pointed out in the last Rte. that, owing to the great spur which runs eastwards from the Roche Faurio, on the main watershed, and a ridge which parts off in a N. direction to the Col du Lautaret, there are direct passes from the Vallouise both to La Grave and Monétier, on either side of the Col du Lautaret. They all lead naturally through the N. branch of the Vallouise, the routes thither being, for a longer or shorter distance, identical with those of some of the passes to La Béarde (Rte. D). In this Rte. it is proposed to notice the direct passes to La Grave, the less important, as well as lower, routes to Monétier being described in the following Rte.

In the case of all three of those leading to La Grave the best starting point is the *Tuckett Club hut* (Rte. D. 1), 2,504 m., 8,216 ft., 5 hrs. above Vallouise.

Of the three passes to La Grave which lead from the upper snows of the *Glacier Blanc*, one only, the *Col Emile Pic*, is of practical interest to travellers, though it is the most recently discovered. The oldest pass, the *Col du Glacier Blanc* (3,308 m., 10,854 ft.), first achieved by Mr. Tuckett in 1862, though perfectly easy (as are the two others) on the *Glacier Blanc* side, is defended on the

La Grave side by a high and steep wall of shattered rocks, which offers considerable difficulties; it leads to the short but broad *Arsine* glacier, which is one of the very few glaciers in the Alps which send streams to two distinct rivers, as it overlaps the nearly level summit of the Col d'Arsine, between the Romanche and Guisane rivers. 7 hrs. are required by this pass from the Club hut to the little mountain inn at *Alpe*, but the descent of the wall, like the descent of the couloir in the case of the next pass, is far harder than its ascent. Far to the S.W. of this pass, and just N.E. of the *Roche Faurio* (3,716 m., 12,192 ft.), is the *Col de la Roche Faurio* (3,470 m., 11,385 ft.), first crossed in 1874 by Messrs. R. Pendlebury and C. Taylor. On the La Grave side there is a long, steep, and dangerous couloir of ice or snow, the rocks on the left side of which must be followed, after the highest steep ice slope has been passed. But this couloir prevents the pass from being fit for any but a few climbers, and hence it is of little practical use. It has a frozen lake on the summit, and from it the *Roche Faurio* may be climbed in  $1\frac{1}{4}$  hr., or rather more by way of the *Glacier Blanc* and the E. arête. It is one of the most favourable points whence to study the N. face of the *Ecrins*.

The *Col Emile Pic* (3,502 m., 11,490 ft.), just S.W. of the *Pic de Neige Cordier* (3,615 m., 11,861 ft.), was discovered and crossed in 1877, the name given to it being that of the leading guide on the occasion of the first passage. It is the true route from Vallouise to La Grave. From the Club hut the upper snows of the *Glacier Blanc* are gained by the *Col des Ecrins* route (Rte. D. 1), and then a short ascent to the N.W. up snow slopes and a small rocky barrier brings the traveller to the pass in an easy 3 hrs. from the Club hut. It is the *left-hand* one of two depressions.

The rather limited view from the Col itself may be greatly extended by



mounting in  $\frac{1}{2}$  hr. by snow slopes and a rock ridge past a first summit to the highest point of the *Pic de Neige Cordier*, which is one of the best view-points in the Dauphiné Alps. No one crossing the pass in fine weather should neglect to make this slight détour.

On the other side of the pass the *Agneaux* glacier descends rather steeply towards the infant Romanche. But there is no real difficulty, as a rule, in passing this glacier, the lower portion of which is avoided by easy rocks on its right bank. In this way the level of the *Lower Plate des Agneaux* glacier (see Rte. C. 5) is attained in 2 hrs. or so from the pass, and thence the route of the Col de la Casse Déserte (Rte. C. 5) followed to the mountain inn at Alpe ( $1\frac{1}{2}$  hr.)  $6\frac{1}{2}$  hrs. thus suffice for this pass, which, though high, is one of the easiest in the district.

## ROUTE I.

### VALLOUISE TO MONËTIER.

In this Rte. we have to consider the S.E. half of the great spur running eastwards from the Roche Faurio. None of the three passes to be noticed offers any real difficulties, the third, indeed, being traversed by a mule path, and being the usual way from Vallouise to the Guisane valley. Mountaineers are *strongly* recommended to select the Col Tuckett, combining it with the ascent of the Montagne des Agneaux, a most splendid belvédère.

1. *By the Col Tuckett.*—From the Tuckett Club hut a great hump of moraine on the N.E. is gained in  $\frac{3}{4}$  hr. Leaving on the right the way to the *Col Jean Gauthier* (practically a variation of our pass), it is then necessary to climb up the E. slope of the steep but good rocks which sup-

port on the E. the glacier flowing from our pass. The icefall is thus turned, and then the easy upper snow slopes give access to the pass, 3,500 m., 11,483 ft. ( $3\frac{1}{4}$  hrs. from the Club hut), which is a rocky ridge, and was first traversed in 1879 by Messrs. F. Gardiner and L. Pilkington.

[It is close under the *Montagne des Agneaux* (3,660 m., 12,008 ft.) on the N.W., and this summit can be attained in  $\frac{1}{2}$  hr. from the pass by its rocky N.E. face. It commands a most extensive and magnificent view, which includes Mont Blanc and Monte Rosa, with Villard d'Arène, and Monëtier, as well as Puy St. Vincent, near Vallouise. It was first climbed in 1873 by Mr. Coolidge, who took  $5\frac{3}{4}$  hrs. from the Alpe chalets, by way of the Arsine glacier, and a great W. buttress of the N. ridge, two lower summits being traversed. This route might well be reversed— $3\frac{3}{4}$  hrs.—by a mountaineer who is bound from the Club hut to Alpe.]

The descent is simple and straightforward. It is best to pass to the right of a rocky promontory in the *Monëtier* glacier, which is quitted in 1 hr. on its left bank. Thence the *Tabuc* glen is followed, at first on its left, then on its right, side to *Monëtier*, which is reached in  $3\frac{1}{2}$  hrs. from the pass. The whole expedition is one of the pleasantest and most delightful in the district.

2. *By the Col de Séguret Foran.*—This is a dull and tiresome pass on the whole, but enables the traveller to gain some idea of the considerable Séguret Foran snow-fields, from the highest point of which there is an interesting view.

The start is made from the *Cézanne Club hut*,  $3\frac{1}{2}$  hrs. from Vallouise, on the Pré de Madame Carle (Rte. D. 1). The path *back* towards Vallouise must be followed for a few minutes till the stream is crossed, and then a most wearisome and fatiguing climb up the shifting stones, and débris, in the long and rather steep *Rif* ravine, which ends in a snow gully, leads up to the

pass, 3,336 m., 10,945 ft. (5 hrs. from the Club hut), on which there is a small glacier lake. The French Government map is wrong in these regions, so that the *most recent* edition of M. Duhamel's maps should be carefully studied, as there are several ravines, and none is better than the Rif.

【The pass is level with the snows of the great Séguret Foran glacier, and from the Col 40 min. suffice to mount gently by snow slopes on the S.E. over the *Pic du Rif* (3,480 m., 11,418 ft.) to the *Pic des Arcas* (3,486 m., 11,438 ft.), the culminating point of the group. It was first reached in 1878 by Messrs. F. Gardiner, and C. and L. Pilkington, and commands an unexpectedly wide view, which ranges from the Diablerets to the Maritime Alps. The Pelvoux, opposite, is especially fine.】

By bearing across the Séguret Foran glacier in a S.E. direction it is perfectly easy to cross the *Brèche Gardiner* (N.E. and 20 min. distant is the *Pic Gardiner*, 3,400 m., 11,155 ft., which forms a glorious sight from near Monêtier), and so gain the path over the Col de l'Eychauda (see below). But if bound for Monêtier direct the traveller should bear far to the N.E., and descend by the right bank of the *Eychauda* glacier to the famous glacier lake of *Eychauda* at its foot (1½ hr. from the pass). Hence Monêtier is reached by descending the ravine to the green plain on the Col de l'Eychauda track, or else by crossing the ridge N. of the lake to the Tabuc glen, in order to join the route from the Col Tuckett.

3. *By the Col de l'Eychauda.*—This Col is by far the easiest and shortest way from Vallouise to any point on the Lautaret road, and is traversed by a fair mule path. There is a char road (3 m.) from Ville Vallouise up the main valley as far as the hamlet of *Les Claux* (¾ hr.), at the foot of the marvellous precipices of the Pelvoux. The mule track then

mounts due N. to a green plain, at the further end of which are the *Chambran* huts (1¼ hr.) On the way up the botanist may gather *Eryngium alpinum*. The ascent continues steeply in a slightly N.E. direction, keeping to the right of some precipitous rocks that appear to bar the passage. Above this step the traveller reaches a marshy basin, at the N.E. end of which is the pass (2,429 m., 7,970 ft.), 1½ hr. from Chambran, or 3½ hrs. from Vallouise. It is at the S.W. foot of the *Croix de la Cucumelle* (2,703 m., 8,868 ft.), which may be easily reached hence, and commands a fine view.

Now that there is an inn at Ailefroide it may be useful to note that from that spot there is a rough track which winds round the flank of the *Peyron des Claux* to a point above the first huts on the *green* plain described above.

【From the marshy plain several low and easy passes lead over in about 3 hrs. to various villages not far from Briançon.】

The mule path runs down the *Corvaria* glen, and by forests and meadows gradually descends to the *Guisane*, which is crossed just before entering Monêtier (1 hr. from the Col).

#### ROUTE K.

##### VALLOUISE TO THE VALGAUDEMAR.

The *Valgaudemar* forms, as has already been stated, the natural continuation to the W. of the W. branch of the Vallouise, and is therefore reached by passes through the latter. The Col du Sellar, indeed, at the extreme W. head of the *Bans* glen, or W. branch of the Vallouise, is a gateway which has been long known to the natives, though it would appear that the first foreign traveller to cross

it was the late Principal Forbes, in 1841. A more recently discovered route leads more to the S. over the *Col du Loup du Valgaudemar*, which has the advantage of enabling a traveller to see something of the very interesting and little known Bonvoisin group.

1. *By the Col du Sellar*.—On leaving Ville Vallouise the hamlet of *Villard* is passed, and then the new military road followed along the left bank of the *Bans* torrent up a stony glen, which occasionally becomes picturesque, with views of the high peaks at its head, and the Col always visible. In about 2 hrs. the chalets of *Entraigues* (1,610 m., 5,282 ft.) are attained. They stand at the junction, with the main valley of the *Selle* glen on the S.W., through which, besides the Col to be described under 2, other passes lead over to the head of the *Drac* valley, and to the *Fournel* glen (Rte. L. a). These huts afford the best night quarters in the *Bans* glen, particularly for the ascent of *Les Bans*, or of any of the peaks on the *Baufs Rouges* range, which separates this glen from that of *Celse Nière* on the N. (Rte. D. 4.) The main valley is mounted from *Entraigues*, always along the left bank of the torrent, to a small plain at the foot of the *Sellar* glacier (1½ hr.)

[Here parts off the route to the *Col de la Pilatte*, to *La Béarde*, as well as that for the ascent of *Les Bans* (3,651 m., 11,979 ft.) by its S. arête, a climb which takes about 6 hrs. from the *Bans* glacier—see Rte. D. 4.]

From this little plain it is possible to mount by the precipitous granitic rocks, seamed with veins of green felspar, on the left bank of the glacier to its upper basin, but it is generally better to climb those on the right bank, and then to cut up the not very difficult séracs, or cross under them, and climb the rocks on the left bank. Either way requires about 3¼ hrs., and then ¾ hr. more suffices to gain the shattered granite ridge of the

pass (3,067 m., 10,063 ft.), at the extreme N.W. or S.W. corners of the glacier (6½ hrs. from Vallouise).

[The view is mainly confined to the two valleys on either side of the pass, but may be much extended by ascending the *Pic des Aupillous* (3,506 m., 11,503 ft.), on the N., in about 3 hrs., either by following from the upper plateau of the *Aupillous* glacier the S. arête, or a spur till it joins that arête, or (easier) by the great snow couloir in the S.W. face, starting from the lower plateau of the same glacier. The very grand *Pic Bonvoisin* (3,560 m., 11,680 ft.), on the S. of the Col, has hitherto been only reached from the S. (see 2. below).]

A rocky barrier leads from the pass to the upper plateau of the *Aupillous* glacier, and a second but shorter one to the lower plateau. The glacier is quitted in ½ hr. on its right bank, and 1 hr. more down stones and pastures suffices to gain the edge of the rock wall overlooking the *Vallonpierre* glen, down which a track leads, the highest hamlet in the *Valgaudemar*, *Le Clot*, being reached in about 2 hrs. from the pass. Thence it is nearly 2 hrs. more down that valley (Rte. E. 3) to the principal valley, *La Chapelle*. There is no real difficulty in this pass, which is, however, rather long and monotonous.

2. *By the Col du Loup du Valgaudemar*.—This is a rarely traversed pass, and is rather longer than the *Col du Sellar*, but leads through a very curious and remarkable region, first explored by Messrs. F. Gardiner and L. Pilkington, in 1879. From *Entraigues* the left side of the *Selle* glen is mounted by the new military road to a shepherd's hut (1½ hr.) Here the way to the *Drac* valley and the *Fournel* glen (Rte. L. a) is left, and a glen opening just W. of the hut ascended. A rocky barrier leads up to a glacier, at the extreme N.W. corner of which is the pass (3,112 m., 10,210 ft.), about 4 hrs. from the hut, or 7½ hrs. from



Vallouise. Care should be taken to strike the ridge *N.* of the lowest depression, the great snow corniche which defends the pass being turned on the *N.*

[From the glacier just below the pass on the *W.* side the **Pic Bonvoisin** (3,560 m., 11,680 ft.) may be climbed in  $2\frac{1}{2}$  hrs. by ascending a steep buttress of reddish rock, which divides the two arms of the *Bonvoisin* glacier *S.* of the peak, and then by that glacier and the great couloir in the rocks of the *S.* face of the peak. It commands a very extensive view, which includes even the tip of the spire of the church at Vallouise. The *Pic Jocelme* (3,507 m., 11,506 ft.), *W.* of the Bonvoisin, may be gained from the Bonvoisin glacier by the snowy *S.* shoulder of the peak, overlooking that glacier, while it is easy to descend thence direct to Le Clot by the *S.* face of the great *W.* arête.]

The glacier on the *W.* side of the pass is quitted in 20 min. after descending a rocky barrier on the right where the ice stream narrows, and then stones and stony pastures lead down to a stony basin in  $\frac{3}{4}$  hr. more.

[Here on the *S.* is seen the crevasse glacier flowing from the *Col de Verdonne*, which gives access to the head of the Drac valley. The main interest of the pass, accessible in 3 hrs. from the stony basin, is that from it the striking summit of the *Pic de Verdonne* (3,324 m., 10,906 ft.), on its *N.E.*, may be climbed in 1 hr. by the *S.W.* arête and *N.W.* face. From it, as from the Bonvoisin, the view of Sirac, to the *S.W.*, is very grand.]

Le Clot is reached in  $1\frac{1}{4}$ - $1\frac{3}{4}$  hr. from the stony basin, either by always following the right bank of the stream or by crossing to its left bank, and then joining the track from the *Col de Vallonpierre* (Rte. M. 1), which crosses by a stone bridge to the right bank, 20 min. before entering Le Clot.

## ROUTE L.

### VALLOUISE TO GAP OR EMBRUN BY CHAMPOLÉON OR ORCIÈRES.

In the preceding Routes we have described the passes leading from the Vallouise in many directions, and must now complete this description by a notice of a very rarely visited district, through which it is easy to go in two or three days to Gap or to Embrun by the head waters of the **Drac**. Roughly speaking this region lies between the Valgaudemar on the *N.* and the railway from Briançon to Gap on the *E.* and *S.* Its highest summits are the *Pic Félix Neff* (3,222 m., 10,571 ft.), and the *Tête de Vautisse* (3,162 m., 10,375 ft.), in the *Freissinières* or *Biaisse* valley. A traveller who relishes rambles in unfrequented parts of the Alps will find much to interest him there, while with a single exception (the *Col de Rognon*, between the *Freissinières* and the upper Drac valleys) the passes offer no difficulties, though they are stony (mainly Eocene rocks), as is the district in general. It is most convenient to describe first the direct route from Vallouise to Gap, and then the various other ways by which from Orcières the valley of the Durance can be gained at or near Embrun.

A glance at the map will show that *S.* of and parallel to the Vallouise there are two glens, those of *Fournel* and *Freissinières*, which pour their waters into the Durance, and at their head abut on the watershed between the Durance and the Drac. The former leads to Champoléon, the latter to Orcières, both these places being connected with Gap by a char road.

(a) *By the Fournel glen and Champoléon.* — The *Fournel* glen joins the Durance valley at *L'Argentière* (for the silver mines, see Rte. Q), there being in its lower portion several fine earth pillars ('*colonnes coiffées*'). But if starting from Vallouise it is most convenient

either to cross the grassy *Col de la Pouterle* in  $2\frac{1}{2}$  hrs. to *Champ Disdier*, near the E. end of the Fournel glen, or (better and more direct) to reach its head by a higher pass. This is the *Col du Haut Martin*, over which and the Pas de la Cavale a military road from Vallouise to Champoléon was constructed in 1897. To reach it the route up the *Bans glen* towards the Col du Sellar (Rte. K. 1) must be followed as far as the chalets of *Entraigues* (2 hrs. from Vallouise). It is then necessary to mount to the S.W. up the *Selle glen*, at the extreme S. head of which is the pass ( $3\frac{1}{2}$  hrs. from Entraigues), which (*it must be carefully borne in mind*) leads over to the head of the *Fournel glen*, and *not* direct to the head of the Drac valley.

[The latter can be reached direct either by bearing S.W. from the head of the Selle glen to the *Col des Bouchiers*, a rough, stony pass just N.W. of the *Pic de la Cavale* (2,897 m., 9,505 ft.), or by mounting W. from the shepherd's hut in the Selle glen up a side glen, and by a rocky ridge in the midst of a crevassed glacier to the *Col du Loup du Val Champoléon*, a high, but not difficult, glacier pass. It may be noted as a topographical curiosity that these two passes alone give access *direct* from Vallouise to the head waters of the Drac.]

A short descent towards the Fournel glen is followed by a traverse in a S.W. direction to a second pass, the *Pas de la Cavale*, c. 2,740 m., 8,990 ft. ( $\frac{1}{2}$  hr.), which properly leads from L'Argentière to Champoléon. On the other side zigzags lead down in  $\frac{1}{2}$  hr. to the *Rognons glen*, at the N. foot of the difficult pass of that name, and in another  $\frac{1}{2}$  hr. to the junction of another glen, that of *La Pierre*, at the N.E. corner of which is the aforementioned *Col du Loup du Val Champoléon*, while at its N. end is the *Col de Verdonne* (Rte. K. 2), leading to Le Clot en Valgaudemar. The torrents from these two glens form

the longest of the streams which go to make up the Drac, and consequently rank as the Sources of that river, the scenery being most wild and savage. It is a dreary walk down the narrow and stony glen past two sets of chalets (*Chaumeille* and *Chau-meillon*) to the first hamlet, *Les Auberts* (1 hr.), in a most desolate and forbidding situation at the mouth of the *Issora glen*, through which the *Col de Vallonpierre* (Rte. M. 1) leads to Le Clot en Valgaudemar. It is about  $1\frac{1}{2}$  hr. more to the chief hamlet in the Champoléon valley, *Les Borels* (1,268 m., 4,160 ft.)

The *Champoléon valley* is very wide, though short, while the villages scattered along the banks of the infant Drac, the trees, and the savage rocks of the *Parières* group overhead remind one of Switzerland rather than of the bare and waterless ridges round Gap, or even round Orcières. (For the passes from Les Borels to the Valgaudemar, as well as for the ascent of the various peaks of the Chaillol and *Parières* groups to the N., see next Rte.)

A char road leads down the Champoléon valley along the left bank of the Drac to its junction (4 m.) with the Drac d'Orcières (see 2, below), and then turns W. with the united streams. It is 12 m. thence to *St. Bonnet*, between Gap and Corps (see Rte. P), but the traveller bound for Gap direct should take another road which crosses the low *Col de Manse*, E. of and parallel to the Col Bayard from Gap to St. Bonnet, Gap being thus 15 m. from the junction of the two main branches of the Drac.

(b) *By the Freissinières Glen and Orcières*.—This route will take a day and a half, but is much more interesting than that just described, though less direct.

The valley of *Freissinières* may be most easily reached from Vallouise by driving round by L'Argentière and Roche de Rame, the first hamlet, *Pallon*, being gained in about  $\frac{3}{4}$  hr.'s. drive from the latter station by a long

ascent across a strange ochre-coloured slope of disintegrated rock. Thence a drive of  $\frac{1}{2}$  hr. along the left bank of the *Biaisse* through the nearly level and fertile valley brings the traveller to the principal hamlet, *Les Ribes*, of the commune of Freissinières. A more interesting, though rather longer, route from Vallouise to Les Ribes is to cross the *Col de la Pousterle* (see *a.* above) to the Fournel glen ( $2\frac{1}{2}$  hrs.), and then a second grassy pass, the *Col des Lauzes* (*c.* 2,000 m., 6,562 ft.), by which Freissinières is attained in  $3\frac{1}{4}$  hrs. more.

[S.W. of Les Ribes is the *Tête de Vautisse* (3,162 m., 10,375 ft.), the second summit of the district. It may be ascended from Les Ribes in  $7\frac{1}{3}$  hrs. by a long, though not difficult, route by the *Bois de Monsieur*, the *Sellar* glen, and the S.W. arête. The view includes a very unknown district. Probably a shorter way up the peak would be from Dormillouse, whence the *Col de Couleau* can be gained in  $3\frac{1}{2}$  hrs., and then a traverse should be made to the gap S.W. of the summit, where the above route would be regained.]

Les Ribes is prettily situated amidst trees. A good  $\frac{1}{2}$  hr. up the valley is the hamlet of *Les Violins*, with the Waldensian chapel. For this valley till of recent years was inhabited mainly by a French branch of the Piedmontese Waldensians, among whom Felix Neff laboured (his residence was at La Chalp, in a side glen of the Queyras valley—§ 6. Rte. C) till his death in 1829 at the early age of 29. 20 min. further is *Les Mansals*, and then commences a steep zigzag ascent ('Le Tourniquet') along the N. slope of the valley by which, in  $1\frac{1}{4}$  hr. more, the last hamlet, **Dormillouse** (1,419 m., 4,656 ft.), is attained. It is at the junction of the *Ruffy* glen, through which the *Col des Terres Blanches* (2,728 m., 8,950 ft.) leads in 7 hrs. to Orcières, and the *Col de Couleau* (2,838 m., 9,311 ft.) in  $6\frac{1}{2}$  hrs. to *St. Clément*, in the Durance valley, 3 m. by rail

below Montdauphin, and 7 m. above Embrun.

*Dormillouse* is one of the most wretched and miserable hamlets to be found in the Alps, and of recent years most of its inhabitants have been removed to Algeria. To mountaineers it is of importance, as from it the highest and third peaks in the district can be ascended. The **Pic Félix Neff** (3,222 m., 10,571 ft.) is the loftiest point in the range on the N. of the village, which divides the Freissinières glen from that of Fournel. It was first climbed in 1880 by Messrs. Coolidge and Gardiner, who took  $4\frac{1}{2}$  hrs. from Dormillouse by way of the *Boudous* ravine, and a great buttress, descending from a snowy point on the ridge somewhat W. of the true summit. The ascent is a very stony one, but the view is very striking and quaint, Briançon being seen, as well as many little-known ranges. S.W. of Dormillouse is the **Grand Pinier** (3,120 m., 10,237 ft.), the ascent of which in  $3\frac{1}{3}$  hrs. is very easy by way of the *Palluel* lake and the S.E. arête, while the descent over the *Chaulier* glacier on its N. face to the Col d'Orcières track takes very little more than one hour, so that even if the start be made from Les Ribes it is not a very long day to take the peak on the way over the pass to Orcières.

From Dormillouse the track to the **Col d'Orcières**, 2,700 m., 8,859 ft. (called Col de Prellas on the French map), at the head of the *Biaisse* valley, passes through wild and rocky scenery, and traverses the torrent twice. It is about  $2\frac{1}{2}$ –3 hrs. from the village to the pass. Care should be taken at the last to bear *S.W.*, as at the N.W. corner of the glen is the *Col de Rognons*, whence there is a difficult descent to the sources of the Drac.

On the other side a nearly due S. course should be taken past the large *Estaris* lake over stones and pastures. (A tempting glen on the E. must be carefully avoided, as it ends in a



precipice over Prapic.) 2 hrs. or less suffice for the descent to **Orcières**, a considerable village at a height of 1,350 m., 4,429 ft., and distant 4 m. by char road from the opening of the Val Champoléon (see above), and 19 m. from Gap by the Col de Manse.

It is at the junction of the *Archinard* glen with the main valley of the *Drac d'Orcières*. The latter stream is formed by two torrents which unite at the hamlet of *Prapic*, 1 hr. above Orcières. The more northerly flows from the Grand Pinier, while the principal or southerly descends from a little known glen in which there is a fine waterfall, the *Saut du Laïre*. At the N.E. corner of the last-named glen is the *Col des Terres Blanches*, giving access to Dormillouse, while at its S.W. corner is the view-point of the *Mourre Froid* (2,996 m., 9,830 ft.), accessible from Orcières in about 6 hrs. by its W. or E. ridge. At the E. head of this glen, some way N.E. of the *Mourre Froid*, is the *Col des Tourettes* (2,580 m., 8,465 ft.), so called from some singular limestone pillars on the summit ridge. It may be gained in 1½ hr. from the Saut, which is rather over 2 hrs. from Orcières; while in 3 hrs. more from the Col the descent can be effected through the *Rabious* glen (wherein there are several earth pillars of friable limestone) to *Château-roux*, in the Durance valley, a station on the railway (Rte. Q), 4 m. below Embrun.

There is another, but longer (7 hrs.), way from Orcières to Embrun through the *Archinard* glen, and then over the *Col de Réallon* (2,519 m., 8,265 ft.) to the hamlet of *Réallon*, and thence by *Puy St. Eusèbe* in a S.E. direction over the mountain slopes. *Réallon* is connected by the *Col de la Coupa* (2,331 m., 7,648 ft.) with *Ancelle* (7 hrs. from Ancelle to Embrun), which is 10 m. by road from St. Bonnet. But the region between Orcières, Ancelle, and Réallon is very little known to foreign

travellers, and authentic information as regards it is much desired.

## ROUTE M.

### VALGAUDEMAR TO CHAMPOLÉON.

Due S. of the Valgaudemar, on the other side of a tolerably high ridge, is the valley of *Champoléon*, where different small streams unite to form the **Drac**, a very considerable river, which flows past St. Bonnet, Corps, and La Mure before joining the Isère at Grenoble; the longest of the torrents which form this river is that which flows S.W. from the foot of *Sirac* (3,438 m., 11,280 ft.), the principal summit in the ranges that enclose the Drac. Hence there are a number of passes by which it is possible to go from one valley to the other. Four in particular may be briefly noticed here, as with three of these one of the chief peaks in the range between the two valleys may be climbed on the way. They are described for the sake of convenience in order from E. to W., the first and second named being specially recommended to the attention of mountaineers.

1. *By the Col de Vallonpierre.*— This pass starts from *Le Clot en Valgaudemar*, which is about 2 hrs.' walk up the valley from the principal hamlet, *La Chapelle en Valgaudemar* (see Rtes. E. 3. and K, above). For the first  $\frac{3}{4}$  hr. or so the track is the same as for the Col du Loup du Valgaudemar, leading to the Vallouse (Rte. K. 2) up the glen which opens just S. of Le Clot. An ascent due S. by pastures leads to the muddy Vallonpierre lake (1¼ hr.), whence the right bank of the torrent is followed to a shale hollow from which a steep ascent leads to the shale ridge of the pass, 2,620 m., 8,596 ft. ( $\frac{3}{4}$  hr., or less than 3 hrs. from Le Clot).

【To effect the ascent of **Sirac** (3,438 m., 11,280 ft.), which rises E. of the Col, it is necessary to gain the glacier at its W. foot either from the plain near the Vallonpierre lake by the left side of the steep tongue of ice coming from that glacier, or from the Col itself by following the ridge to the E. to a cairn, whence rocks give access to the glacier. At the N.E. corner of this glacier there is a broad snow couloir, by which, or the steep rocks on its left bank, the main S.W. arête of the peak is attained, and its E. slope mounted by a curious path made by chamois to the summit.  $4\frac{1}{2}$  hrs. should be allowed from near the lake, or an hour less if coming from the Col. The view is extremely interesting as including a region very rarely visited by travellers hitherto. The first ascent of Sirac was made by Mr. Coolidge in 1877.】

A rough, but easy, descent leads in less than 2 hrs. from the Col down the left bank of the torrent in the wild *Issora* gorge to *Les Auberts* in the main Drac valley (Rte. L. a), whence it is a rather dreary walk of  $1\frac{1}{2}$  hr. down the narrow glen to the opening of the wide pasture basin of *Champoléon*, the inn being at the hamlet of *Les Borels*.

2. *By the Col de Parières*.—Immediately S. of La Chapelle en Valgaudemar is the pasture glen of *Navettes*, the torrent from which flows at the end through a deep gorge, so that a steep ascent of  $\frac{1}{2}$  hr. above its left bank is required to gain the upper level of the glen. At its head is the snow-streaked range of *Chaillol*. The Col de Parières and the three other passes to be described all start from this glen. Half an hour further is the hamlet of *Navettes*, and here our route bears E. up one or other bank of the *Tempier* torrent to the *Lauplat* pastures at the head of that ravine. The pass is then easily reached by the torrent flowing from the *Parières* glacier, and that glacier itself. It is c. 2,900 m. (9,515 ft.), and may be gained in 5 hrs. from La

Chapelle. The French map is very defective in this region, the older one of Bourcet being far preferable.

【Just S. of the pass is the S. and highest summit (c. 3,050 m., 10,007 ft.) of the **Pic de Parières**, accessible without any difficulty in under  $\frac{1}{2}$  hr. from the Col and commanding a very quaint view, especially of the great lakes of *Crupillouze* to the S.E. It was first climbed in 1883 by Monsieur Edmond Bayard. Both La Chapelle and Les Borels are visible from the summit.】

The way on the other side lies past the great lakes to the S. edge of the plateau whereon they rest, and thence there is a steep and rough descent, bearing gradually more and more to the right in order to gain the hamlet of *Les Clots*, in the Drac valley,  $\frac{3}{4}$  hr. above Les Borels, while there is another path which leads direct to *Les Baumes*, only  $\frac{1}{2}$  hr. above Les Borels, which is thus about  $3\frac{1}{4}$  hrs. from the pass.

3. *By the Col de Val Estrêre (Estrêche)*.—This is the easiest and most direct way from La Chapelle to Champoléon, but the pass itself is stony, and not very interesting. The track leaves the *Navettes* glen a little way beyond the hamlet of that name, and climbs steeply first up the *Buchardet* glen on the S.E., then by a great promontory between two ravines, and a crevassed névé. The pass is 2,620 m. (8,596 ft.), and may be reached in 5 hrs. from La Chapelle. Slippery shale slopes, honeycombed by ravines, lead down to the head of the Val Estrêre (Etroit), and thence a rough track gives access in  $\frac{1}{2}$  hr. more to *Les Baumes*,  $\frac{1}{2}$  hr. above *Les Borels*, which is reached in this way in  $1\frac{3}{4}$  hr. from the pass. The route on the N. side is rather intricate, and it is very easy to miss the right track in cloudy or stormy weather.

4. *By the Cols de Mancros and de Navettes*.—These two passes are at the extreme head of the *Navettes* glen, and are only separated by the two conspicuous teeth, now known

as the *Jumeaux de Chaillol*. The maps are very erroneous in this part of the chain, and that by M. Moisson in the 13th volume of the 'Annuaire de la Société des Touristes du Dauphiné' (1887) should be studied, though in the present work Mr. Coolidge's nomenclature (as given in the Climbers' Guide for the Dauphiné Alps) is followed in preference to that of M. Moisson.

For both passes the Navettes glen must be mounted to its head, where is the unexpectedly large *Mancros* glacier (4 hrs.) The *Col de Mancros* to the S.E. is accessible by it in  $1\frac{1}{4}$  hr., and from the pass either the snow dome of the *Pic de Mancros* (3,075 m., 10,089 ft.), on the N.E., or the E. and lower summit (3,090 m., 10,138 ft.) of the *Jumeaux de Chaillol* can be attained in  $\frac{1}{4}$  hr. But the *Col de Navettes*, reached in  $1\frac{1}{2}$  hr. from the bifurcation by bearing S.W. up the glacier, and then climbing a steep slope of débris, is in some respects to be preferred to the *Col de Mancros*, as from it not only can the W. and higher (3,095 m., 10,155 ft.) summit of the *Jumeaux de Chaillol* be attained in 20 min. or so, but also both the highest points of the Chaillol group. *Chaillol Côte* (3,120 m., 10,237 ft.) is accessible in  $\frac{1}{2}$  hr. by rounding its S. base to a notch just W. of the peak, and then climbing up the steep rocks of its S. face. The monarch of the group is **Vieux Chaillol** (3,163 m., 10,378 ft.), further to the S.W. It is a very fine viewpoint, and is accessible without the slightest difficulty in  $1\frac{1}{2}$  hr. from the little lake (marked 2,396 m. on the French map) on the S. side of the *Col de Navettes* (3 hrs. up from Les Borels). The last hour of the ascent lies up the broad stone-strewn S. ridge. The summit is also easily gained in 4 hrs. from *Molines en Champsaur* on the W.; from the head of that glen (*Colombier*) the *Col de Londenière* leads over to the Navettes glen, and that Col may be gained in about 2 hrs. from Vieux

Chaillol by traversing many ravines and stones from a great shoulder, gained in 20 min. from the S. arête of the peak.

The routes from the two passes rejoin in a few minutes on the S. side. Stone slopes lead in about  $\frac{3}{4}$  hr. to the little lake just mentioned. It is possible to descend either direct to the *Tourond* huts (1 hr.), or to make a round to the S. over pastures lately subjected to the process of 'reboisement.' Thence the path along the left bank of the torrent is followed till on reaching the Champoléon basin the Drac must be crossed in order to attain Les Borels ( $2\frac{3}{4}$  hrs. from either pass).

#### ROUTE N.

##### GRENOBLE TO BOURG D'OISANS BY LA MURE.

Railway (31 m.) or road (24 m.) to La Mure; thence char road ( $28\frac{1}{2}$  m.), traversed by diligences in  $8\frac{1}{2}$  hrs. (including halt for lunch.)

The peaks and passes of the ridges at the W. extremity of the Pelvoux group are most easily reached through the valley of the Drac, though perhaps most frequently approached from those of the Romanche or of the Durance. The most convenient point in the Drac valley for exploring those regions is the small town of **La Mure**, which may be reached by two routes from Grenoble, and whence Bourg d'Oisans, in the Romanche valley (§ 8. Rte. A), may be gained by two others.

1. *By Rail*.—From Grenoble the line towards Gap (Rte. Q) is followed as far as the station of *St. Georges de Commiers* (12 m.) Here the La Mure branch turns off. This is an extremely picturesque and striking line, with many tunnels and viaducts. At several points it overhangs the



valley of the Drac, at a great depth below. The second station is that of **La Motte les Bains** (11 m. from St. Georges). This is a watering place at an elevation of 620 m. (2,034 ft.), frequented by rheumatic and scrofulous patients. The *Etablissement Thermal* is in the old Château, dating in part from the fourteenth century, but rebuilt in 1844. It is said to be now very well fitted up, and has accommodation for 300 persons. At the foot of the hillock on which it stands is the only separate inn, the H. du Bois. The scenery of the neighbourhood of La Motte is agreeable, but scarcely equal to that of Uriage (§ 8. Rte. I) or of Allevard (§ 8. Rte. F). For further details see Rte. 39 of Joanne's 'Alpes Dauphinoises,' vol. i.

More viaducts and tunnels lead to *La Motte d'Aveillans* station (14 m. from St. Georges). This is the centre of the industrial enterprises connected with the anthracite mines, which are here worked on a large scale; one of them is said to be the finest of the kind in the French Alps. The line here turns S.E., and soon reaches the wide plain of the *Matheysine*, gaining fine views of the Obiou, and of some of the other peaks of the Pelvoux group. At the S. end of this plain is La Mure (19 m. from St. Georges).

2. *By Road*.—Vizille is reached from Grenoble (11 m.) by railway to the station, and thence by steam tramway to the town (§ 8. Rte. A), or direct by road. Hence a steep ascent of 640 m. (2,100 ft.) in 5 m. leads to *Laffrey* (925 m., 3,035 ft.), at the N. end of the great plateau or valley of the *Matheysine*, mentioned under 1. This small village has a church built by the Templars, and is famous in history as the spot where on March 7, 1815, Napoleon, on his return from Elba, first met the royal troops. It stands on the highest part of the extensive plateau of the *Matheysine*, and is exposed to nearly all the winds. The view hence is

very extensive, including a bit of Grenoble and of the Bauges mountains. *Laffrey* is on the shore of a large lake, 3 m. long, 800 yards wide, and two others are soon passed on the way over the plateau to La Mure, a distance of 8 m. La Mure is thus 13 m. from Vizille by road.

**La Mure** (873 m., 2,864 ft.) is a town of 3,500 inhabitants in a very exposed situation, so that the climate is always cold, especially in winter. It is famous for the siege of 1580, when it long held out, until reduced to the last extremity, against the Duke of Mayenne and his large army. There are several factories here, and considerable trade in corn and cattle. Hence to **Bourg d'Oisans** there are at least two routes.

(a) *By the Col d'Ornon*.—There is a direct char road over this pass from La Mure. The new road descends from La Mure by long zigzags (the old road to the l. is best for a pedestrian, as it saves over 1 m.), and crosses the Bonne, just below its junction with the Roisonne, by the *Pont Haut* (3 m.) The road to Mens (11 m., Rte. P) turns off just before this bridge, and that to Corps (16 m.) and Gap (24 more) just after crossing it. The road to the Col d'Ornon winds at a great height above the Bonne along the channelled slopes which have eaten into vast deposits of gravel and detritus that at some period filled a great portion of the valley. The Bonne is crossed to the r. bank some distance before reaching *Valbonnais*, a large village (8 m. from La Mure), picturesquely placed on a terrace above the Bonne. (Hence the *Col de Plan Collet* leads N.W. in 1½ hr. to Oris, and in ½ hr. more to La Valette, see below.) The road crosses the Bonne twice (under the second bridge is a fine waterfall) in order to reach the hamlet of *Entraigues* (3 m.), at the junction of the Bonne, flowing from the *Valjouffrey* (see Rte. O), with the *Malsanne*, coming down from the Col d'Ornon. (From *Entraigues* easy grass passes lead S.

in  $2\frac{1}{2}$  hrs. over to the pilgrimage place of *La Salette*, Rte. P.) The road to the Col d'Ornon now turns N. up the very wide glen of the Malsanne. *Le Pérrier*, the first hamlet (3 m.), is the most important of the three or four passed on the way to the Col d'Ornon, 1,360 m., 4,462 ft. (9 m. from Entraigues), a depression between grassy ridges on either side. Hence there is a view of the wild glen just traversed, while in front the much prettier one of the *Lignarre* opens out before the spectator's eyes. The hamlet of *Rivier* is passed on the descent, and lower down the road winds round the base of the hillock on which is the village of *Ornon*, one hamlet of which—*La Palud* (4 m. from the Col)—is on the high road. (Hence Taillefer may be ascended. See § 8. Rte. A, under Séchilienne.) There are a number of hamlets in this glen perched upon eminences in picturesque positions, overlooking the valley. From *La Palud* the road descends, steeply at last, into the valley of the Romanche ( $2\frac{1}{2}$  m.), which is gained 2 m. below Bourg d'Oisans, at the *La Paute-Ornon* station, on the steam tramway from Vizille (§ 8. Rte. A).

(b) *By the Roisonne Glen*.—This route is more attractive to pedestrians than the last, as thus it is possible to take the Taillefer on the way from La Mure to Bourg d'Oisans, an excursion much recommended. It is advisable to sleep at Lavaldens, or, better still, at the little inn at La Morte.

A char road leads from La Mure up this glen, passing *La Valette*, 6 m. (hence to Valbonnais by the Col de Plan Collet in 3 hrs.), and *Laval-dens* (3 m.), before attaining the hamlet of *Moulin Vieux* (12 m. from La Mure). Hence *Taillefer* (2,861 m., 9,387 ft.) can be ascended direct, but it is better to go on to the inn at La Morte, 2 m. more (see § 8. Rte. A, under Séchilienne). Serpentine and crystalline rocks of varied com-

position are found in the Roisonne glen, as well as metallic ores, which cannot be worked with advantage owing to the difficulty of access. At *Moulin Vieux* the *Vaunoire* glen opens out to the E., and through it, by keeping to the N.E., a pass called *Clot Beaumont* can be crossed to *Rivier* (3 hrs.), in the Lignarre valley (see *a.* above), 7 m. from Bourg d'Oisans.

### ROUTE O.

#### LA MURE TO THE VALGAUDEMAR BY THE VALJOUFFREY AND VALSENESTRE.

The easiest way of reaching the Valgaudemar from La Mure is to follow the high road past (16 m.) *Corps* (hence excursion in 6 m. by char road to the pilgrimage place of *La Salette*), and on for 11 m. to *St. Firmin en Valgaudemar*, at the entrance of the valley of which it is the chief village. (Nearly opposite are the ruins of the sixteenth-century castle of the famous Constable Lesdiguières.) Hence there is a char road up the Valgaudemar to (10 m.) *La Chapelle en Valgaudemar*, the most convenient centre in the valley for mountaineers, although the inn is not much to speak of.

But mountaineers will prefer to gain *La Chapelle* by a more interesting route, through the valley of the Bonne or the **Valjouffrey**, whence there are at least two passes over to the valley of the Severaisse or the Valgaudemar.

From La Mure the road to the Col d'Ornon (see last Rte.) is followed as far as *Entraigues* (11 m.) The Bonne valley here bends S.E., and a rough char road leads up it to the chief hamlet, *La Chapelle en Valjouffrey* ( $4\frac{1}{2}$  m.), situated just at the junction of the Bonne with the Béranger tor-

rent, flowing from the **Valsenestre** on the N.E.

【1½ hr.'s walk up the latter wild glen, yet but little known, brings the traveller in 3½ m. to the chief hamlet, *Valsenestre* (1,279 m., 4,196 ft.) Passes lead hence to the *Vénéon* valley (see Rte. F), on the N., while to the S. *Le Désert en Valjouffrey* may be gained either in 3½ hrs. by the easy grass pass of the *Col de Côte Belle* or *Col des Marmes* (c. 2,300 m., 7,546 ft.)—the view is much extended by climbing in 2 hrs. up the *Aiguille des Marmes* (3,057 m., 10,030 ft.), on the E.—or in rather over 6 hrs. by the higher, though not difficult, pass of the *Col d'Aillot* (2,875 m., 9,433 ft.)】

2 hrs. (4½ m.) higher up the Valjouffrey, by a path mainly along the r. bank, is the last hamlet, that of **Le Désert en Valjouffrey** (1,285 m., 4,216 ft.) (On the way from La Chapelle a track leads S.E. from *Les Clarets* by the *Col de Menoux* to St. Maurice, in the *Valgaudemar*, about half-way between St. Firmin and La Chapelle en Valgaudemar.) *Le Désert* communicates with the *Vénéon* valley by several passes which are described in Rte. F. The position of the village hardly justifies its name, though the upper portion of the Valjouffrey beyond it is dreary enough. At *Le Désert* a choice may be made between two passes to the *Valgaudemar*.

One is the *Col de la Vaure* (2,600 m., 8,531 ft.). The track leads steeply up the l. side of the *Echarenne* ravine, which opens out into the Valjouffrey just S.E. of *Le Désert*. A slope of shale at its head, followed by one of snow, brings the traveller to the top of the pass, whence the path goes down through the *Peines* glen to the hamlet of that name. Hence a steep mule path leads down to *Villard Loubière* (5 hrs.), in the *Valgaudemar*, 2½ m. below La Chapelle. From the *Valgaudemar* side of the pass the laborious and rather difficult ascent of the *Pic des Souffles* (3,099 m., 10,168 ft.) may

be made in 3½ hrs. or so by way of the S. face and E. arête, but the rocks are very rotten.

The other is the *Col de Turbat* (2,690 m., 8,826 ft.), at the very head of the *Bonne* valley. There is no difficulty in following this glen, which runs first N.E. to its junction with the *Combe de la Pisse* (for the passes to the *Vénéon* valley see Rte. F), and then S.E. It becomes more and more stony and dreary, but the monotonous ascent is relieved by a very fine view of the glorious precipices of the *Pic d'Olan* (3,578 m., 11,739 ft.), which close the valley. The pass at the head of the valley is the *Brèche d'Olan*, leading to St. Christophe by *La Lavey* (Rte. F. a). It is necessary at the end of the glen to turn due S., and mount nearly straight, keeping a little to the W., to the *Col de Turbat* (5 hrs.) From the pass the view may be much extended by climbing, in under an hour, the *Pic de Turbat* (3,031 m., 9,945 ft.), on the W. The descent lies almost due S. through the *Clot* glen (leaving to the l. the old and difficult way up the *Pic d'Olan*—Rte. E. 3), which joins the *Severaisse* valley just opposite *La Chapelle* (2 hrs. from the pass).

## ROUTE P.

CORPS TO GRENOBLE BY THE DÉVOLUY, THE VERCORS, AND THE ROYANNAIS. THE FRENCH DOLOMITES.

In the last Rte. mention was made of **Corps** as passed by the high road from *La Mure* to the *Valgaudemar*. It is the usual starting-point for the famous pilgrimage place of *La Salette*, distant 6 m. by a char road. It may also be made the point of departure for a rapid journey through some very curious and interesting country



on the way back to Grenoble. This region may be fitly called the '**French Dolomites**,' for the limestone formation is precisely similar to that of the better known Tyrolese Dolomites, while it should be remembered that the discoverer and namer of the latter, the Marquis de Dolomieu (1750-1801), lived at Dolomieu, which is only 5 m. from La Tour du Pin, on the line from Lyons to Grenoble, and just half-way from either of those places.

A glance at the map will show that between the high road running from La Mure through Corps (16 m.) over the *Col Bayard* to Gap (24 m. from Corps), and the railway (Rte. Q) which from *Veynes* junction (where the lines from Gap and Marseilles come together) crosses the *Col de la Croix Haute* to Grenoble, there is a wild district called the *Dévoluy*. The line just mentioned passes through the *Trièves* on the N. side of the *Col de la Croix Haute*, while to its W., between it and the branch line from Grenoble to Valence, there are two other regions, called the *Vercors* and the *Royannais*. The hills in these parts are of no great height, and the scenery is very wild and barren; but some account of them must be given here, though hitherto they have, save the *Royannais*, been very little visited, even by French travellers.

Just S. W. of Corps rises the highest summit of the *Dévoluy*, the **Obiou** (2,793 m., 9,164 ft.), which may be best climbed thence. It is most convenient to sleep at *Pellafol*, 4 m. from Corps by the char road leading to St. Etienne (see below). A path runs hence to the W., and by woods and pastures brings the traveller to the *Vallon* hut at the E. foot of the peak (2¼ hrs.), whence another mounts by zigzags over débris to the gap between the *Grand* and *Petit Obiou* (1½ hr.) The base of the peak is then skirted to its S. face, in which a little rock gully gives access to the vast stone-strewn plateau which forms the summit (1¼ hr., or 5 hrs. from *Pellafol*). As the moun-

tain occupies an isolated position the view is fine, though strikingly desolate.]

From Corps a very hilly carriage road leads round the N. foot of the *Obiou* by *Mens* (14 m.), famous in the French wars of religion, to *Clelles* (9 m.), a station on the *Veynes-Grenoble* line of railway. But the enterprising traveller will prefer to gain that place by the *Dévoluy* itself. This is a most barren, stony, and desolate valley which lies on the E. side of the *Obiou*, opening out nearly due S.W. of Corps. A char road leads up in 10 m. to *St. Disdier en Dévoluy*, in a small green basin. The road continues S.W. to *Agnières*, but a curious man should follow the bad char road S.E. from St. Disdier through the narrow and impressive gorge of the *Souloise*, amid scenes of the most utter desolation, to the chief village of the *Dévoluy*, *St. Etienne en Dévoluy*, 1,263 m., 4,144 ft. (4 m.), in a second green basin, a most refreshing sight after the dreary journey hither. It is a poor-looking hamlet, and one is tempted to wonder how any one originally settled there, and why the inhabitants stay there. By the *Col du Noyer* (1,654 m., 5,427 ft.), on the E., a char road leads over to *St. Bonnet* (on the high road, 14 m. from Corps, and 10 m. from Gap). Our route lies, however, by another char road on the W., which brings one over the *Col de Giers* in 4 m. to the village of *Agnières* (1,270 m., 4,167 ft.), which is on the main high road from St. Disdier (4 m. off) by the *Col d'Agnières* (1,438 m., 4,718 ft.) to *Montmaur* (9 m. from *Agnières*), a station on the railway, 3½ m. from *Veynes*, and 12½ m. from Gap.

[Hence the *Pic de Bure* (2,712 m., 8,898 ft.), the highest point of the *Aurouse* group, may be climbed in 7 hrs. It is another of the savage summits of the *Dévoluy*.]

*Agnières* is the best place whence to start for the **Grand Ferrand** (2,761 m., 9,059 ft.), on the N.W., the third of

the chief summits of this wild region. It may be reached thence in  $4\frac{1}{2}$  hrs. by way of the hamlet of Maubourg, the Adroits glen, and the S.E. slopes. There is no difficulty, but amazing masses of sharp stones and rocks must be traversed. The view is less desolate than that from the Obiou, as the Ferrand overhangs the green hollow of the Trièves. The first part of the descent is made by the same route, and then a traveller should bear S. in order to follow a rough sheep track to the *Col de Charnier*, 2,180 m., 7,153 ft. ( $1\frac{1}{4}$  hr.) at the head of the *Trabuèch* glen. A zigzag path thence leads round above the Ferrand lake to the point marked 1,762 m. on the French map, which overlooks the Trièves. This path goes in a N. direction to *Tréminis*, in the Trièves, but another passes through forests, and gains the *Granges des Forêts* in the *Trabuèch* valley (a short hour from the *Col de Charnier*). A char road runs down this glen in 1 hr. to the village of *Lus la Croix Haute* (1,062 m., 3,484 ft.), on the summit plateau of the *Col de la Croix-Haute*. Lus is a station on the Veynes-Grenoble line (Rte. Q), 24 m. from Veynes, which is 16 m. from Gap.

The route towards the **Vercors** necessitates a descent in the train on the other side of the *Col* for 9 m. to *Clelles* station (some way —1 m.—from the village of the same name) (see Rte. Q).

[*Clelles* is just at the E. foot of one of the most wonderful and extraordinary of the minor summits of the Alps, the **Mont Aiguille** (2,097 m., 6,880 ft.) In reality it consists of a sloping grassy meadow, supported by gigantic and nearly precipitous walls of rock. From *Clelles* it looks like a great wall, but from other points (*e.g.* from the N.W.) it resembles a paper-knife set on edge. It is separated from the great table-land of the **Vercors** on the W. (of which it once clearly formed part) by a great fissure of 450 m. (1,476 ft.) in depth. This striking peak is further remarkable as

having been scaled as far back as 1492 by Julien de Beaupré, chamberlain of Charles VIII. of France, by order of his master, and with many followers. The adventurers spent six days on the summit, which was not again attained till 1834. Now iron ropes have been placed in the hollows in the walls of the peak, and greatly facilitate the ascent, which is still, however, very curious and well worth making. The way from *Clelles* is to go in 1 hr. to the hamlet of *La Richardière*, on its S., and then to mount to the base of the S.W. corner of the mountain ( $1\frac{1}{2}$  hr.) The real climb now begins, and conducts the adventurer through several very strange fissures or caverns in the rock wall. The surprising meadow on the summit is attained in  $1\frac{1}{4}$ — $1\frac{3}{4}$  hr. from the base, and in 10 min. more the iron cross on the highest point—in all about 4 hrs. from *Clelles*. The view *down* from this great block is most astonishing, while in the distance the great Dauphiné peaks, with *Mont Blanc* in the background, fill the spectator's eye. In 1894 the peak was scaled by the great N. wall.]

The best way from *Clelles* to the **Vercors** is over the **Grand Veymont** (2,346 m., 7,697 ft.), the culminating point of that district. It lies N.W. of the *Mont Aiguille*, and may be ascended with ease from *Clelles* by a mule path to *Trésanne*, and thence a foot path over a low pass to the hamlet of *La Bâtie*. The way now turns sharply to the S.W. in order to attain the *Pas de la Fouille*, at the S.W. foot of the final ridge, which is ascended to the summit ( $5\frac{1}{2}$ —6 hrs. from *Clelles*). The most remarkable feature of the near view is the marvellous *Mont Aiguille*, which is looked down upon from a greater height. On the E. side the **Grand Veymont** is a series of immense precipices and jagged limestone towers, quite like a Tyrolese *Dolomite*. The descent from the peak to the *Pas de la Ville*, at its N. foot, only takes  $\frac{1}{2}$  hr. In

order to enjoy the very striking view of the E. wall of the peak it is worth while to go down in 1 hr. to the prettily situated village of *Gresse* (1,178 m., 3,865 ft.) But the direct route lies from the Pas de la Ville to the N.W., first to a great stone-strewn shelf or band, on which green islets, like oases in a desert, mark the position of the rare springs, and then through a thick forest (there are *live* bears in it) to the village of *St. Agnan en Vercors* (760 m., 2,493 ft.),  $2\frac{1}{2}$ -3 hrs. from the Pas de la Ville, and  $2\frac{1}{2}$  m. by high road from *La Chapelle en Vercors*, the chief place of this strange region.

La Chapelle is 4 m. by high road from the inns at the entrance to the remarkable gorges of the *Grands Goulets*. Hence the carriage road (traversed by diligences coming from Grenoble, taking  $11\frac{1}{2}$  hrs., including halt for lunch, from that city to Pont en Royans) is carried on a narrow shelf above great precipices through these very striking limestone gorges, which, with their gigantic cliffs, and trees, are said to resemble on a small scale the famous cañons of N. America. The new road is splendidly engineered, and tunnels through the rock in several places. Lower down it descends into a green basin, filled with box trees, very uncommon in Alpine districts. A second set of gorges, the *Petits Goulets* (not so grand as the others), is traversed before the traveller reaches the very picturesquely situated village (8 m. from the entrance to the Grands Goulets) of **Pont en Royans**, astride of the gorge of the Bourne. The houses rise tier above tier on the side of this gorge, with one narrow main street running through them, which in one place is on a level with the roof of the church below. Pont en Royans is 7 m. by high road from *St. Hilaire-St. Nazaire* station, and 10 m. from *St. Marcellin* station, both on the railway line from Grenoble to Valence. They are 7 m. apart, the former being 23 m. from

Valence on the main P.L.M. line, the latter 32 m. from Grenoble.

In order to see the whole of this interesting district, the traveller should, however, take another route to Grenoble, by Villard de Lans. This village may be gained from Pont en Royans by retracing our steps to the inns at the further end of the Grands Goulets (8 m.), and then joining the route to be mentioned at the *Pont de Goule Noire* (9 m.) It may be pleasanter to drive from Pont en Royans through the lower gorges of the Bourne (striking in their way, but perhaps not as fine as the Goulets) by *La Balme de Rencurel* to the *Pont de la Goule Noire* (9 m.), beyond which a picturesque winding road through the upper and finer gorges of the Bourne leads to *Villard de Lans* (5 m.), which is thus 22 or 14 m. from Pont en Royans. Villard lies in the centre of a high tableland, or fertile valley. Another set of limestone gorges, those of *Engins*, only less wonderful than the Grands Goulets, must be traversed (high road) before the traveller emerges into the Isère valley at *Sassenage* (14 m.), 4 m. from Grenoble, where civilisation is welcome after a week's journey from Corps through a curiously wild, but very fascinating region.

The whole route here indicated was made by the present Editor (W.A.B.C.) in 1881 and 1888, and is fully described in an article in the 'Alpine Journal' for February 1889, to which reference should be made.



## ROUTE Q.

## BRIANÇON TO GRENOBLE BY GAP.

	M.
L'Argentière-La Bessée . . . . .	8
La Roche de Rame . . . . .	12
Montdauphin-Guillestre . . . . .	17
Embrun . . . . .	27½
Prunières . . . . .	36½
Gap . . . . .	51
Veynes . . . . .	67
Lus la Croix Haute . . . . .	91
Clelles-Mens . . . . .	100
St. Georges de Commiers . . . . .	124
Grenoble . . . . .	136
Railway throughout, traversed twice daily in 7¼-8 hrs.	

In the first Rte. of this Chapter (§ 8. Rte. A) we described the pleasantest way from Grenoble to Briançon—that by the Col du Lautaret. But there is another way quicker, as it is traversed by a railway, which may be noticed here. Taken with the Col du Lautaret a complete circuit is thus made of the region described in the present Section. The line is an important one topographically, so that it is convenient for travellers coming either from the Queyras valley (§ 4. Rte. B) or from Barcelonnette (§ 3. Rte. A), not to speak of the fact that by it the journey from Briançon to Marseilles is very direct, though the trains are not fast, 10½-11½ hrs. being required to cover 188 m. **Veynes** is the junction for the South.

The line runs from Briançon along the left bank of the *Durance* through a fertile valley, many villages being seen on the green slopes on the W., while to the E. is the opening of the gorge leading to Cervières (§ 6. Rte. C). The river is crossed before the station of *Prelles* (3 m.). Soon after the line is carried through a succession of deep gorges, passing through many tunnels, and over a viaduct till it descends to cross the *Gyronde*, flowing from Vallouise, and passes under and

opposite the various fractions of La Bessée, on the other bank, so as to reach the station of *L'Argentière-La Bessée* (8 m). Here travellers leave the train if bound for the Vallouise (Rte. G) or the Fournel glen (Rte. L. a). *L'Argentière* derives its name from the neighbouring silver-lead mines, worked in the twelfth century, and fitfully in the present century, while it has a fine fifteenth-century church, with remarkable frescoes on the wall of the sacristy. The next station (4 m.), that of *Roche de Rame*, is the starting point for the valley of *Freissinières* (Rte. L. b). *Rama* was originally a Roman settlement, and was ruined in the thirteenth century by an inundation of the *Durance*, and abandoned by its inhabitants, though the mediæval castle was not destroyed till 1768, a small chapel alone now marking the site of this unfortunate village. The inhabitants moved to La Roche, on the other bank of the *Durance*. The strange red rocks at the entrance of the *Freissinières* glen will attract the notice of the traveller. The railway, which before *Roche de Rame* had crossed to the left bank of the *Durance*, runs over a stony plain with fine views of snowy summits of the Pelvoux and its neighbours, on the N.W., while nearer at hand on the left is the precipitous rock on which is built the fortress of *Montdauphin*, below which is (5 m. from *Roche de Rame*) the station of *Montdauphin-Guillestre*. *Montdauphin* is described in § 4. Rte. B.

[For the many passes which lead from *Guillestre* and through the *Queyras* valley to the valleys of the *Ûbaye*, the *Varaita*, the *Po*, the *Pellice*, the *Germanasca*, and the *Dora Riparia*, see § 3. Rte. B; § 4. Rtes. A and B; § 5. Rtes. A and D; and § 6. Rte. B.]

Almost immediately after leaving the station the *Durance* is crossed to its right bank, which is followed as the valley bends gradually to the S.W. The openings of the *Couleau* and *Rabious* valleys on the

left are passed, through which passes lead to Dormillouse and Orcières (Rte. L), and whose torrents cause great damage in the Durance valley. 10½ m. from Montdauphin is the station of **Embrun**, a famous historical city. As *Eburodunum* it was after the time of Diocletian the capital of the Roman province of the 'Alpes Maritimæ,' while it became a bishop's see as early as the middle of the fourth century, when the original cathedral was built by St. Marcellinus. The archbishop obtained extensive temporal power by grant in 1147 from the Emperor Conrad III., and was one of the chief rulers of these regions. But the see was suppressed in 1791. The chief attraction of Embrun to-day is its splendid *Cathedral Church*, the greater part of which dates from the end of the twelfth century, while the choir stalls are of the fifteenth century. Externally its principal feature is the striking N. porch, called the *Réal* (Porta Regalis), as above the doorway there was formerly a celebrated fourteenth-century fresco, representing the Adoration of the Magi, which for many centuries drew hither hosts of pilgrims, but was mutilated by the Huguenots in 1585. Readers of Sir Walter Scott will recall the connection of Louis XI. with Embrun, and from his time the King of France was the senior canon, the archbishop being the second. The organ was given by Louis XI., but its case was restored in the eighteenth century. Near the Cathedral is the twelfth-century *Tour Brune*, which forms part of the archiepiscopal palace, now used as Government buildings. The seventeenth-century fortifications of the little city, which is mainly defended by the high rock on which it is built, were destroyed about 1882, when the railway was made. In 1585 Embrun was taken and sacked by the Huguenots under Lesdiguières, and again taken by the Duke of Savoy in 1692. A number of Church councils have been held in Embrun, which is now a small town living on the memory of

its former importance, but well deserving the attention of the traveller interested in history or architecture. (For the routes to Barcelonnette and Orcières see § 3. Rte. A, and Rte. L, end, above.)

The line continues on the right bank of the Durance, passing opposite the *Boscodon* glen, in which the church of the great twelfth-century abbey of Boscodon (suppressed in the eighteenth century) still survives, and the village of *Savines* (5 m.), opposite the opening of the *Réal* ravine, and under the shadow of the strange and remarkable summit of the *Morgon* (2,336 m., 7,664 ft.), accessible from Savines in 5-6 hrs. 4 m. further is the station of *Prunières* (for the way to Barcelonnette see § 3. Rte. A), where the line leaves the valley of the Durance, about 3½ m. above its junction with the Ubaye. The Durance valley is only regained by the railway to Marseilles at Sisteron, 30 m. from Veynes, which is 30½ m. from Prunières.

On leaving Prunières the line soon turns W., and mounts steeply by several tunnels and a viaduct over mountain slopes scored by ravines torn by wild torrents to (4 m.) *Chorges*, the ancient capital of the *Caturiges*. Roman inscriptions and remains have been found on the site of the old town, which was rather above the more modern village, and was destroyed in the eleventh century. 4 m. beyond, the line, passing through more level country, reaches the station of *La Bâtie Neuve-le-Laus*. Hence a road leads S.W. to the celebrated seventeenth-century pilgrimage resort of *Notre-Dame du Laus*, where (as at La Salette two centuries later) a shepherdess is said to have been favoured by a vision of the Blessed Virgin. The country becomes more and more smiling as the train nears (6½ m.)

**Gap** (742 m., 2,434 ft.), a small city of about 10,500 inhabitants, which is the capital of the Department of the Hautes Alpes. It was called *Vapincum* in Roman times, and was a

station on the Roman road from Arles to Briançon, as well as a bishop's see from the sixth century, if not earlier. It suffered much during the Huguenot wars between 1562 and 1588, and at the hands of the Duke of Savoy in 1692. Guillaume Farel, the Reformer, was born in 1489 in the neighbourhood, and preached his doctrines in Gap in 1522 and 1561, before and after he went to Switzerland. The city has many narrow streets, and though part of Dauphiné since 1232, has many characteristics of a Provençal town. Its thirteenth-century Cathedral, which had suffered greatly in consequence of the two wars mentioned above, was pulled down in 1866 to give place to a new building. The fine seventeenth-century sarco-phagus of the famous Constable Lesdiguières was in 1836 removed from his castle at the entrance of the Valgaudemar (see Rte. O), and is now preserved in the Préfecture at Gap. It is the sole object of interest in the city, save the city itself, which will give a very good idea of the South to those who do not know what it is like. 9 m. to the S. is the fine, though ruined, castle of Tallard, which was built between the fourteenth and early sixteenth centuries, but was burnt in the campaign of 1692. The fifteenth-century chapel is nearly intact, and forms the most interesting portion of the castle; it is in the Flamboyant style, and was the burial place of the lords of Tallard. The lordship of Tallard is of special historical importance, since it was the last bit of Provence which was united (from 1232 onwards) to Dauphiné, to which it was annexed in 1503, the limits of Provence and Dauphiné being thus finally fixed. (For the routes from Gap to Champoléon and Orcières see Rte. L, and for that over the Col Bayard in 24 m. to Corps, Rte. P, above.)

Beyond Gap the line climbs again, and passes over a splendid viaduct, 52 m. (171 ft.) high, before reaching the valley of the *Petit Buëch* at the station of *La Roche des Arnauds* (9 m.)

Luxuriant pastures, due to the work in recent years of the 'reboisement' Commissioners, alternate here with bare, arid mountain slopes (representing the ravages caused by the grazing of too many sheep), not yet taken in hand by the Commissioners. The imposing mass of the **Pic de Bure** (2,712 m., 8,898 ft.), the culminating point of the *Aurouse* group, soon comes in sight, and can be easily ascended in 7 hrs. from the next station (3½ m.), *Montmaur*, which is also the starting point of the char road over the *Col d'Agnières* to the desolated region of the *Dévoluy*, described in the preceding Rte. 3½ m. beyond Montmaur is the important railway junction of **Veynes**, where the lines to Marseilles (121 m.), and by the *Col de Cabre*, and the old Roman city of *Die* to *Livron* (73 m. in 6¼ hrs.), on the main P. L. M. line, a little S. of Valence, branch off from the line by the *Col de la Croix Haute* to Grenoble, with which we are here concerned. Travellers change carriages at Veynes, but it is only near the next station (4 m.), *Aspres sur Buëch*, that these two lines actually part off. Our line then mounts N. along the *Buëch* itself, through a stony and desolate region. 1 hr. from *St. Julien en Beauchène* (10 m.)—the name is really a corrupt form of *Buëch*, and has no reference to fine oaks, as might be imagined—are the very picturesquely situated ruins, in a magnificent forest, of the twelfth-century Carthusian monastery of *Durbon*, which are well worth visiting. The scenery becomes more and more barren and desolate, save the pastures in the valley, as the train, after passing the village of *Lus la Croix Haute* (10 m.), 1,062 m., 3,484 ft., at the entrance to the upper *Buëch* or *Trabuëch* valley (for the way through it to the Grand Ferrand and the *Col de Charnier* to *Agnières* see last Rte.), mounts steeply to the *Col de la Croix Haute* (1,167 m., 3,829 ft.). Hence there is a fine view, very striking by reason of the contrast with the region just traversed,



into the fertile basin of the *Trièves*. The descent into the *Trièves* is very rapid, and the soil is of so treacherous a nature that great difficulty has been encountered in carrying the line down these slopes. This is effected by a long series of tunnels, viaducts, embankments, &c., though when landslips occur (no infrequent occurrence here after great storms or heavy rain) passengers are forced to walk some way from one train to another. But for the reasons given the descent is very striking and picturesque, especially the view of the basin gained after passing the station of *St. Maurice en Trièves* (3 m.). 6 m. further, under the shadow of that most remarkable summit of the **Mont Aiguille** (2,097 m., 6,880 ft.), one of the 'Seven Wonders' of Dauphiné is the station of *Clelles-Mens*. (For a notice of that peak, of the way from Clelles by the Grand Veymont to the Vercors, and of the road from Clelles by Mens to Corps, see the preceding Rte.) The line beyond Clelles is comparatively uninteresting. 9 m. from Clelles is the station of *Monestier de Clermont*, but the next, *St. Martin de la Cluze* (6 m.), is the most convenient whence to visit (not now worth the trouble) the *Fontaine Ardente* (the result of hydrogen gas issuing from cracks in the slaty soil), another of the 'Seven Wonders' of Dauphiné. The valley of the Drac is gained, after a long tunnel between the Grasse and Drac valleys and two zigzags, at *Vif* (8 m.), 1 m. from which, across the wide bed of the Drac, is the station of *St. Georges de Commiers*, the junction for the most astonishing mountain railway to La Motte (see Rte. N). The right bank of the Drac is henceforward followed, the *Romanche* being crossed near *Vizille* station (3 m.) (for the route thence to Bourg d'Oisans see § 8, Rte. A), and the *Pont de Claix* station (4 m.) passed before entering (5 m.) **Grenoble**, described in § 8. Rte. A.

## SECTION 10.

## GRANDE CHARTREUSE DISTRICT.

IN the previous Sections of this Chapter we have described the ranges lying E. and S. of the Graisivaudan valley, or middle reach of the *Isère*. To the W. of that valley there are several limestone ridges, which enclose in their midst the famous monastery of the **Grande Chartreuse**. These rise S.W. of the broad depression in which stands Chambéry, and which therefore separates them from other limestone ridges extending N. towards the valley of the Arve. Both sets of ridges have this also in common, that in a sense they are the outliers, or the outer edge of the lofty Dauphiné and Tarentaise Alps. Chambéry is thus the natural centre of this region. But as the ridges S.W. of that city are most conveniently visited from Grenoble they are grouped together in this Section, while those to the N. of Chambéry are described in the next Section.

Among these lower ranges W. of the Graisivaudan there are many excursions, full of novelty and interest, and open to those who prefer to avoid risk and great fatigue. They have also the advantage that they can best be made early or late in the travel season, and may serve thus to open or close a journey amid the higher snow-clad summits. There are many good carriage roads and mule paths in the Grande Chartreuse district, while the accommodation for travellers has been greatly improved of late years. But, save the monastery itself, these parts have been as yet but little visited by English tourists, though the scenery is everywhere agreeable, and even striking, though on a small scale.

The main routes are here briefly indicated, but further details may be found in Joanne's guide-books to 'Savoie' (1895), to the 'Alpes Dau-

phinoises,' vol. i. (1890), or to 'Dauphiné' (1898).

In order to bring together all the ways from Grenoble to Chambéry it has been found practically convenient to include in this Section the railway line and road on either bank of the Isère through the Graisivaudan, as well as the more roundabout, but picturesque, routes by Aiguebelette and the Col du Mont du Chat.

#### ROUTE A.

CULOZ TO CHAMBÉRY BY AIX LES BAINS. LAKE OF BOURGET.

Rail in 1 hr. (23 m.) past Aix les Bains (14 m.)

**Culoz** is probably best known to most travellers as one of the chief railway junctions in the S.W. portion of the Alpine chain.

[It is, however, also the best starting point for the ascent of the *Mont Colombier* (1,534 m., 5,033 ft.), easily gained in 4 hrs. from the station, and commanding an admirable view of the Alps of Savoy, with the lakes of Bourget, Annecy, and Geneva, which on the W. side extends to Lyons and the mountains of the Ardèche.]

The line from Paris (347 m.) by Mâcon and Ambérieu, and from Lyons (63 m.) by Ambérieu, runs in from the W., while that from Geneva (42 m.) comes from the N. down the valley of the Rhône.

The line to Chambéry, and thence by Modane (61 m.), to Turin (64½ m. more), crosses the Rhône by a long iron bridge, and is then carried S.E. across the marshy tract that separates that river from the Lake of Bourget. It is here apparent that, within a period geologically very recent, and perhaps since this region was inhabited by man, the waters of the Lake of Bourget extended over a large area on either side of the

Rhône; while, in the opposite direction, they reached to Chambéry, and perhaps even to the valley of the Isère. About 4 m. from Culoz the railway attains the N. shore of the lake, close to the station of *Chindrieux*, above which rises on the W. the isolated hillock on which stands the castle of *Châtillon*. Thence to Aix les Bains the line is carried along the E. shore of the lake, passing by four tunnels under as many rocky promontories, but in the intervals between them commanding very beautiful views of the lake and of the range of the Mont du Chat. Near the S. end of the lake the railway crosses a fertile plain in order to gain (14 m. from Culoz)

**Aix les Bains**, one of the most frequented and agreeable watering-places on the Continent.

The mineral waters of Aix have been known for at least 18 centuries, and are now annually visited by thousands of strangers (though many come to this fashionable resort for reasons other than ill-health), without counting the neighbouring country people. The position of the place, amidst the undulating and richly-cultivated slopes that intervene between the Bauges mountains and the lake, is too low (258 m., 846 ft.) and warm to suit a mountaineer, but offers to visitors, whether they use the waters or not, a variety of interesting excursions, for the most part very easy indeed.

(a) **Grand Revard**. — The indispensable excursion from Aix is the ascent of this point (1,545 m., 5,069 ft.), one of the summits which bounds on the E. the plain in which Aix is situated. It is now reached by a funicular railway in 1¼ hr. from Aix past *Mouxy*. The station is about 100 ft. below the summit, on which are two inns, open in summer. The Revard is one of the best points for a view over the lake and the surrounding country. From the top of the Revard it is possible to make a traverse (much recommended) along the

edge of the cliffs in 2 hrs. to the Dent du Nivolet, above Chambéry.

(b) *Abbey of Hautecombe*.—A visit to this famous house should not be omitted by any one staying at Aix. It stands on the steep W. shore of the lake, about 5 miles N.W. of Aix, and is reached by steamer in about  $\frac{1}{2}$  hr. Founded in 1125 as a Cistercian monastery, it has been for many centuries the burial-place of the princes of the House of Savoy, and was specially reserved to them at the time of the annexation of Savoy to France in 1860. It was secularised in 1792, but in 1824 the King of Sardinia bought the ruins, and caused the present building (in questionable taste) to be raised as a restoration. It is now occupied by Cistercians once more, who are charged with the care of the tombs, many of which are interesting, and deserve notice as works of art, though most of them have been restored.

(c) *The Lake, and the Dent du Chat*.—The chief natural attraction of which Aix can boast is the beautiful **Lake of Bourget**, which may well vie with many others of greater celebrity, and affords scope for numerous pleasant excursions. Reduced to less than half its original dimensions by the detritus carried down by the Rhône at the northern, and by the Leisse at the southern, extremity, it is at present about 10 m. in length, with an average breadth of 3 m.; its area is 28 m., and its greatest depth 145 m. (476 ft.) Its W. shore is bounded by the long and steep ridge of the **Mont du Chat**, which is the connecting link between the outer ranges of the Savoy Alps and the chain of the Jura. The height of this very uniform ridge exceeds 3,500 ft., but just opposite Aix there is a well-marked depression, the *Col du Mont du Chat* (638 m., 2,093 ft.), across which a carriage road leads to Yenne (Rte. E), 7 m. on the other side of the Col. Immediately to the S. of the Col rises a bold craggy peak, the *Dent du Chat* (1,400 m., 4,593 ft.),

whence a very fine view is obtained. The prettiest way thither is to cross the lake in an hour to *Bourdeau* (which has a most picturesquely-situated old castle), and thence mount to the Col by a mule path in  $\frac{3}{4}$  hr. Another way is to drive from Aix to *Le Bourget*, at the S. end of the lake, and thence follow the good mule path in rather over an hour to the Col. The easiest way is to drive on from Le Bourget, and to ascend by the great zigzags of the old main road from Chambéry to Lyons to the Col (4 m. from Le Bourget, which is 7 m. from Chambéry, or 6 m. from Aix). Here there is an inn. The view from the Col is very extensive, and will well reward those who cannot achieve the rest of the ascent, though these persons are recommended to follow the road over the pass for 7 min. to a quarry, and then to take a path to the l. which leads in 10 m. more to the summit of a grassy mound.

From the Col there are two ways up the Dent. One is to take a path just on the Aix side of the pass, which leads in  $\frac{1}{2}$  hr. to a pretty meadow, whence it continues, turning all the teeth on the ridge, to the highest summit (1 $\frac{1}{2}$  hr.) Another is to descend a little on the Yenne side of the Col, then to take a path to the l. to the Vacherie ( $\frac{1}{2}$  hr.), whence an ill-marked track leads in somewhat over an hour to the foot of the last peak, which is climbed by stone steps, guarded by an iron railing, on the lake side of the peak (2 hrs. from the Col). The highest point appears, from a distance, to be quite inaccessible, and it is hard at first to see how it can be scaled.

The distance from Aix to Chambéry is 9 m. The approach to the capital of Savoy, through the broad valley which separates the mountains of the Grande Chartreuse group from those of the Bauges, abounds in fine points of view. To the former group belong the *Mont Grelle* (1,426 m., 4,679 ft.) on the S.W., and the *Mont*



*Granier* (1,938 m., 6,358 ft.) due S., while to the N.E. the *Dent du Nivolet* (1,553 m., 5,095 ft.), an advanced bastion of the Bauges, presents a very bold front.

**Chambéry** (269 m., 883 ft.) is a cheerful little city of 21,000 inhabitants, now reduced from its former rank as the capital of the duchy of Savoy to that of the chief town of the department of the same name, and so the residence of a préfet. The slopes of the hills in the neighbourhood, covered with villas and gardens, give it an air of wealth and importance, to which the interior of the city scarcely corresponds.

Of the numerous excursions to be made hence the most frequented is that to *Les Charmettes*, well known to the readers of the 'Confessions' of J. J. Rousseau (about  $\frac{1}{2}$  hr.'s walk). The house and garden have been kept nearly in the same state as in his time. To the lover of nature a more interesting walk is that to the *Bout du Monde*, at the base of the *Dent du Nivolet*. It is reached in an hour along either bank of the *Leisse* torrent; the path turns aside towards the N. at the opening of the gorge of the *Doria*, a stream which descends through a cleft between the *Dent du Nivolet* and the *Chaffardon*.

A somewhat longer expedition is to the *Abîmes de Myans*, some lakes which owe their origin to a great fall in 1248 from the *Mont Granier*. They are best visited from the station of *Chignin-Les Marches* (6 m.), and are therefore described in the next Rte.

The ascent of the *Dent du Nivolet* (1,553 m., 5,095 ft.) is best made by following the carriage road towards *Le Châtelard* (§ 11. Rte. C. 1) as far as *Les Déserts* (9 m.), whence easy paths lead up the E. slope of the mountain in  $1\frac{1}{2}$  hr. to the summit, crowned by a huge cross, which is very conspicuous from *Chambéry*. The direct way from *Chambéry* is very steep. The view is not equal to that from the *Dent du Chat*. For other excursions

in the chain of the *Bauges*, see § 11. Rtes. A, C, and D, for that to *Allevard* § 8. Rte. F. for that to the *Mont Granier*, Rte. C, below, and for those to *Grenoble* by the *Grande Chartreuse* or *Aiguebelette*, see Rtes. D and E, below.

## ROUTE B.

## GRENOBLE TO CHAMBÉRY BY THE LEFT BANK OF THE ISÈRE.

	M.
Domène . . . . .	7
Brignoud . . . . .	12
Tencin . . . . .	16
Goncelin . . . . .	19
Pontcharra . . . . .	26
Montmélian . . . . .	30 $\frac{1}{2}$
Chignin-Les Marches . . . . .	33
Chambéry . . . . .	39

Rail in about 2 hrs.

On leaving *Grenoble* the line is carried nearly due E., avoiding the banks of the *Isère*, which here follows a very sinuous course. On the opposite bank many villages and hamlets are seen, perched upon a sort of terrace running along the middle height of the mountain range that extends from the *Mont Rachais* to the *Mont Granier*, but these are invisible from the high road on the right bank of the river. At *Gières* (4 m.), where there are many pretty villas, the road crosses the *Sonnant* torrent, descending from *Uriage*. (For *Uriage* and the *Belledonne*, see § 8. Rte. I.) The next village is *Domène*, on the *Doménon* torrent, one of the chief torrents descending from the *Belledonne*, which may be reached direct from here (§ 8. Rte. I). The *Doménon* supplies abundant water power, which is applied to various industrial purposes. At *Domène* are the ruins of a church belonging to a *Cluniac* monastery, destroyed during the Revolution, and a short distance off is a bridge leading to the right

bank of the Isère. 3 m. further on is *Lancey*, where the line crosses a powerful torrent descending from the Lac du Crozet (1,968 m., 6,457 ft.), which lies under the peak of the Grande Lance de Domène (2,813 m., 9,229 ft.) On the right is seen a fine château, belonging to M. Du Boys, which commands an admirable view of the valley of **Graisivaudan**, as that of the Isère is called between Grenoble and Montmélian. 16 m. from Grenoble, after passing *Brignoud*, is *Tencin*; from the former village the Col de la Coche leads over to the Sept Laux, from the latter the Col du Merdaret to the Allevard valley. (For both see § 8. Rte. G.) In the grounds of a château at Tencin, belonging to M. de Monteynard, the representative of one of the oldest families in this part of France, there is a gorge abruptly barred across by a wall of rock. This spot, called the *Bout du Monde*, is often visited by strangers. Near Goncelin is the suspension bridge over the Isère leading to Le Touvet. 3 m. farther on is *Goncelin*, a larger scattered village, the lower part of which was utterly destroyed by a waterspout in 1827. A country road leads hence in 7 m. to the Baths of Allevard, but most travellers bound for Allevard will prefer to continue in the train for 7 m. more to *Pontcharra*, whence a steam tramway now runs up in 9 m. to Allevard (see § 8. Rte. F). *Pontcharra* is close to the junction of the Bréda with the Isère.

[About a mile from the village are the remains of the *Château de Bayard*, the birthplace (1476) of the illustrious Chevalier Bayard. Though in sadly neglected condition the place deserves a visit. The offices serve as a farmhouse, and but one of the three floors which composed the main building now remains. Between the château and the village is the hamlet of *Avalon*, the birthplace in 1135 of the celebrated St. Hugh of Lincoln.]

The line from Pontcharra to Montmélian is very beautiful, lying chiefly

among orchards, with the fine range of the Mont Granier, on the opposite side of the valley, full in view. *Montmélian* (30½ m. from Grenoble) was once famous as one of the strongest fortresses in Europe, being to Savoy what Barraux, nearly opposite, was to France. It was demolished after Louis XVI. took it in 1691. The present importance of Montmélian is as the junction of the line from Grenoble with that (§ 7. Rte. A) from Modane (52 m. distant). The line now turns N.W., and passes the station of *Chignin-Les Marches*, before reaching Chambéry (6 m. beyond). This is the best point whence to visit the *Abîmes de Myans*, about 1 m. off. Several small lakes, lying in the midst of conical hillocks, have attracted the attention of geologists since the time of Saussure. It appears certain that both hillocks and lakes owe their origin to a great bergfall from the neighbouring peak of the Mont Granier. This took place in the night of November 24-25, 1248. Many villages were overwhelmed by it, and 5,000 persons are credibly stated to have perished in it. M. Ferrand has given the history of this dreadful catastrophe in an article published in vol. ix. of the 'Annuaire' of the French Alpine Club, and therein narrates the legends which have gathered round the pilgrimage chapel of N. D. de Myans (now surmounted by a great gilt cross), which stands at the further end of the bergfall.

#### ROUTE C.

GRENOBLE TO CHAMBÉRY BY THE  
RIGHT BANK OF THE ISÈRE.

Though most travellers will doubtless go from one of these places to the other by the railway on the left

bank of the Isère, yet it is worth while to describe briefly the high road along the right bank, as it commands by far the finest views of the neighbouring Alps. The distance to Chambéry is about 35 m. A railway is to be constructed along this bank also.

The road leaves Grenoble by the Porte St. Laurent, at the N. end of the town, and winds along the base of the *St. Eynard*, a long ridge which bounds the valley on this side, and is frequently visited by the botanists of the neighbourhood. After passing *Montbonnot*, a picturesque village, surmounted by a ruined castle, the range of Belledonne comes well into view to the E., and is the most striking feature in the fine panorama which is almost everywhere discovered in this part of the Graisivaudan valley. 2 m. beyond Montbonnot (7 m. from Grenoble) is **St. Ismier**, a village at the foot of the highest part of the *St. Eynard* (1,359 m., 4,459 ft.)

☐ Hence a foot path mounts in zigzags in a N. direction up the slopes of the *St. Eynard* to the slightly marked depression of the *Col de St. Ismier*—called *Col du Fraitar* on the French map—whence the pedestrian descends by the Herbetan valley to *St. Pierre de Chartreuse*, gained in 5 hrs. from *St. Ismier*. About 1 m. from *St. Ismier*, on the road towards *Chambéry*, a char road detaches itself at the hamlet of *Les Eymes*, after crossing the *Manival* torrent, and mounts by a series of very picturesque zigzags in 4 m. to the village of *St. Pancrasse*. A good mule path leads hence nearly due N. to the broad opening of the *Col des Ayes*, 1½ hr., whence it descends through the *Perquelin* ravine to *St. Pierre de Chartreuse*, 2 hrs. *St. Pierre* is 3 m. from the monastery by a road which descends to the main high road from Grenoble over the *Col de Porte*. From the *Col des Ayes* the ascent of the **Dent de Crolles**, or *Petit Som* (2,066 m., 6,779 ft.), the second highest summit of the district, may be made—past

the *Trou du Glaz*, a deep natural cavern—in 2 hrs. by way of a gully in the cliffs dividing the lower pastures from the extensive upper plateau which forms the summit of mountain, whence there is a magnificent view. ]

2½ m. from *St. Ismier* is *Bernin*, on the stream of the same name, which, when full, forms, near *Craponoz*, one of the most picturesque waterfalls in Dauphiné. *Lumbin* is about 3 m. farther on, *Crolles*, which gives its name to the overhanging peak of that name, being passed on the way. Several other small villages and hamlets are passed before reaching (4 m.) *Le Touvet*, a large village, near which a suspension bridge leads over the Isère.

☐ The ridge to the W., called *Haut du Seuil*, or *Aup du Seuil* (1,817 m., 5,961 ft.), may be reached hence in 5 hrs., and commands a magnificent view of the Graisivaudan valley and of the ranges of the Dauphiné Alps. Near the summit is a very curious amphitheatre, resembling on a small scale the *cirques* of the Pyrenees. From the *Haut du Seuil* a descent may be made in 4 hrs. to *St. Pierre d'Entremont*, past the Sources of the *Guiers Vif*. ]

3 m. beyond *Le Touvet* is *La Buisnière*, lying at the foot of the ridge of the *Alpette* (1,841 m., 6,040 ft.), a portion of the almost continuous range which extends from the *St. Eynard* to the *Mont Granier*, and which everywhere commands noble views of the High Alps. The *Col de Valefroide* leads across the *Alpette* ridge in 7 or 8 hrs. from *Le Touvet*, or *La Buisnière*, to *St. Pierre d'Entremont* (see *Rte. D.* below). Less than a mile beyond *La Buisnière* the new road to *Chambéry* turns to the right, passing between the *Fort of Barraux* and the *Isère*. The *Fort* stands on a rock 130 m. (427 ft.) above the river, and is separated from the village of the same name, on the lower slopes of the *Alpette*, by a little *col*, or saddle,



over which the old road was carried. A third way, recommended to pedestrians, passes to the l. of the old road through the picturesque village of *Barraux* (2 m. from La Buisnière). The three roads unite about 1 m. farther on, passing a few hundred yards to the right of the village of *Chapareillan* (5 m. from La Buisnière), which stands near the foot of Mont Granier.

[Of all the mountain excursions in the outer ranges of the Savoy Alps, there is none, perhaps not even the Dent du Chat (Rte. A), so interesting and agreeable as the ascent of the **Mont Granier**. From 4 to 4½ hrs. are required for the climb from Chapareillan, and about 3 hrs. for the return. Though only 1,938 m. (6,358 ft.) above the sea, the upper part of the mountain is quite alpine, and the panorama admirable, and not surpassed by that from the Dent du Chat. The excursion may be easily made from Chambéry, and is recommended to those who are approaching the South Savoy or Dauphiné Alps from that city. To avoid wrong paths in the forest it is expedient to take a guide. The way usually followed passes the hamlet of La Palud (where a guide may be engaged), ¼ hr. above Chapareillan. For ½ hr. farther the way lies over marshy meadows, and then through a forest, in which deciduous trees ultimately give place to pines. After a rather steep ascent the track passes a shepherd's hut, and then, after following for some way a path across which the shepherds place a gate in summer to prevent the cattle from going too far—hence the name of this route, *Pas de la Porte*—the traveller soon gains the highest plateau of the mountain, composed of calcareous rock, traversed by a system of fissures much resembling glacier crevasses. This is called a 'lapiaz,' or a 'Karrenfeld.' There are two paths hence to St. Pierre d'Entremont in 4 hrs.]

A mile beyond Chapareillan a stream is crossed which formerly

marked the frontier between Dauphiné and Savoy, and 2 m. further the traveller reaches the village of *Les Marches*. Hence the excursion to the Abîmes de Myans (formed by a bergfall from the Mont Granier in 1248), described in the last Rte., may be best made. Chambéry is reached from here either by road (7 m.) or by rail (6 m.), passing through very pleasing scenery (§ 10. Rte. A).

#### ROUTE D.

##### GRENOBLE OR CHAMBÉRY TO THE GRANDE CHARTREUSE.

The celebrated monastery of the **Grande Chartreuse** stands in about the centre of the range of limestone mountains that extend along the right bank of the Isère between Grenoble and Montmélian. It is one of the few great monastic establishments that have survived the revolutions of the last century. Remaining nearly in its original state, and with the primitive severity of its discipline unrelaxed, it still presents a living image of the institutions which had so great a part in forming the religious, intellectual, and social condition of Europe during the long period between the invasions of the barbarians and the diffusion of printing. The interest naturally attaching to the building is much enhanced by the beauty and singularity of the scenery which surrounds it. It is true that since railways and tramways have begun to carry holiday-seekers from Lyons, Grenoble, Chambéry, and Aix to St. Laurent du Pont, and that a good road (alas! soon to give way to a tramway) has been carried up to the very gate of the monastery, those who come here intending for a moment to revert from the present to the past are liable to unexpected disenchantment. Such persons should choose for their visit the season of early winter, early summer, or late autumn, when the

community, then relatively undisturbed by visitors, have, in addition to the severity of their rule, to struggle against the rigour of the climate. The lover of nature may always find greater tranquillity by approaching the monastery by some of the numerous foot paths leading thither, avoiding the frequented carriage roads.

As intimated in the Introduction to § 11. the mountains of this range are, on the one hand, unmistakably connected with the Alps through the parallel range of Belle-donne, while, on the other, they are linked to the Jura by the ridge of the Mont du Chat. Although much bolder and more imposing, the scenery has perhaps more of the character of the Jura than of the Alps. As in the former range, the general outline is very uniform, and the summits, which, in truth, are rather ridges than peaks, all lie nearly within the limits 6,300-6,800 ft. The highest is the *Chamechaude* (2,087 m., 6,847 ft.), the next the *Dent de Crolles* (2,066 m., 6,779 ft.), followed by the *Grand Som* (2,033 m., 6,670 ft.), and the *Mont Granier* (1,938 m., 6,358 ft.) (The first and third of these are described below, the others in Rte. C.) But this outward uniformity gives place to great variety and boldness of scenery in the interior of the valleys, which are for the most part clefts of variable width, walled in by steep rocks, often quite precipitous. The whole district is traversed by paths not seldom intricate and misleading, and the mountaineer who may suppose that among ranges of such moderate height no especial precaution is necessary is warned that local knowledge is more needed here than in the higher regions of the Alps. In the valleys, even where the path does not lie through pine forest, the view is generally much restricted, while from the upper ridges a precipice of more than 1,000 ft. in depth is often not suspected until the traveller has reached its very verge.

A detailed account of the many

routes that traverse this range, and of the numerous excursions that may be made from the Grande Chartreuse, scarcely enters into the plan of this book. The more interesting of them are alone briefly noticed here. For further details consult M. Henri Ferrand's excellent 'Guide à la Grande Chartreuse' (2nd edition, 1889), and the same writer's superbly illustrated work 'Les Montagnes de la Grande Chartreuse' (Grenoble, 1898), or, for a more general account, Joanne's 'Alpes Dauphinoises' (1890), vol. i. Rte. 22. For an authentic and most interesting account of the monastery and its history see 'La Grande Chartreuse par un Chartreux' (first issued in 1881, and since much enlarged, 6th edition, 1896; to be had at the convent).

It seems most convenient to describe first the route by which the monastery is most commonly reached from Grenoble or from Chambéry (giving an account of the house itself under this head), and then to indicate the other chief roads or paths which lead to it, either from Grenoble, the ordinary starting place, or from Chambéry. Many ways can thus be taken from one of these places to the other.

1. By **St. Laurent du Pont**.—This village is now easily reached from Grenoble or Chambéry by railway, and the new steam tramway.

(a) **From Grenoble**.—Rail to Voiron (16 m. in 35-50 min.), thence by steam tram to St. Laurent (12 m., 1-1½ hr.)

Voiron is a station on the main line from Grenoble to Lyons by St. André le Gaz. Thence the new tram line runs E. to *St. Etienne de Crossey*, and then passes through the very picturesque gorge of Crossey, 1 m. long. Near its upper end falls in the direct carriage road from Grenoble by way of Voreppe and the *Col de la Placette* (18 m.) (From that col a walker can go direct to the monastery by the Pas de la Miséricorde, and the *Grande Sûre*, 1,924 m., 6,312 ft., command-

ing a fine panorama, in 10-12 hrs.) *St. Joseph de Rivière* is a short distance beyond, and it is 3 m. more to St. Laurent.

(b) **From Chambéry.**—There are two routes hence.

(i.) *By St. Béron.*—Rail to St. Béron (15 m., 55 min.), and steam tram on past Les Echelles to St. Laurent (9 m., 50 min.) The line from Chambéry is the same as that to Pont de Beauvoisin (Rte. E) as far as St. Béron. It mounts W. to the station (7 m.) of the *Cascade de Couz*, near which is a pretty waterfall, 50 m. (164 ft.) in height. It then pierces the Mont de l'Épine by a tunnel of 3,000 yds., in order to reach *Aiguebelette* (2½ m.), burrows under another lower ridge to attain *Lépin* (2½ m.), having passed along the shore of the Lake of Aiguebelette between the two, and then turns S.W. to gain **St. Béron** (3 m.) Hence starts the new steam tramway which runs through the savage gorge of *Chailles* to Les Echelles (5 m.), and then up the wide valley of the Guiers Mort to St. Laurent (4 m.)

(ii.) *By the Col de Couz.*—Rail to the Cascade de Couz station (7 m.), thence high road to Les Echelles (11 m.), which (as above) is 4 m. by steam tram from St. Laurent.

The ridge of the Mont du Chat is to some extent continuous with that of the Grande Chartreuse, and though diminished in height it serves to form a barrier between the basin of Chambéry and the plains of France. The lowest point of this barrier is near Les Echelles, but the natural difficulties of the passage were such that until the completion of the new road and tunnel, in 1814, the longer and steeper pass of the Mont du Chat was the route ordinarily followed between France and Savoy. From Chambéry the road to the Cascade de Couz (3 m. less than by rail) follows the upward course of the *Hière*, which flows from the S.W. The basin of Chambéry gradually contracts until at *St. Thibaud de Couz* (2 m. from the Cascade station) the road fairly

enters the defile leading to the pass, between the *Mont Grelle* (1,426 m., 4,679 ft.), belonging to the range of the Mont du Chat, and the *Rocher de Corbelet* (1,416 m., 4,646 ft.), directly connected with the Grande Chartreuse group. After about 4 m. of gentle ascent the road reaches the summit of the **Col de Couz** (625 m., 2,051 ft.), the village of St. Jean de Couz lying a short distance on the left. The descent commences through a natural cleft in the limestone rock, until the road enters (2 m.) a tunnel 308 m. (1,011 ft.) in length, pierced from 1804 to 1814 by order of Napoleon. At the opposite end a remarkable view suddenly presents itself. The tunnel has been bored through a great wall of limestone, and at its W. end issues at a great height above the valley of the Guiers, which is backed by the higher mountains of the Grande Chartreuse range. After descending part of the way towards Les Echelles, the apparent impossibility of carrying a road across the formidable wall of rock that bars the passage is more striking than from above.

[The ancient route lay in part through a cavern, which was at the same time the bed of a stream, and which was reached on the W. side by ladders fixed to the rocks. In 1670 Charles Emmanuel II., duke of Savoy, achieved the construction of a new road, passable for chars; though long abandoned, it still exists, very rough and difficult, and, like the remarkable cavern, is worth a visit *en passant*. The way starts from the tunnel-keeper's house at the E. end of Napoleon's tunnel. The whole story of these old tracks has been well told in an interesting volume published at Chambéry in 1887 by MM. J. Martin-Franklin and L. Vaccarone, under the title of 'Notice Historique sur l'ancienne Route de Charles Emmanuel II et les Grottes des Echelles.']

3 m. from the W. end of the tunnel is the village of **Les Echelles**, which derives its name from the ladders that



gave access to the above-mentioned ancient passage. The village stands on the r. or Savoy bank of the Guiers Vif, which just below unites with the Guiers Mort, these two streams draining the larger portion of the Grande Chartreuse range; the village opposite, on the l. or Dauphiné bank of the Guiers Vif, is called *Entre Deux Guiers*.

The new tramway in 1897 was not open beyond St. Laurent du Pont. From this place a good carriage road leads up to the monastery ( $5\frac{1}{2}$  m.), but those who have time are strongly recommended to walk (2 hrs.), as the beauties of the route repay leisurely examination. The road follows the Guiers Mort. In 1 m. there is passed on the r. the extensive buildings in which the manufacture of the famous liqueur is carried on. These are called *Fourvoirie*, the name coming from 'forata via,' as just beyond begins the road pierced by the monks to facilitate access to their home. A gate (destroyed in 1856) formerly barred the road here, and thus held guard over all communication between the monastic inhabitants of the 'Désert' and the outer world. The narrow cleft that allows the Guiers Mort to escape from its mountain birthplace thus affords the only easy access to the retreat which, for so many centuries, has been inhabited by the followers of St. Bruno. For an hour the road is carried along the left bank of the Guiers Mort through scenery which, if not of the grandest character, is wild and impressive and well wooded. At the *Pont St. Bruno* (2 m. from Fourvoirie) the stream is crossed, and the new road (built 1854-6) begins. The work presented considerable engineering difficulties, and involved the construction of four tunnels; but, whatever other advantages it may possess, it has certainly deprived the monastery of a portion of the charm which it formerly owned over the

imagination of the poet and the artist. It soon passes a bold rocky needle, the *Éillette*, 40 m. (131 ft.) high, and now crowned by a great cross. Beyond the fourth tunnel the gorge widens, and soon ( $4\frac{1}{2}$  m. from St. Laurent) the road passes opposite the *Pont St. Pierre*, over which comes the road from St. Pierre de Chartreuse. It then turns gradually to the left, quitting the Guiers valley, and mounts towards the N. till it enters an upland basin, in great part clothed with pine forest, and overhanging on the E. side by the wall-like precipices of the Grand Som.

In the centre of this solitude, at a height of 977 m. (3,205 ft.), stands the pile of buildings which form the monastery. In this, the parent house of the Carthusian order (founded here in 1084 by St. Bruno of Cologne), the original rule is observed in all its severity. The monks never eat meat, and their diet is at all times of the most frugal kind; they rise at 10 or 11 P.M. (according to the season) for Mattins, which last 2 hrs. at least, and, as a rule, only leave their cells twice in the daytime for High Mass and Vespers. Their lives are passed between the church and manual labour in their cells, which are really little houses two stories high, with a small garden attached. Below there are a wood-house and a workshop; above, a sitting-room and a bedroom (and oratory), with sometimes a small study wedged in between. There are 36 of these cells, arranged round the great cloister, and the one now marked F is, by tradition, that formerly occupied (1160-1181) by St. Hugh of Lincoln. Besides the full professed monks (all priests) there are a number of lay brethren. Excepting those whose office requires intercourse with strangers, they never speak, save on special and rare occasions, such as Sundays and certain feast days, and their chief recreation (besides working in their gardens and study of books) is to walk within the precincts of the 'Désert,' near the

monastery. This 'spaciment,' or weekly walk, lasts 3 hrs. or so, and conversation is then permitted.

Strangers are received by one of the lay brethren, and four times a day are conducted to see the church and the rest of the buildings, and are also allowed to be present in the church during the offices, in the tribune at the W. end. No one should fail to go, for some time at least, either to Mattins or to the High Mass, as the scene is extremely impressive. Strangers are only given fish, eggs, bread, &c., but no meat. They are lodged in special cells, the beds being quite clean, though rough. Without special permission no one is allowed to remain more than two days, and a moderate payment is made by each person, according to a fixed tariff. It should be particularly borne in mind that women (save sovereigns) are not admitted into the monastery on any pretence whatsoever. They are obliged to remain in a building near the great gate, where they are cared for by Sisters. Many persons now prefer to stay either at the Hôtel du Désert (2 m. off) or at the H. Victoria in the village of St. Pierre de Chartreuse (3 m.) itself (see 2. below).

The scenery surrounding the monastery is fine enough to make the place interesting, apart from any special religious or historical associations. To the botanist this neighbourhood is made attractive by the presence of several species which are elsewhere rare, or quite unknown in the Alps, e.g. *Hypericum nummularium*, *Erinus alpinus*, &c.

The most interesting excursion for the mountaineer is the ascent of the **Grand Som** (2,033 m., 6,670 ft.), which, despite its name, is only the third highest point in the group. This involves a considerable détour, for every short cut in the direction of the peak leads to the base of the formidable precipices that form its W. face. Half an hour's walk from the convent along a char road is the chapel of *N. D.*

*de Casalibus* (on the site of the original chapel of the monastery), and 10 min. beyond is the *Chapelle de St. Bruno*, on a great rock, this being the spot where St. Bruno built his first chapel. The Grand Som mule path turns off just before the first-named chapel, and mounts through the fine forest to the *Bovinant* meadows (2 hrs. from the convent). Thence *either* the foot path by a rock ledge, *or* a direct ascent up the wall, then along the ridge, *or* a roundabout but well-marked route joining the ridge higher up, lead to the summit in 1 hr. more. The view is very fine, extending from Mont Blanc to Monte Viso, while the convent is in the basin at the feet of the spectator. The expedition presents great variety of scenery within comparatively narrow limits. Among other interesting plants the botanist will observe *Potentilla nitida*.

2. *From Grenoble by Le Sappey and the Col de Porte.*—This route is a good carriage road, by which diligences take 5 hrs. up to the convent, and 3½ hrs. down. It is best taken *down* to Grenoble, and is here so described, as it is the route usually chosen for the return from the monastery. The distance is 18½ m.

Just below the convent the road leaves that to Grenoble, and soon passes the buildings called the *Correrie*, now the convent farm, and a hospital for the neighbourhood. 1 m. further on the road traverses the *Porte de l'Enclos*, and leaves the 'Désert,' and another mile brings us to the H. du Désert, on the roadside. It is at the base of the hillock on which stands (1 m. off) the very ancient village of *St. Pierre de Chartreuse*, which originally gave its name to the infant convent. The road now turns to the S., and 7 m. from the convent reaches the **Col de Porte** (1,352 m., 4,436 ft.), and in 2 m. more the village of **Le Sappey**.

From the high road the ascent of *Chamechaude* (2,087 m., 6,847 ft.), the highest summit of the Chartreuse ranges, may be made in 2½–3 hrs.

from Le Sappey. The view is naturally the most extensive to be gained from any point in this district.]

From Le Sappey the descent, over a depression between the Mont Rachais and the St. Eynard, is long, and for the most part uninteresting, though from the pass itself (3 m.), the *Col de Vence* (752 m., 2,467 ft.), some fine views are gained over the Graisivaudan valley and the higher ranges of the Dauphiné Alps. The road passes by *Corenc*, and in 4 m. from the *Col de Vence* enters Grenoble by the *Porte St. Laurent*, at the N. end of the town.

3. *From Grenoble by the Col de la Charmette.*—This way is most strongly recommended to pedestrians, as it is one of the most picturesque and charming approaches to the convent. A splendid carriage road leaves Grenoble by the *Porte de France* at the W. end of the town, and leads to *St. Egrève* (4 m.), which is connected with Grenoble by a service of public vehicles several times a day. Hence a char road mounts N.E. by the pretty valley of the *Vence* to *Proveysieux* (2½ m.) and *Pomaray* (2 m.) From this point there are only foot or mule paths. The stony track soon plunges into fine forests, and only issues from them on reaching the grassy plain, framed by pine woods, which forms the *Col de la Charmette*, 1,280 m., 4,200 ft. (3 m. from Pomaray). Here is a *maison forestière*, where accommodation on hay may be had in case of need. Hence there are various ways by which the convent may be gained. There is a fine carriage road which descends past (4 m.) the *Chartreuse de Currière* (formerly the sanatorium of the great monastery, now an institute for deaf and dumb persons) to the main road close to *St. Laurent* (7 m.); while from the *Tenaison* hut, 1 m. down the *Currière* road, the pedestrian may cross the *Col de la Cochette* and reach the *Corrierie* (3 hrs. from *Tenaison*) by a bridge over the *Guiers Mort*. The preferable way is to go

as far as *Currière* by the road (4 m.), and then to descend by a mule path straight to the *Pont St. Bruno* (½ hr.), 3½ m. from the convent (see I. above). This direct descent through the woods is very beautiful, and brings the traveller to the convent with as little intercourse with tourists as possible.

4. *From Chambéry by St. Pierre d'Entremont.*—*St. Pierre d'Entremont* (640 m., 2,100 ft.) is a village finely situated in the valley of the *Guiers Vif*, and is reached in 8 m. by high road from *Les Echelles*.

[The pedestrian may reach it by several mountain paths direct from *Chambéry* in 5–6 hrs. The most interesting way is the carriage road (15 m.) over the *Col du Frêne* (1,164 m., 3,819 ft.), immediately N.W. of the *Mont Granier* (1,938 m., 6,358 ft.), the ascent of which (*Rte. C*) may be included in the day's walk, or drive. From *St. Pierre* an interesting excursion (4 hrs. there and back) may be made to the sources of the *Guiers Vif*. At the village of *St. Même*, an hour's walk off, it is necessary to take a guide, with a ladder and lights, by which to gain access to the cavern whence the torrent issues. A rough path leads thence to the *Col de Valfroide*, whence by a steep and difficult descent *La Buissière* or *Le Touvet*, in the Graisivaudan valley, may be gained in 6–7 hrs. from *St. Pierre*.]

A mule path over the grassy *Col de Bovinant* (1,666 m., 5,466 ft.) leads from *St. Pierre* to the convent in 4 hrs., while a carriage road runs over the *Col du Cucheron* (1,081 m., 3,547 ft.) to *St. Pierre de Chartreuse* (10 m.), 3 m. from the convent.

5. *From Chambéry by the Col de la Ruchère.*—This is a longer and less striking route than those described above. From *Les Echelles* the char road along the *Guiers Vif* is followed towards *St. Pierre d'Entremont* till, after passing through the *Frou* tunnel, a road branches off a mile before the *Pont de Rioubrigoud* (5 m.), and mounts S. to the hamlet of *La Ruchère* (1 m.) Hence an ascent of



1½ hr. by a mule path brings the pedestrian to the **Col de la Ruchère** (1,400 m., 4,593 ft.), which commands a very fine view of the neighbouring mountains. A descent of 20 min. leads down to the Vacherie, where the convent cows are kept. ½ hr. farther is the Chapelle de St. Bruno (1. above); and another ½ hr. (say 4¾ hrs. from Les Echelles) conducts the traveller to the monastery itself.

For the routes from St. Ismier, in the Graisivaudan, to the convent by the Col de St. Ismier, and the Col des Ayes, see Route C.

## ROUTE E.

### CHAMBÉRY TO LYONS OR GRENOBLE BY AIGUEBELETTE AND PONT DE BEAUVOISIN.

Rail in 1 hr. to Pont de Beauvoisin (19 m.), and in ½ hr. more to St. André le Gaz junction (8 m.)

Longer by road and path: 4 hrs. to Aiguebelette by St. Sulpice (12 m.), or 7 m. by the Col.

Between the Dent du Chat (Rte. A), and the way from Chambéry to Les Echelles, described in the last Rte., the prolongation of the ridge of the Mont du Chat, called the *Mont de l'Épine*, maintains an average height of about 4,000 ft. On the W. side of the watershed, at a height of about 500 or 600 ft. above the level of the Guiers and the Rhône, is an extensive plateau, the southern portion of which is occupied by the lake of Aiguebelette. The direct route from Chambéry to Pont de Beauvoisin and St. André le Gaz lies by the shores of the lake, and is one of the many agreeable excursions available to travellers in this part of Savoy. A railway has now been constructed all the way, but leisurely

travellers do well to follow the old road.

(a) *By Rail*.—The line to St. André, as far as St. Béron (15 m.), is described in the last Route (under 1. b. i.) as the main way to the Grande Chartreuse by Les Echelles. The Mont de l'Épine ridge is pierced by a long tunnel. Pont de Beauvoisin is only 4 m. by rail beyond St. Béron, and thence the line runs due W. past *Pressins* to the station of *St. André le Gaz* (8 m.), which is on the main line from Grenoble to Lyons, 42 m. from the former and 40 m. from the latter town.

(b) *By Road*.—Beyond Cognin, 1 m. from Chambéry, a foot path mounts in 40 min. to *Vimines*, and thence follows a very rough path, impassable for horses, till in 2¼ hrs. from the city it attains the **Col d'Aiguebelette** (848 m., 2,782 ft.), which commands an admirable view of the basin of Chambéry, the Lake of Bourget, and the ranges of the Alps of Savoy.

☐ The Col is accessible by a char road—the line of the ancient Roman road—from Chambéry, which makes a considerable détour to the N. by (7 m.) the village of *St. Sulpice*, and—henceforward a mule track only—reaches Lépin in 12 m. from Chambéry. From St. Sulpice another road, practicable for chars, mounts by zigzags to the N.W., passes the Mont de l'Épine by a col of 1,033 m. (3,389 ft.) in height, descends to (6 m.) *Novalaise*—a village where many Roman medals and inscriptions have been found—thence bears due N. to *Marcieux*, and follows the *Flon* torrent to (10 m.) *Yenne*, on the Rhône, at the W. base of the Col du Mont du Chat: see below.☐

The mule track descends in ¾ hr. from the Col d'Aiguebelette to the miserable village of the same name. During the descent the road commands very pleasing views of the *Lake of Aiguebelette*. This tranquil sheet of water is about 2½ m. in length, and 1 m. wide; on the shores and upon an island are various vestiges of

the Roman occupation of this district. A low ridge is crossed by the char road between Aiguebelette and the equally poor village of *Lépin* (about 8 m. from Chambéry), both surrounded by magnificent walnut trees. From Lépin the road follows the S. shore of the lake, and thence descends along the *Tiers* torrent, which drains the lake, as far as the village of *La Bridoire*, nearly 2 hrs. from Aiguebelette. To reach the valley of the Guiers it is now necessary to descend a deep escarpment of limestone, which is a continuation towards the N. of that pierced by the tunnel above Les Echelles. The main road makes a circuit, but there is a shorter foot path, which descends the face of the rock by steep and narrow ledges. From the base of the rocks the route passes through a rich tract, and over a low wooded hill to *Domessin*, on the high road from Les Echelles, and about  $1\frac{1}{4}$  m. from **Pont de Beauvoisin**. This is a small town astride of the Guiers Vif. That stream is crossed by an old bridge, built by Francis I., and was formerly the boundary between Dauphiné and the Savoy, as it is now between the departments of the Isère and of Savoy.

Those who have come hither from Chambéry by either of the above routes, or by way of Les Echelles, may prolong an agreeable excursion by taking the tramway along the right bank of the Guiers to (6 m.) *St. Genix d'Aoste*. It is 45 m. direct by rail from Lyons, and  $1\frac{1}{4}$  m. from *Aoste*, once an important Roman station, near the junction of the Guiers with

the Rhône, and now a station on the railway from St. André le Gaz to Belley, Aoste being 12 m. from St. André, and 14 m. from Belley. (Belley is itself only 9 m. from Virieu le Grand, on the main line between Culoz and Mâcon.) From St. Genix a road is carried along the E. or l. bank of the Rhône, at some distance from the stream, by which the traveller reaches (9 m.) *La Balme*, a village lying at the base of a range of precipitous rocks, pierced by many grottoes, or *balmes*, and connected by a suspension bridge (on the site of an ancient bridge, probably of Roman origin) with the opposite bank of the Rhône. Nearly opposite is an isolated rock, about 170 m. (558 ft.) above the river, surmounted by the Fort of *Pierre Châtel*. The original building was a Carthusian monastery (founded in 1381), which was seized at the time of the French Revolution, and has since served as a prison and a fortress. The view of the valley of the Rhône from the hill above the fort (about 1 hr.'s walk) is extremely fine. 2 m. from La Balme is *Yenne*, a small town on the Rhône, which, after escaping from the marshes near Culoz that occupy the depression between the Mont Colombier and the Mont du Chat (Rte. A), flows to the S. along the W. flank of the latter ridge.

Yenne is 3 m. from the Brens station on the Belley railway, Belley being but  $2\frac{1}{2}$  m. from Brens. Yenne is also 7 m. from the Col du Mont du Chat (Rte. A), whereby Chambéry is distant 18 m. from Yenne.

## CHAPTER IV.

## LOWER SAVOY.

## SECTION II.

## ANNECY AND ALBERTVILLE DISTRICT.

## Route.

- A. Aix les Bains to Le Châtelard. The Bauges.  
 B. Annecy to Le Châtelard.  
 C. Le Châtelard to Chambéry.  
 D. Le Châtelard to Albertville.  
 E. Albertville to Annecy. Lake of Annecy.

## Route.

- F. Annecy to Bonneville.  
 G. Annecy to Cluses or Sallanches.  
 H. Annecy or Albertville to Sallanches or St. Gervais. Mont Joly.  
 I. Albertville to St. Gervais by the Valley of Beaufort.  
 K. Albertville to Bourg St. Maurice or Contamines by Beaufort.  
 L. Beaufort to Moûtiers Tarentaise.

IN the last Chapter the ranges lying S. of the Mont Cenis railway from Modane to Chambéry were described in detail. Near St. Pierre d'Albigny,  $15\frac{1}{2}$  miles above Chambéry, the river Arc, which has hitherto been the companion of the railway in its windings, joins the Isère, into which it flows almost at right angles, the united streams then running S. to Grenoble through the Graisivaudan. N. and W. of the junction of these two rivers are a number of parallel ridges of limestone, with intervening valleys, broken through by a broad depression, where stands Chambéry, the ancient capital of Savoy.

A line drawn from S.S.W. to N.N.E., between Grenoble and Sallanches, through the valley of the Isère, and that of its affluent, the Arly, marks a boundary which appears to have much significance in the orography of this portion of the Alpine chain. W. of that line many parallel ridges of limestone, rarely attaining 7,000 ft. in height, form a series of deep trenches, which are cut through, but not at right angles, by three parallel valleys. These are the valley of Chambéry, that of the Ché-

ran, and the still deeper hollow which is occupied by the Lake of Annecy and the valley of the Eau Morte. Although there are clear indications that the forces which have given their direction to these western ridges have also operated on the adjoining groups of the Tarentaise and Dauphiné Alps, it would appear that there is a still closer relation between the former and the chain of the Jura, the S.W. extremity of which is the neighbouring department of the Ain.

**Chambéry** thus stands in a valley between two parallel systems of limestone ridges. On its W. and S. are the ranges of the Dent du Chat and of the Grande Chartreuse, both of which were described in the last Section. Those lying N. of Chambéry are the subject of the present Section. The entire district abounds in agreeable scenery, and, as it is covered by a network of carriage roads and mule paths, it is easily accessible to ladies and even to invalids.

Joanne's 'Savoie' (1895) is the best and most detailed book on these regions.



## SECTION 11.

ANNECY AND ALBERTVILLE  
DISTRICT.

It has been seen in the last Section, that Chambéry stands in a valley between two parallel systems of limestone ridges. The W. system is directed first to the N., then to the N.W., forming ultimately the Jura range; its S. or Alpine end was described in the last Section. The E. system forms near Chambéry the range of the **Bauges**. A glance at a geological map will show that this is the S.W. extremity of a zone of Secondary rocks traversing Savoy and Switzerland from W.S.W. to N.N.E., and associated with Eocene deposits which lie along its geometrical axis, between an outer fringe of Cretaceous and Jurassic rocks. The geological disposition of the strata here corresponds in a general way with the orographic relations. The prevailing tendency of the ridges and the main valleys is parallel to the general strike of the strata, but the whole mass is at intervals cut through, nearly at right angles, by deep valleys, often narrowed to mere defiles. Of this character is the defile of Magland, between Cluses and Sallanches, in the valley of the Arve, which forms a natural division between the limestone mountains of the Chablais and the Faucigny, and those which extend from the Arve to the Lake of Annecy. These are separated by the valley of the Arly from a group of higher mountains, chiefly composed of crystalline and slaty rocks, which form a link in the chain connecting Mont Blanc with Belledonne and the Taillefer, on the opposite sides of the valley of the Romanche. This group (**Beaufort**) might have been considered as a S.W. prolongation of the chain of Mont Blanc; but if, following the example of most geographers, we consider the latter to be limited by the Montjoie valley and

the track over the Col du Bonhomme, it appears most convenient (though not strictly included in the title of this Chapter) to unite it in the present Section with the limestone ranges W. of the Arly.

The limits of the region described in this Section are therefore as follows: on the S. the Isère, from Bourg St. Maurice to its union with the Arc, near St. Pierre d'Albigny; on the W. the railway line from Chambéry through Aix les Bains and Annecy to Bonneville; on the N. the railway in the Arve valley from Bonneville to near St. Gervais; and on the E. the track over the Col du Bonhomme from the Arve valley to Bourg St. Maurice. Within these limits three main mountain groups may be distinguished. Between Chambéry and Annecy, with its lake, are the limestone ridges of the Bauges, (Rtes. A, B, C, and D), of which **Le Châtelard**, in the upper Chéran valley, is the natural centre for a visitor. Then between Annecy and its lake, and the Arve valley, but W. of the Arly, there is the second limestone range (Rtes. F, G, and H). This is most easily accessible (from the S.) from the route between Annecy and Albertville (Rte. E), while **Thônes** is the most central point in this group, as the ascents of the Tournette, Charvin, and other agreeable excursions may be made therein. E. and S. of the Arly and N. of the middle reach of the Isère is the third group, the non-limestone one of Beaufort (Rtes. I, K, and L). The country surrounding the chief hamlet, **Beaufort** (sometimes called St. Maxime de Beaufort) is not less interesting than that of the other groups, and presents a striking contrast in the character of its scenery, owing to the different nature of the rocks which there prevail.

Most of the territory included in this Section lies in that portion of Savoy which was neutralized in 1815 (by the Congress of Vienna and the Treaty of Paris) by the Great Powers.

The exact division is marked by a line to be drawn from the S. end of the Lac du Bourget (a little S., therefore, of Aix les Bains) slightly N.E. through Lescheraines (just N.W. of Le Châtelard) and Faverges to Ugines (taking in this town), and thence along the ridge to the N. of the Hauteluze glen to 'Les Aiguilles' (at the junction of this ridge with that coming from the Mont Joly), then bending S. by the Col Joly to the Col du Bonhomme, and then N.E. along the watershed of the chain of Mont Blanc.

For further details as to the district described below, see Joanne's large and accurate 'Savoie' (1895), and also, for the Bauges group, a monograph by M. Bartoli in vol. xix. of the 'Annuaire du Club Alpin Français.' Though little known to English travellers, this district abounds in agreeable scenery, and is full of interest to the naturalist and to the geologist.

### ROUTE A.

#### AIX LES BAINS TO LE CHÂTELARD. THE BAUGES.

As stated in the Introduction to this Chapter, the **Bauges** mountains (the highest summit of which is the *Pécloz* (2,260 m., 7,415 ft.), near the ruined monastery of Bellevaux, Rte. D) consist of a series of parallel ridges running from N.N.E. to S.S.W., bounded on the N. by the Lake of Annecy and the valley of the Eau Morte, and on the S. by the basin of Chambéry, while they are cut through in the midst by the valley of the Chéran. These ridges form a distinct district, which long preserved from very early times its own peculiar manners and customs, and where even now, with the exception of an occasional naturalist, strangers are but rarely seen. Possessing unusually fine pastures, the

district abounds in cattle, and cheese is the chief product. Excepting in the chief village, Le Châtelard, the population was dispersed in small communities, or clans, which had a system of internal self-government essentially republican; the general manager, the head dairy woman, and the chief herdsman being elected by the clan. An excursion of two or three days from Aix or Annecy to Le Châtelard, and thence by one of the passes that lead to Chambéry, will interest a traveller curious to observe even the last traces of the primitive customs of a secluded people. It is said that within recent years increased communication with the outer world has greatly modified the traditional existence of its inhabitants.

The Bauges form a great highland plateau, surrounded by a rampart of steep rocks, of which the most westerly bastion, called the Dent du Nivolet, is well seen from Chambéry. The Chéran valley alone pierces this huge rampart, and so affords the easiest means of access to the upper plateau. Many foot passes lead over the edge of this plateau, and there are several carriage roads over other passes, the chief being those from Aix les Bains and from Annecy. The former runs for the greater part of the way along the Chéran, and, as it is the most picturesque in the district, it is described first. Brief notices are then given of some foot passes from Aix to Le Châtelard. Probably the *most direct way* from Aix to Le Châtelard is to go by the funicular railway from Aix in  $1\frac{1}{4}$  hr. to the top of the Grand Revard, 1,545 m., 5,069 ft. (§ 10. Rte. A), part of the Montagne de la Cluse, just E. of Aix, and then to descend S.E. through a magnificent forest to the Col de Planpalais (Rte. C. 1), and so by Lescheraines to Le Châtelard ( $3\frac{1}{2}$  hrs. from the Revard).

1. *By Cusy.*—Carriage road,  $18\frac{1}{4}$  miles (4 hrs. driving). The road runs N. from Aix for  $2\frac{3}{4}$  m. to *Grésy sur Aix* (a station on the railway to An-

necy), near which is a pretty waterfall, one of the chief resorts of the visitors to Aix. Beyond the village the road gradually ascends in a N.E. direction along the *Sierroz* stream, the wooded gorge becoming narrower and narrower, to an undulating plateau, on a hillock in which, to the l. of the road, stands the village of *Cusy* (8 m. from Aix). To the N., on a rock washed by the Chéran, are the extensive ruins of an ancient castle. The road now makes a sharp turn to the S.E., ascending along the l. bank of the Chéran. On the opposite bank are seen the hamlet of *Aiguebellette* and the castle of St. Jacques. Here three singular peaks, or rather obelisks of rock (*Tours St. Jacques*), rise abruptly from the valley, standing side by side, with an interval of but a few yards between them. (Near here a side road crosses the Chéran by a fine suspension bridge, *Pont de l'Abîme*) 308 ft. high, to the road from Annecy by Gruffy to Le Châtelard, Rte. B. 1). The road is still carried along the l. bank of the Chéran at a considerable height above the river, and about 4 m. beyond Cusy passes opposite the village of *Allèves*.  $12\frac{1}{2}$  m. from Aix the Chéran is crossed by the *Pont de Bange*, built next to an ancient bridge, said to be of Roman date, and thenceforward it keeps to the r. bank of the stream. (Here falls in the road from Gruffy already mentioned. A branch from it leads in  $8\frac{3}{4}$  m. from the bridge to Alby, which is 5 m. from Albens, a station on the railway from Aix to Annecy.)  $\frac{1}{2}$  m. beyond the bridge, where the road is hemmed in between the rocks and the stream, is the entrance ( $\frac{1}{4}$  hr. off) to the *Grotte de Bange*, a cavern which contains a subterranean lake, about 220 ft. below the level of the entrance, and approached by a gallery about 800 ft. in length. The lake appears to be about 220 ft. in circumference. Leaving on the l. ( $14\frac{1}{4}$  m. from Aix) the road from Annecy by the Col de Leschaux (Rte. B. 1), the road to Le Châtelard crosses, by the *Pont de la*

*Charniat*, the torrent descending from that pass, leaves on the r. hand a bridge leading over the Chéran to the hamlet of *Lescheraines*, and in  $5\frac{3}{4}$  m. from the *Pont de Bange* reaches ( $18\frac{1}{4}$  m. from Aix) **Le Châtelard**, the chief village in the *Bauges*, and 819 m. (2,687 ft.) high. It is composed of a single long street, backed by a steep escarpment of rock, and bathed on three sides by the Chéran. It was rebuilt after the disastrous fire of 1867, which spared only the church and a few houses. On the opposite side of the valley rises the steep ridge of the *Dent de Rossane* (1,910 m., 6,267 ft.), and to the S.E. opens the picturesque upper valley of the Chéran. Beyond the church and the cemetery are the shapeless ruins of the old castle, which stands on a rock above the village, and commands a very fine view of the valley and of the surrounding mountains. In a much better state of preservation is the *Château des Ecuries*,  $\frac{1}{4}$  hr. to the N. The chief ascent is that of the *Mont Trélod* (2,186 m., 7,172 ft.), on the N.E., which may be made in 4 hrs. by way of *Cul du Bois* (Rte. B. 3).

2. *By the Col de Prabarno*.—Mule path.  $5\frac{1}{4}$  hrs.' walking. On leaving Aix a road mounts N.E. till beyond *Montcel* it becomes a mule path by which the village of *St. Ofenge dessus* is reached in  $1\frac{3}{4}$  hr. from Aix. Thence a steep and stony mule path leads up E. to the pass (1,436 m., 4,711 ft.), also called *Col de Pré Barnaud* ( $2\frac{1}{2}$  hrs. from Aix). It commands a fine view of the Lake of Bourget to the W., and of the Lake of Annecy to the N.E. The path from the Col winds down amidst rich pastures, passing some chalets and the hamlet of *Montagny*, to *Arith* ( $1\frac{1}{4}$  hr.), a rather large village overlooking the valley of the Chéran. A steep descent leads to a bridge over the lateral stream of *St. François* (descending from the Col de *Planpalais* past the hamlet of *Le Noyer*, Rte. C. 1), and soon after (10 min. from *Arith*) to the *Pont de Lescheraines* over the Chéran, beyond which



the road from Aix by Cusy is soon joined, and followed for  $3\frac{1}{4}$  m. to Le Châtelard.

3. *By the Col de la Cochette*.—Uninteresting mule path.  $5\frac{1}{2}$  hrs. The Col de la Cochette (1,388 m., 4,554 ft.) is a notch sharply cut into a rocky ridge, and is about  $\frac{1}{2}$  m. further S. than the Col de Prabarno. The approach to it on both sides is somewhat longer and steeper. From Aix the route of the Col de Prabarno is followed to St. Offenge dessus, whence it is necessary to bear S.E. past several hamlets, so as to gain the Col ( $3\frac{1}{2}$  hrs. from Aix), the deep notch of which is seen from the neighbourhood of Aix. Descending due E. the path of the Col de Prabarno is joined in 1 hr. at *Montagny*, and followed thenceforth.

4. *By the Pas de la Cluse*.—Char road.  $5\frac{1}{2}$  hrs. The road mounts N.E. from Aix, and, ultimately ascending through a wooded ravine, attains in about 1 hr. the village of *Tréviguin*. It then bears to the r. round the N.W. end of the Montagne de la Cluse past the highest hamlet, *Décampoux*. Thence it winds for a considerable distance round the head of the glen whose torrent joins the Sierroz below St. Offenge, partly over a rocky slope, partly through woods. The highest point is passed in traversing a ridge of rock before reaching the pass. (In following this route from Le Châtelard to Aix, it is necessary to avoid a path which descends the glen towards the Sierroz, as that involves a considerable détour.) Nearly 3 hrs. from Aix are required to reach the *Pas de la Cluse*, a depression (1,450 m., 4,757 ft.) between grass-grown rounded knolls, that leads into the valley of Le Noyer, one of the affluents of the Chéran. A few minutes below the pass is a chalet with a spring, and before long the road gains a point where it overlooks the valley of Le Noyer, and commands a fine view of the principal ridges of the Bauges. Exactly opposite is the ridge of the *Mont de Margerias* (1,846 m., 6,057 ft.); beyond it to the l. is the

*Dent de Rossane* (1,910 m., 6,267 ft.), between the Aillon valley and Le Châtelard; then the *Pointe d'Arcalod* (2,225 m., 7,300 ft.), or the *Pécloz* (2,260 m., 7,415 ft.), and the *Mont Trélod* (2,186 m., 7,172 ft.) The road descends gradually, winding at mid-height along the side of the valley of Le Noyer, and in little more than 1 hr. reaches Arith, whence the route of the Col de Prabarno (2. above) is followed to Le Châtelard.

## ROUTE B.

### ANNECY TO LE CHÂTELARD.

There is now a direct carriage road from Annecy to Le Châtelard over the Col de Leschaux, but to a pedestrian either of the two mountain paths (indicated below) leading from the S. end of the Lake of Annecy to the upper Chéran valley will be found more interesting.

1. *By the Col de Leschaux*.—Carriage road: 18 miles, traversed by the diligence in 3 hrs. It is best taken in the reverse direction, on account of the fine views over the lake. From Annecy the road along the W. shore of lake is followed for  $2\frac{3}{4}$  m. to *Sévrier*. Here the road to Le Châtelard mounts gradually in a S. direction along the lower slopes of the Semnoz, making many great zigzags, and running high above the wooded glen on the l. It commands many fine views over the lake and towards the Tournette. In this way a plateau covered with hummocks is gained, and soon after the *Col de Leschaux*, 904 m., 2,966 ft. (10 m. from Annecy.) The main hamlet of *Leschaux* is just to the W. of the Col, the church being close to it.

[This is the starting point for the ascent of the *Semnoz*, a long ridge to the N.N.W. Its highest point, *Crêt de Châtillon* (1,704 m., 5,591 ft.),

may be reached by mule path in  $1\frac{1}{2}$  hr. from the village; 10 min. below the top there is a large inn. The view from the summit is so fine that this point has been called the 'Rigi of Savoy.' Besides the three lakes of Bourget, Annecy, and Geneva, all the chief summits of the Dauphiné, Savoy, and Vallais Alps are well seen. It is possible to descend from the summit direct to Annecy, but a local guide is required through the immense forest which clothes the N. end of the Semnoz ridge. The 'Tour du Semnoz' may be made by following the Col de Leschaux road to its junction with that from Aix by Cusy, then the latter to the Pont de Bange, whence another road leads by Allèves and Gruffyto Annecy,  $13\frac{1}{2}$  m. from the Pont de Bange.】

The road towards Le Châtelard descends through bits of the scattered village of Leschaux, along the r. bank of the stream, and past the hamlet of *Glapiigny*, making numerous zigzags till near the Pont de la Charniat (14 m. from Annecy) it joins that from Aix by Cusy (Rte. A. 1), which is followed for 4 m. to Le Châtelard. A little way before the junction a détour of 10 min. suffices to visit the *Pont du Diable*, thrown picturesquely over the Charniat at a point where it has cut a deep and narrow cleft through the rock.

2. *By the Golet*.—From Duingt, the most picturesque point on the W. shore of the Lake of Annecy, it is easy to mount due S. past the solitary hamlet of *Entrevernes* to the pass of **Le Golet** (1,384 m., 4,541 ft.), whence the descent is made to *Bellecombe*, on the W., from which a road leads past *Entrève* to the Col de Leschaux road, not far above the Pont de la Charniat.

3. *By the Col de Bornette, or the Col de Cherel*.—Both these passes lead from Doussard,  $1\frac{1}{4}$  m. from the S. end of the Lake of Annecy. The former lies W. of, the latter E. of, the ridge of the *Mont Trélod* (2,186 m., 7,172 ft.) The **Col de Bornette** (1,315 m., 4,314 ft.) takes  $6\frac{1}{2}$  hrs.,

the ascent to the pass lying up the Bornette glen, S.W. of Doussard. On the other side the path goes down pastures to the hamlet of *Cul du Bois*, whence a char road runs in 5 m. to Le Châtelard.

【From a point about 2 m. above Cul du Bois easy shepherds' paths lead S.E. (turning a steep wall of rocks) to the summit of the *Mont Trélod* (2 hrs.), whence there is a very striking view. This ascent is interesting to the botanist for the rare plants, such as *Cephalaria alpina*, *Pedicularis Barrelieri*, &c., which have been found on the mountain.】

To gain the **Col de Cherel** ( $7\frac{1}{2}$  hrs. from one place to the other) from Doussard it is necessary to bear S.E. past the hamlet of *Chevaline* by a mule path up the Grande Combe, at the head of which is the pass (1,501 m., 4,925 ft.) The descent lies rather S.W. to *Jarsy*, below which the traveller soon reaches the village of *Ecole*,  $3\frac{1}{4}$  m. from Le Châtelard by the road of the Col du Frêne (Rte. C. 4).

## ROUTE C.

### LE CHÂTELARD TO CHAMBÉRY.

The Bauges are traversed in all directions by paths, for the most part of no difficulty, and also by several carriage roads. It is, therefore, easy to multiply the routes which a traveller may, if so minded, discover for himself. It will be sufficient in this and the following Rte. to indicate the most interesting ways by which a traveller, having come from Aix or Annecy, may gain Chambéry or Albertville.

1. *By the Col de Planpalais*.—Carriage road, 21 m.—From Le Châtelard the high road down the Chéran valley is followed for  $3\frac{1}{4}$  m., when it is left to cross that river by the *Pont de Lescheraines*. This road

mounts past the village of *Lescheraines* (opposite Arith, Rte. A. 2), along the r. bank of the stream up the Le Noyer (now called St. François) glen. The village of Le Noyer (opposite that of St. François de Sales), 840 m., 2,756 ft.) is traversed ( $7\frac{1}{2}$  m. from Le Châtelard), and beyond a well-shaded road ascends to the **Col de Planpalais**, 1,180 m., 3,872 ft. ( $11\frac{1}{4}$  m.) (There is a bad road on the l. bank of the glen, by which the traveller passes near the remains of a Roman aqueduct, partly cut into the rock, and known to the natives as *La Crèche*.) The summit of the Col is a grassy plateau, with many knolls. (Hence it is easy to go N.W. through a fine pine forest to the Grand Revard (1,545 m., 5,069 ft.), whence there is a funicular railway down to Aix (Rte. A. above, and § 10. Rte. A).)

A gentle descent of  $2\frac{1}{2}$  m. leads to the village of *Les Déserts*, standing on a plateau between the *Mont de Margerias* (1,846 m., 6,057 ft.) on the E. and the *Dent du Nivolet* (1,553 m., 5,095 ft.), the most advanced bastion of the Bauges, on the W.

☐The former summit may be gained by a rough climb by its S.E. ridge from the Col d'Averne. But the view is decidedly inferior to that obtained from the lower yet better situated **Dent du Nivolet**. This point is crowned by a huge cross, conspicuous from Chambéry, and may be gained by easy paths in  $1\frac{1}{2}$  hr. from Les Déserts, the mule path making a round by the Col de Planpalais. The walk hence to the Grand Revard, on the N., lies over fine pastures, and, as it takes only 2 hrs., is recommended, since from the Revard the funicular railway affords an easy means of gaining Aix or Chambéry.☐

The road descends along the r. bank of the *Leisse* torrent, gradually rounds the rocky base of the Mont Pennay, bends S.W. to reach *St. Jean d'Arvey* (17 m.), and continues along the same bank through very agreeable scenery to Chambéry (21 m.)

2. *By the Col des Prés*.—Char road,  $20\frac{1}{2}$  m. Nearly opposite Le Châtelard is the opening of the picturesque glen of *Aillon*. The road thither crosses the Chéran a little below the village (that to the Col du Frêne, 4. below, being left on the l. hand), and after passing several small hamlets reaches *Aillon le Vieux* ( $3\frac{3}{4}$  m.), a village at the W. foot of the Dent de Rossane. (Hence the *Mont Margerias* (1,846 m., 6,057 ft.), on the S.W., can be easily ascended in 2 hrs.)  $4\frac{1}{4}$  m. higher up the glen is the last village, *Aillon le Jeune*, on the l. bank of the stream. (The route to the Col de Lindar (3. below) and the Chartreuse d'Aillon here branches off to the S.E.) The direct route to Chambéry now lies S.S.W. up a short glen, and in 2 m. from Aillon le Jeune attains the **Col des Prés**, 1,142 m., 3,747 ft. (10 m. from Le Châtelard.) It descends for some distance in a S. direction, then bends W. round the S. end of the Mont de la Croix, and reaches *Thoiry* ( $12\frac{1}{2}$  m.) (This is the best starting point for the ascent of the *Mont Margerias*, reached in about 3 hrs.) The road goes down by many zigzags in  $1\frac{1}{4}$  m. to that from the Col de Planpalais, which is joined a little way above St. Jean d'Arvey.

3. *By the Col de Lindar*.—Char road all the way, save between the Corrierie and Ginotin, where there is a mule path. 6 or 7 hrs. From the bridge below the village of Aillon le Jeune, on the Col des Prés road, that to the Col de Lindar mounts S.E. through a narrow defile to the hamlet of *La Corrierie* (20 min.), which has an ancient chapel, formerly dependent on the neighbouring monastery.

☐Hence it is worth making a détour of  $\frac{1}{4}$  hr. to the N. to visit the old Carthusian monastery of Aillon. The gorge in which it is situated is an enclosure formed by steep mountain ridges, and forms a natural trough, with this single opening (excepting some rough foot passes), so narrow that it was formerly closed by a gate.



In this secluded spot is the **Char-treuse d'Aillon**, founded in the last quarter of the twelfth century. It received rich endowments from many princes of the House of Savoy, but lost them all in 1792. Parts of the domestic and out buildings are now used for farm purposes, but there seem to be no other remains of this once powerful house. The rich pastures in the Aillon glen produce the best kind of the cheese, called *vacherin*, for which the Bauges are famous.]

In about 1 hr. from the Corrierie the **Col de Lindar** (1,192 m., 3,911 ft.), to the S., is attained.

[It lies E. of the pointed summit of the *Pointe de la Galoppaz* (1,686 m., 5,532 ft.), a peak commanding a very fine view of the valley of the Isère. It may be gained hence easily in 2 hrs., or in rather longer time by its W. flank from Thoiry, on the Col des Prés route.]

During the ascent on the W. side of the Col the botanist may find *Lactuca Plumieri*, *Tozzia alpina*, *Tulipa celsiana*, and other rare plants. The path descends through a wood, and bifurcates at a point whence the traveller must go r. if bound for Chambéry direct, and l. if he desires to gain at Ginotin ( $\frac{1}{2}$  hr.) the char road leading to Cruet station.

If bound to **Chambéry** the road leads past *Rongère* to the picturesque village of *La Thuile* (1 hr. from the Col), on the shore of a pretty lake, and at the N. foot of a ridge which on the S. side immediately overlooks Montmélian. Hence it is a walk of 10 m. N.W. to Chambéry, along the l. bank of the Leisse, past *Curienne*, the Col de Planpalais road being joined between St. Jean d'Arvey and Chambéry. It is also possible to descend along the r. bank past Puigros.

If bound to *Cruet* the road descends thither from Ginotin by great zigzags, Cruet being a station on the Mont Cenis railway, 4 m. from St. Pierre d'Albigny, and 11 $\frac{1}{2}$  m. from Cham-

4. *By the Col du Frêne.*—Carriage road. About 12 m. to St. Pierre d'Albigny station, which is 15 $\frac{1}{2}$  m. by rail from Chambéry, and 15 m. also by rail from Albertville. Though it involves a considerable détour, this is perhaps the easiest way of reaching Chambéry from Le Châtelard. By taking the short cuts a pedestrian may much abridge the distance on the descent from the Col to St. Pierre. From Le Châtelard the road descends to the level of the Chéran, and crosses to its l. bank, along which it runs for 3 $\frac{1}{4}$  m. to the pretty village of *Ecole*, at the junction of the Sainte Reine and Jarsy glens with the main valley. The road mounts nearly due S. through the pretty pasture valley of Ste. Reine, passing below the main hamlet of that name. The highest hamlet is *Routhennes*, 6 $\frac{3}{4}$  m. from Le Châtelard. Thence a gentle ascent leads in 2 m. more to the **Col du Frêne** (956 m., 3,137 ft.), which commands a very fine view of the valley of the Isère and of the ranges beyond it. Long zigzags (easily cut off by a pedestrian) bring the traveller down to the village of St. Pierre d'Albigny, which is rather more than a mile from the station of that name (§ 7. Rte. A, and 12. Rte. A).

#### ROUTE D.

LE CHÂTELARD TO ALBERTVILLE.  
Carriage road to the Nant Forchu,  
then foot path. 7 hrs.

There are several passes by which Albertville may be more or less directly gained from Le Châtelard, all passing through the uppermost bit of the Chéran valley, which is here called the *Bellevaux* glen.

For 3 $\frac{1}{4}$  m. from Le Châtelard the road is that to the Col du Frêne. At the hamlet of *Ecole* the traveller

bears S.E. first on the r., then on the l. bank of the Chéran, through the very savage, well-wooded, and most secluded gorge of Bellevaux, to ( $\frac{3}{4}$  hr. from Ecole) the ruins of the eleventh-century Benedictine monastery of *Bellevaux*. Not much survives beyond the walls, in consequence of a great fire in 1825. The site is now a fine meadow. The position of the monastery is most picturesque, at the junction of three mountain torrents, and just at the W. foot of the *Péceloz* (2,260 m., 7,415 ft.), the loftiest summit in the Bauges, which is accessible thence in  $2\frac{1}{2}$ -3 hrs. by its W. ridge. 10 min. from the ruins is the Holy Well of Notre Dame de Bellevaux, a sanctuary of great local fame. The well itself is now built into the wall of a newly-constructed chapel.

By following the S.W. glen from the ruins the traveller may by a very rough path reach the *Col d'Arclusaz* (1,773 m., 5,817 ft.), S.E. of the peak of the *Dent d'Arclusaz* (2,046 m., 6,713 ft.), which may be thence ascended. A path descends in many zigzags from the pass to *Frêterive*, a hamlet rather N.E. of St. Pierre d'Albigny.]

The direct way to Albertville lies N.E. up the Chéran or Bellevaux glen. The river is crossed several times, and the prettily situated hamlet of *Bellevaux* passed before reaching the spot known as '*Nant Forchu*' ( $2\frac{1}{2}$  hrs. from Le Châtelard), so called from the fork formed by the two ravines of Orgeval and Haut du Four. Close by is the traditional source of the Chéran, trickling from a rock called '*La Fougère*,' but the Haut du Four torrent is the real source of that river.

Hence a track mounts due N. through the *Orgeval* ravine to the pass of the same name (1,758 m., 5,768 ft.), said to be the highest pass in the Bauges. It leads down the wooded glen of St. Ruph to *Settenez* and Faverges, reached in 6 hrs. from Le Châtelard.]

The foot path to Albertville ascends N.E. from the Nant Fourchu

through the ravine of *Haut du Four* on the r. bank of the torrent (not the l., as on the maps), finally bearing E. to the *Col du Haut du Four*, 1,506 m., 4,941 ft. ( $4\frac{1}{2}$ -5 hrs. from Le Châtelard.) Hence there is a fine view over the Isère valley, as well as of the snowy peaks of Dauphiné and the chain of Mont Blanc. (From the Col it is easy to attain in  $1\frac{1}{2}$  hr. by a path, well marked but leading across very steep grass slopes, the summit of the *Pointe Chaurionde* (2,291 m., 7,517 ft.), commanding an extremely fine view, specially of the Tarentaise peaks, and of the blue Lake of Annecy at the spectator's feet.) From the Col two paths lead down. That to the l. runs slightly N.E. to the Col de Tamié (Rte. E), between Albertville and Faverges. That to the r. descends steeply to the village of *Plancherine* (1 hr. from the Col), whence the road from the Col de Tamié (Rte. E), keeping up to the l., brings the traveller down in 5 m. to Albertville.

ROUTE E.

ALBERTVILLE TO ANNECY.

Carriage road on either side of the lake, 28 m. Steamer on the lake from Bout du Lac to Annecy. By diligence and steamer from Albertville to Annecy, 5 hrs. ; in the reverse direction, 4 hrs. Railway in construction.

	M.
Fontaines d'Ugines . . . . .	5
Faverges . . . . .	$12\frac{1}{2}$
Bout du Lac . . . . .	$17\frac{1}{2}$
Annecy . . . . .	28

The road from Albertville runs N. along the r. bank of the Arly, passing opposite the opening of the Beaufort valley (Rte. I), amidst very pleasing scenery, enlivened by the numerous villages which lie on the E. slope of the Belle Etoile ridge on the l. hand. The *Chaise* torrent is crossed just

above its junction with the Arly, in order to gain the village of *Fontaines d'Ugines*, at the foot of the rising ground on which stands (1 mile distant by road) the town of Ugines. (At Fontaines the road to Chamonix by Flumet turns off to the E., Rte. H.) The high road ascends N.W. along the l. bank of the Chaise to *Marlens*. At that village the valley bends to the S.W.; the road keeps to the l. bank until it crosses the stream (at the mouth of the Serraval glen, Rte. F. 2. b) in order to traverse the very low pass which separates the Chaise from the waters of the *Eau Morte*, flowing to the Lake of Annecy. Soon after it reaches **Faverges**, a rather large country town, with iron works (whence the origin of its name, *Fabricæ*), and mills for spinning silk. The summit of Mont Blanc is seen from the town, and the neighbouring hills (accessible in 4 or 5 hrs.) all command fine views.

[A more interesting way of reaching Faverges from Albertville is by the *Col de Tamié* (a very fine excursion), now traversed by a carriage road,  $11\frac{3}{4}$  m. in length. From Albertville the road passes under the Fort du Villard, then mounts by zigzags through vineyards and fields, commanding very fine views of the basin of Albertville and of the Isère valley as far as St. Pierre d'Albigny, to the village of *Plancherine* (5 m.) More zigzags lead up in  $2\frac{1}{2}$  m. more to the pass (806 m., 2,644 ft.), which commands a fine view of the Isère valley. This low pass separates the mountains at the head of the Bellevaux glen (Rte. D) (which may be gained by a traverse W. to the Col du Haut du Four) from the Belle Etoile ridge. The latter ridge may be considered as the connecting link between the Bauges and the range of the Mont Charvin, being separated from the latter only by the valley of the Chaise, through which the high road runs between Fontaines d'Ugines and Faverges. The summit of the *Belle Etoile* (1,846 m., 6,057 ft.) may be reached in  $2\frac{1}{2}$  hrs. from the Col by a

thick forest and pastures; avoid carefully the S. arête.

$1\frac{1}{4}$  m. on the Faverges side of the Col is the fortress-like abbey of *Tamié*, founded in 1132, by the Cistercians, and half ruined at the French Revolution, but of late years occupied by Trappists. There are a few good carvings in the older buildings. The road descends through the picturesque gorge of Tamié, leaving Settenez (whence a track crosses the Col d'Orgeval to Le Châtelard, Rte. D) on the l., to Faverges.]

[From Faverges the *Mont Charvin* (2,414 m., 7,920 ft.), on the N.E.—an excursion recommended to botanists—may be ascended by way of Serraval ( $5\frac{1}{2}$  m. by the road of the Col de Serraval to Thônes), whence the summit is gained in about 4 hrs. But the excursion especially to be recommended to the mountaineer is the ascent of the **Tournette** (2,357 m., 7,733 ft.), a long limestone ridge whose S. end rises from the little plain of Faverges, and whose steep W. slopes face the Lake of Annecy. The ascent is made from Faverges by way of the *Montmin* glen, which opens out into the *Eau Morte* valley at *Villard*, halfway between Faverges and Bout du Lac. There is a road to the village of Montmin,  $2\frac{1}{2}$ –3 hrs. from either of these places. Thence 4 hrs. more are required to gain the summit by the Lars pastures. This is the easiest way, as by it mules can go to within 1 hr. of the top. The route from Thônes (Rte. F) is longer, and that from Talloires (see below), though the shortest of the three, is also the steepest and most laborious. The best plan is to mount from Faverges or Thônes, and to descend to Talloires; in each case the ascent requires at least 6 hrs., and the descent about 3–4 hrs., so that, allowing for halts, it is a good day's work. It is not prudent to start without a guide, as the time lost in seeking the way may compromise the result of the excursion. The crest of the mountain (about 7,500 ft.) is a ridge



which spreads out into a platform, surmounted by a sort of rock tower about 65 ft. high, the walls of which are not merely vertical, but in some cases actually overhang their base. This rock is called the *Fauteuil*, and its summit is reached in  $\frac{1}{4}$  hr. by a fissure or chimney, in which an iron rope has now been fixed for the benefit of persons liable to giddiness. The view combines the Lake of Annecy and a portion of the Lake of Geneva, with a grand Alpine panorama. It is probable, however, that the nearer view of Mont Blanc and the other Alps of Savoy from the Mont Charvin is in some respects superior. ]

From Faverges to Annecy the traveller has the choice between roads on either side of the Lake of Annecy, or he may avail himself (the pleasantest way, as the scenery is charming and all the villages on both shores are well seen) of the little steamer on the very pretty lake, which takes  $1\frac{1}{4}$  hr. from Bout du Lac, the port of Doussard, to Annecy. The diligence travels by the road on the W. shore of the lake.

(a) *By the W. Shore.*—From Faverges the road crosses and recrosses the Eau Morte, and leaves on the r. the marshy plain at the head of the lake formed from the detritus of that stream. It passes near the village of *Doussard* (whence tracks lead over the Cols de Cheral and de Bornette to Le Châtelard, Rte. B. 3) before it reaches (5 m. from Faverges) the S. end of the lake, at the S.W. corner of which is the landing place of *Bout du Lac*, whence start the steamers. 2 m. beyond is the castle and village of *Duingt*. The castle stands in a very striking position on a promontory, which greatly narrows the ordinary width of the lake. The Tournette is particularly impressive from *Duingt*. (For the pass of the Golet to Le Châtelard, see Rte. B. 2.) Thence the road runs along the shore of the lake, passing *St. Jorioz* and *Sévrier* (here the road over the Col de Les-

chaux to Le Châtelard branches off. Rte. B. 1), to Annecy. (For a description of this town, see below.)

(b) *By the E. Shore.*—The road is more hilly than that on the other shore, and practically the very interesting villages on this side of the lake are most easily reached by means of the steamer. Opposite Doussard a bridge crosses to the r. bank of the Eau Morte, near Verthier, and skirting the E. shore of the lake, in about 5 m. from the bridge reaches Talloires (488 m., 1,601 ft.), nearly opposite *Duingt*. This is perhaps the most picturesquely situated village on the lake, and is now largely frequented by guests in summer. Its climate, even in winter, is very mild. There are remains of the great Benedictine monastery (eleventh century), while part of the buildings of the more recent monastery are now used as a *hôtel*.

[Hence the Tournette (2,357 m., 7,733 ft.) can be reached in 5-6 hrs. by way of the pilgrimage chapel of St. Germain (the path by La Closette is much shorter), the Loo or l'Haut chalet, and the Cassey hut. The *Col du Nantet* leads from Talloires, by the chalets of the same name, not far from Loo, in about  $4\frac{1}{2}$  hrs. to Thônes.]

Less than 2 m. beyond Talloires is *Menthon*, also a favourite summer sojourning place. It has remains of Roman baths, and of piles of Roman masonry projecting into the lake, designed to serve as a reservoir for the baths. The castle dates back in part as far as the thirteenth century. A room in it is still pointed out as the birthplace of St. Bernard of Menthon (eleventh century), the second founder of the Hospice on the Great St. Bernard, and the founder of that on the Little St. Bernard.

**Annecy** is an important town of nearly 12,000 inhabitants, and the capital of the Department of Haute Savoie. It possesses many thriving factories, partly worked by the water of the lake, which is conveyed through the town to the river Fier in artificial channels of great antiquity. The

Cathedral church (sixteenth century), the former Dominican church of St. Maurice (fifteenth century), and that of the Visitation (nineteenth century), as now containing the remains of St. François de Sales (d. 1622), are worth a visit. In the old (S.) portion of the town picturesque narrow streets and streams are inextricably mixed up. On rising ground N. of the present town is *Annecy le Vieux*, whose Roman origin is attested by many medals, urns, and fragments of statuary. It now possesses a famous bell-foundry, where was cast the great bell, named 'La Savoyarde,' for the new church of the Sacré Cœur on Montmartre. The lake is 1,465 ft. above the sea,  $8\frac{3}{4}$  m. long, and from 1 to 2 m. broad. Its superficial area is  $16\frac{3}{4}$  m., and its greatest depth is 264 ft. Many agreeable walks and drives are to be found in the neighbourhood of Annecy. There is a fine promenade along the N. end of the lake. The ascent of the Tournette has already been described in this Rte.; that of the Parmelan will be found in the next Rte., and that of the Semnoz, from the Col de Leschaux, in Rte. B. 1.

The railway to Annemasse and Cluses is described in the next Rte. There is also a line (25 m. traversed in  $1\frac{1}{4}$  hr. or so) to Aix les Bains. This is the shortest way to Chambéry, but Geneva is most quickly reached by way of Annemasse. On the old road to Geneva by St. Julien ( $26\frac{3}{4}$  m.) there is the remarkable wire suspension bridge of *La Caille*, 630 ft. in length, and 482 ft. above the torrent of Les Usses. From Lovagny ( $3\frac{3}{4}$  m.), the first station on the line towards Aix les Bains, the **Gorges du Fier**, a deep fissure in the limestone, can be visited in  $\frac{1}{4}$  hr. They are 820 ft. long, and from 13 to 33 ft. wide, the walls being nearly perpendicular. Since 1869 a wooden gallery permits the visitor to examine this curious cleft at his ease.

## ROUTE F.

## ANNECY TO BONNEVILLE.

Most travellers going from Annecy to Bonneville will doubtless make use of the railway, but there is also a pleasant carriage road, leading through some interesting country.

1. *By Railway*.— $23\frac{3}{4}$  m. to La Roche (1 hr.), and 7 m. on to Bonneville ( $\frac{1}{4}$  hr.) The line soon crosses the Fier, then runs nearly due N. above the r. bank of the *Fillière*, an affluent of the Fier, and, leaving on the r. hand the picturesque valley of Thorens, through which the *Fillière* descends from the E., follows a stream to the N.E., coming from a low pass (779 m., 2,556 ft.) The line on leaving *Evires* tunnels through this ridge, and descends by a great curve to the E. to *La Roche sur Foron* station, overlooking the valley of the Arve, and at the junction of the Aix-Annecy line with that from Geneva to Cluses. Geneva is  $13\frac{3}{4}$  m. from La Roche; Bonneville, 7 m., is beyond it (see § 16. Rte. A).

2. *By Thônes and the Col de St. Jean de Sixt*.—Char road (steam tramway to Thônes); 31 miles. The *old road* passes at the S.E. foot of the hill on which is Annecy le Vieux, then mounts the l. side of the valley of the Fier in an E. direction to turn the Montagne de Veyrier on the N.  $5\frac{1}{2}$  m. from Annecy is the *Pont St. Clair*, which leads over to the curious remains of a Roman road, partly excavated through the limestone rock. It soon after reaches the meeting point of four valleys. Here falls in the *new road*, which, after skirting the E. shore of the lake, rounds the S. foot of the Montagne de Veyrier, and crosses the low Col de Bluffy, whence there is a fine view down on Menthon and its castle.

[The valley which descends from the N. to the meeting place is that of *Dingy*, and through it lies the easiest

way up the **Parmelan** (1,855 m., 6,086 ft.), a limestone ridge which falls in precipices on the Annecy side, but has meadows up to the summit on the other. A char road leads from Digny to *La Blonnière*, whence there is a mule path to the summit,  $4\frac{1}{4}$ –5 hrs. from Annecy; pedestrians may save  $\frac{1}{2}$  hr. by mounting the gully of the Grand Montoir, in which steps are now cut in the rock. Near the summit there is a small inn. The view is magnificent, extending to the Alps of the Vallais. In the flanks of the Parmelan are three of the singular ice caves, or 'glacières,' to which attention was called by Canon G. F. Browne (now Bishop of Bristol) in his interesting work 'Ice-Caves of France and Switzerland' (1865). They are called gl. du Grand Anu, gl. de l'Enfer, and gl. de Chappet sur Villaz. 'Of these the gl. du Grand Anu is the most remarkable. The way from Annecy is by rail ( $\frac{1}{4}$  hr.) to the station of *St. Martin-Charvonnex*, thence 1 hr. on foot to Aviernoz, where resides M. Métral, the proprietor, from whom a guide (needful) may be obtained. The Grand Anu, which may be reached thence in  $2\frac{1}{2}$  hrs., is a cavern entered by a natural rock portal 70 ft. high. The floor and walls of the glacière are covered with ice, and in the former is a natural pit or well 60 ft. deep.' (T. G. B.)

From the Pont St. Clair a road runs along either bank of the Fier (that on the r. bank passes *Thuy*,  $1\frac{1}{2}$  m. below Thônes, whence Entremont can be reached by the *Col de la Buffaz* in  $4\frac{1}{2}$  hrs.) to

**Thônes** (13 m. from Annecy), a small town situated at a height of 626 m. (2,054 ft.) in a picturesque position at the meeting of several mountain glens, through which passes lead in different directions.

(a) The *S.W.* of these glens leads by the *Col du Nantet*, N.W. of the Tournette, to Talloires, on the lake of Annecy, in  $4\frac{1}{2}$  hrs. (Rte. E. b).

(b) Through a second glen a char road runs about due *S.* by the hamlets

of Les Clefs and Belchamp over the low *Col de Serraval* (829 m., 2,720 ft.), between the ridges of the Tournette and of the Mont Charvin, to the village of Serraval, and Faverges ( $11\frac{1}{4}$  m. from Thônes). From Belchamp (2 hrs. from Thônes) the traveller can best ascend the Tournette (2,357 m., 7,733 ft.) 2 hrs. from that hamlet are the Rosary huts, on the S.W., whence 2 hrs. suffice to gain the summit. The descent may be made to Faverges by Montmin, or to Talloires (Rte. E). From Serraval the *Mont Charvin* (2,414 m., 7,920 ft.) is reached in 4 hrs.

(c) A third glen, that of *Manigod*, descends from the *S.E.* to Les Clefs (above), bearing down the head waters of the Fier, which rises on the N. side of the *Mont Charvin* (2,414 m., 7,920 ft.) Through it the last-named peak can be ascended. The climb from the hamlet of La Gutarry ( $6\frac{1}{4}$  m. by char from Thônes) takes 4 or 5 hrs., and is not at all difficult.

(d) The fourth of the glens that meet at Thônes is that of *Nom*, up which lies the way to Bonneville.

From Thônes the road mounts N.E. up the *Nom* glen past several hamlets till ( $17\frac{3}{4}$  m. from Annecy) the high road bifurcates, not far from the hamlet of *St. Jean de Sixt*.

1. The road which soon runs *S.E.* ascends past La Clusaz to the **Col des Aravis**, 1,498 m., 4,915 ft. ( $24\frac{1}{2}$  m. from Annecy), from which there is a splendid view of the chain of Mont Blanc. The road leads down in  $2\frac{1}{2}$  m. to *La Giétaz*, a hamlet at the junction of the Aravis and Arondine torrents. (Sallanches may be reached hence either by the *Col Fajillet* or by the *Croisse Baullet* (2 hrs. up,  $1\frac{1}{2}$ – $2\frac{1}{2}$  hrs. down): see Rte. H. a.) Hence steep zigzags lead down in  $4\frac{1}{4}$  m. through a most picturesque defile to *Flumet*, on the road from Ugines to Mégève and Chamonix (Rte. H).

2. The road to the *N.E.* mounts to the **Col de St. Jean de Sixt** (976 m., 3,202 ft.), which separates the valleys of the *Nom* and of the *Borne*. Hence



two zigzags lead down to the first bridge ( $18\frac{1}{2}$  m. from Annecy) over the Borne. (Here branches off to the N.E. the way to Cluses by the Chartreuse du Reposoir, described in the next Rte.) The road to Bonneville now passes along the r. bank of the Borne through the fine defile of *Les Etroits* to the village of *Entremont* ( $21\frac{1}{4}$  m.) Here are still seen the remains of a celebrated house of Austin Canons Regular, founded in 1153 as a colony from Abondance, but suppressed in 1770. (The *Col de la Buffaz* leads S.W. in  $4\frac{1}{2}$  hrs. to *Thuy*,  $1\frac{1}{2}$  m. below Thônes on the road from Annecy, by two glens parallel to that of the Nom above Thônes.)  $3\frac{1}{4}$  m. below Entremont is *Le Crêt*, the chief hamlet of the commune of *Petit Bornand* and of the valley of the Borne. The road keeps along the r. bank, passing several hamlets, and runs through the narrow gorge of the Borne, on emerging from which the traveller gains a fine view of the junction of the Borne with the Arve, and of the broad valley in the midst of which lies Bonneville,  $6\frac{1}{2}$  m. from Le Crêt, or 31 m. from Annecy, by this very interesting route.

#### ROUTE G.

##### ANNECY TO SALLANCHES OR CLUSES.

It is a very long day from Annecy to Sallanches or Cluses, so that it is best to sleep at Thônes (13 m. by steam tramway: see last Rte.) Thence the route of the Col de St. Jean de Sixt is followed till near the village of that name, where the different routes divide.

If bound to *Sallanches* direct the best plan is to follow the way over the Col des Aravis (char road to Flumet, Rte. F), and thence go by the road past Mègeve to Sallanches (Rte. H).

If bound to *Cluses*, it is necessary to follow the road over the Col de St. Jean de Sixt to the first bridge over the Borne,  $5\frac{1}{2}$  m. from Thônes (Rte. F). Leaving the road by Petit Bornand to Bonneville (see last Rte.) on the l., that to Cluses mounts N.E. along the l. bank of the Borne to *Villeneuve* ( $1\frac{1}{2}$  m.), 931 m., 3,055 ft., the chief village of the commune of *Grand Bornand*. This village is now a favourite summer resort. (There are two passes, *Grande* and *Petite Forclaz* (each 2,314 m., 7,592 ft.), leading hence, by the Bombardelle huts, in the Borne glen, over the ridge S. of the Pointe Percée (c. 6 hrs.) to Sallanches.)

It is situated at the meeting of the Borne, flowing in from the E., and of the Chinaillon, descending from the N.E. Cluses may be reached through either glen, the paths reuniting at the Chartreuse du Reposoir.

A char road ascends N.E. along the r. bank of the Chinaillon to the hamlet of that name (1 hr.), and to *Vanay*, beyond. Here two torrents meet. By following that descending from the N., and finally keeping E., the pass of *Haut du Col*, lying immediately under the pyramidal summit of the *Pic de Falouvre* (2,438 m., 7,999 ft.), is gained, whence a steep descent through woods and meadows leads S.E. down to the hamlet of *Pralong*, near the monastery (4 hrs. from Grand Bornand). The way along the stream coming from the E. is less steep, and more interesting, but  $\frac{1}{2}$  hr. longer. It mounts due E. past the *Maroly* huts to the *Col des Annes*, 1,710 m., 5,610 ft. ( $2\frac{1}{2}$  hrs. from Grand Bornand), on which are some huts. This pass may also be gained from Grand Bornand by the Borne glen and the Tavaillon huts,  $\frac{1}{4}$  hr. being saved by this way. From the pass a path leads in 2 hrs. down the Foron glen past the two sets of Sommier huts and the monastery to Pralong.

*Pralong* is the chief hamlet in the Reposoir valley, and is prettily situated in a green meadow basin;

$\frac{1}{4}$  hr. S.E. of it, at the entrance of the Foron gorge, is the *Chartreuse du Reposoir*, an ancient Carthusian monastery founded in 1151, and still inhabited by disciples of St. Bruno. Though only the portico of the church and the small cloister date from the Middle Ages (both fifteenth century), the fine scenery round the monastery renders a visit to it very interesting. Yet, though Saussure came hither several times, few strangers since his days have found their way to this secluded spot. The valley and the mountains around it are remarkably rich in rare plants, including most of the species peculiar to the calcareous rocks of this part of the Alpine chain. The glen is enclosed between the range of the Bargy on the W. and the N. end of the Aravis range on the E.

☐The highest point of the latter ridge is the **Pointe Percée du Reposoir** (2,752 m., 9,029 ft.), a shattered wall of limestone rock, seemingly inaccessible. The name is taken from an opening pierced by nature through this wall; this hole is well seen from the Chartreuse, and even, it is said, from Geneva. The peak may be ascended by a rough climb (on which a guide is desirable, as the rocks are steep). A traveller coming from Pralong or Grand Bornand should strike the watershed between the Reposoir and Borne glens, W. of the peak, as high up as possible, and then ascend due S. to a limestone desert at the base of the W. wall of the peak. In this he will discover a wide, steep gully, leading to the final ridge S. of the cross that marks the summit (5-6 hrs. from either place to the summit, or 2 hrs. from the desert). A traveller coming from Sallanches ( $4\frac{1}{2}$  hrs. up thence) must cross the main ridge immediately S. of the peak. After descending but a few yards he will find it easy to climb the cliff on his right hand; crossing its crest at the most convenient point he finds a horizontal ledge which leads him into the wide gully above its steepest portion. This is, on the whole, the least

laborious route, but it appears to be still unknown locally. The view of Mont Blanc is extremely fine from this summit, the plain of Sallanches, then the ravine of the Arve, and finally the Bossons glacier leading the eye straight to the crown of the mountain. The downs near Mègeve, and the green valley of the Reposoir, give variety to the panorama, which also includes many of the peaks of Dauphiné and the Tarentaise. ☐

From Pralong it is possible to go by the Méry huts and the *Col Doran* to Sallanches in 5 hrs. Most visitors will probably prefer the char road along the l. bank of the Foron, which runs through the picturesque glen, joining the high road in the Arve valley half way ( $\frac{3}{4}$  m.) between *Scionzier* and *Cluses*, the last-named place being  $7\frac{1}{4}$  m. from Pralong.

## ROUTE H.

ANNECY OR ALBERTVILLE TO SALLANCHES OR ST. GERVAIS. MONT JOLY.

There is now a good carriage road through the upper Arly valley to that of the Arve. A through service by steamer and diligence has been organised from Annecy by Flumet and St. Gervais to Chamonix (11 hrs.), and this is the pleasantest way of reaching Chamonix from the Dauphiné or the Tarentaise. The road is very striking and beautiful. Fontaines d'Ugines to Mègeve, 15 m.; thence 7 or 8 m.

Whether the traveller starts from Annecy or Albertville, he must follow the route from one to the other of those two places as far as *Fontaines d'Ugines*, 23 m. from Annecy, and 5 m. from Albertville (Rte. E). This village is at the foot of a hill, whereon (1 m. distant by road) is the large, straggling town of *Ugines*, overlooked by the remains of a very ancient

castle perched on a rock. Due N. is the *Mont Charvin* (2,414 m., 7,920 ft.), one of the highest summits in the ranges lying W. of the Arly and the Isère. It was one of the stations used in the triangulation of France, and commands an admirable view. (For the ascent from Serraval or Thônes, see Rtes. E and F.)

The new road to Flumet does not mount to Ugines itself, but from Fontaines commences to ascend the Arly valley. It keeps always close to the torrent (crossed six times before Flumet), through a very beautiful winding cleft between broken and well-wooded crags, which at times approach so closely that it is necessary to blast a shelf or tunnel for the road. There are many villages scattered on the broad, gentle slopes high above the W. bank of the Arly, of which *Héry*, beautifully situated amidst bold rocks and fine forest, is the principal. The road passes below *Héry*, then gradually climbs out of the defile, crosses the *Flon*, passes below *St. Nicolas de la Chapelle*, and by a remarkably bold bridge crosses the *Aronidine* (up which goes the much recommended way to *St. Jean de Sixt* and *Cluses* or *Thônes* by the *Col des Aravis*, Rte. F. 1), before gaining the knoll on which is perched, above the meeting of the two torrents, the large village of

**Flumet**, 917 m., 3,009 ft. ( $8\frac{3}{4}$  m. from *Fontaines d'Ugines*), which consists of but a single street, but overhangs the *Arve*, nearly 200 ft. below, and has an unexpected view of the great white ridge falling from *Mont Blanc* to the *Aiguille du Goûter*. There is a ruined castle above it, formerly belonging to the lords of the *Faucigny*, from whom the small town obtained municipal privileges as early as 1228. Nowadays it is a busy tourist centre, as the roads from *Fontaines d'Ugines*, from *Mégève*, and from the *Col des Aravis* all meet here, while a good mule path leads S.E. over the mountains, or by the *Col des Saisies*, to *Haute Luce* and *Beaufort* (6 hrs., Rte. I).

Above *Flumet* the valley is green, broad, and open. The road runs along the r. bank of the *Arly* for rather over 6 m., ascending slightly, the snowy crests of the *Mont Blanc* chain being generally in sight. In this way the traveller reaches **Mégève** (1,125 m., 3,691 ft.), a large village standing on the open watershed between the *Arly* and the *Arve*.

[This is the most convenient starting point for those who wish to make the ascent of the **Mont Joly** (2,527 m., 8,291 ft.) This excursion may be made also from *St. Gervais* or *Contamines* (c. 4 hrs.); but it is a better arrangement to ascend from *Mégève*, and to descend to *St. Gervais*, thus saving labour, reaching the summit at an earlier hour, and securing the most advantageous points of view. *Mégève* being 500 m. (1,640 ft.) above the *Baths of St. Gervais*, fully an hour is saved in the ascent, which may be made in  $3\frac{1}{2}$  hrs. from *Mégève*, the way being so easy that a mule may be taken to the little inn on the N. ridge, 1 hr. below the summit. The *Mont Joly* stands in a similar relation to the W. end of the *Mont Blanc* chain that the *Brévent*, *Catogne*, and *Crammont* hold respectively to the N., E., and S. faces of that great range, for the *Mont Joly* is separated from it merely by the valley of *Montjoie*. Besides the grand view of *Mont Blanc*, the range of the *Buet* and the mountains of *Sixt* are well seen from here, and the *Wildstrubel*, in the *Bernese Alps*, appears over the *Col de Balme*. In the opposite direction the eye ranges along the valley of the *Isère* to the heights above *Grenoble*. The descent to *St. Gervais* takes about 2 hrs. From *Mégève* the *Col de Very* (1,983 m., 6,506 ft.) leads S. by *Haute Luce* to *Beaufort* in 6 or 7 hrs. It is interesting as having been crossed on Aug. 19, 1689, by the *Vaudois* under *Henri Arnaud*, when making their 'Glorieuse Rentrée' into the *Waldensian Valleys* of *Piedmont*; they did not descend to



Haute Luce, but from the pass bore S.E., and traversed the Enclave or Col de la Fenêtre (2,263 m., 7,425 ft.) to the La Balme inn on the Col du Bonhomme route.]

2 m. N.E. of Mègeve the road divides, both branches being of very great beauty, so that it is impossible to recommend one more than the other.

(a) That to **Sallanches** (8 m.) bends N.W., and passes the village of *Combloux* (3¼ m.), from which the view of Mont Blanc almost rivals that to be obtained from the Mont Joly. It descends in the same direction by zigzags and through a fine forest, growing on the moraine of the prehistoric glacier of Mont Blanc, with views of the snowy peaks, to Sallanches.

There is a beautiful way for pedestrians from Mègeve to Sallanches (c. 3 hrs.) Bear N.W. to a great stone cross on a spur marked by an outcrop of white rock, the *Croix de Christomet*. Thence go over downs, cross the hollow traversed by the track of the grassy Col Jaillet (giving access by *Prise Nouvelle* to La Giettaz, at the foot of the Col des Aravis), and then walk by a level track along the wooded crest of the ridge dividing the head waters of the Arve and the Arondine. The views up towards Mont Blanc and across the Sallanches basin are wonderful. From the highest point, the *Croisse Baulet* (2,236 m., 7,336 ft.), a bold, grassy knoll, it is easy to go down N.E. to Sallanches by the Croix du Planay ridge and the hamlet of Cordon.

(b) The road to **St. Gervais** (6¾ m.) bends E. and winds along the upland meadows on the mountain-side, with glorious views first of Mont Blanc itself, then of one or another of its pinnacles. It then descends through a noble pine forest towards the Montjoie glen, crosses the Bonnant by a new bridge of great span above the old Pont du Diable, destroyed by the great flood in 1892, and so gains

*St. Gervais le Village*. Hence it is 2½ m. by road (20 min. by footpath) to Le Fayet, on the main road in the valley of the Arve, by which Chamonix is reached in about 12 m. more.

## ROUTE I.

### ALBERTVILLE TO ST. GERVAIS BY THE VALLEY OF BEAUFORT.

Albertville to Beaufort, 12½ m.; diligence daily in 3 hrs. Albertville to Haute Luce, 15¼ m. by carriage road, 5 hrs.' walking to Contamines, and 5¼ m. by char road to St. Gervais.

A short distance N. of Albertville the Arly receives from the E. a powerful torrent, which, to distinguish it from other streams of the same name, is called the *Doron de Beaufort*. This drains the entire mountain district of Beaufort, lying between Albertville and the chain of Mont Blanc. This district contains some fine scenery and many rare plants. It may be very conveniently visited on the way to Mont Blanc by a traveller coming from the S.

After crossing the bridge over the Arly at Albertville, the road mounts N.E. to *Venthon*, above the junction of the Doron with the Arly. For about 3½ m. beyond it follows (on the l. bank) the windings of the stream through a deep and most picturesque defile. Indeed, the whole gorge to Beaufort has been called 'a Savoyard Val Mastallone, combining with Swiss pastoral features something of Italian grace and variety, and adding to these as its peculiar charm mossy greenness and red-tiled farmhouses.' A little before reaching the village of *Queige* (5½ m. from Albertville) the road crosses to the r. bank. At Queige the valley of Beaufort opens out to the E., between the *Mont de Mirantin*, on the S., and the *Bisanne*, on the N. It soon narrows again, and later

passes the village of *Villard de Beaufort* (10 m. from Albertville), in a very beautiful position amid meadows and forests. 1 m. further the new road to Haute Luce branches off (see below), while that up the main valley passes round the S. foot of the conical hill on which, overlooking the whole glen, stands the ancient castle of Beaufort, crosses the Dorinet, flowing from the Haute Luce glen, and reaches

**Beaufort** (12½ m. from Albertville), 758 m., 2,487 ft., the principal village in the valley. It has about 2,400 inhabitants, and is famous for possessing the finest pasturages in South Savoy. Beaufort lies in a secluded meadow basin, shut off from the outer world; its streets are narrow, and on market days are thronged by peasants clad in the long coats and the red waistcoats which formed the old Savoyard dress, worn, as we learn from authentic pictures, by Saussure's guides on his celebrated ascent of Mont Blanc. The castle was visited in 1600 by Henri Quatre, who spent several days here during his war with the duke of Savoy; it is best reached by the new road in the Haute Luce glen.

Beaufort is sometimes called St. Maxime, from the early missionary who first introduced Christianity here, but is better known from its present name, derived from the castle above it. It is finely situated at the opening of the three valleys. From the N.E. the Dorinet torrent, flowing through the valley of Haute Luce, joins the Doron a short way below the village, and up this glen lies the way to St. Gervais, to be described presently. Exactly opposite the valley of Pontcellamot opens to the S. (Rte. L), while to the E. is the main valley, of which a glen above Beaufort is called the valley of the Gitte.

From Beaufort the village of *Haute Luce* may be reached in two ways. As noted above the char road leaves the main valley 1½ m. below Beau-

fort, and mounts by zigzags on the N.W. of the castle (hence easily reached by a road cut in the rock in 1¼ hr. from Beaufort), and then runs above the r. bank of the Dorinet to *Haute Luce* (4¾ m. from Beaufort, or 15½ m. direct from Albertville). (Pedestrians are recommended to follow the old road (a mule path), which mounts steeply N. of Beaufort, turns round the angle of the mountain, passes through a thick forest, and beyond the hamlet of *Traverses* crosses from the l. bank of the Dorinet (followed hitherto) to Haute Luce, which is 1½ hr. from Beaufort by this route.) Haute Luce is a large village at a height of 1,153 m. (3,783 ft.)

☐ Hence a mule path leads N.W. over the mountains, over the *Col des Saisies*—a great grassy plain, where there is a fair on Midsummer's Eve—(1,650 m., 5,414 ft.), and to Notre Dame de Bellecombe and Flumet, Rte. H, 6 hrs. ☐

The traveller bound to St. Gervais must follow the mule path along the r. bank of the Dorinet in a N.E. direction past *Annuît*, ½ hr. (whence the *Col de Very* leads to Mègeve, Rte. H), to some mills near the *Planay* huts, at the base of the last ascent (¾ hr.)

☐ Here a track turning S. mounts to the pretty *Lac de la Girottaz* (1,736 m., 5,696 ft.), 2 hrs. from Haute Luce, and a favourite excursion from Beaufort, as it may also be reached from Fontanus (next Rte.), past the Outray huts. It lies in a deep hollow N. of the *Rochers des Enclaves*, and is stocked with fine trout, brought from the lake on the Mont Cenis. The upper end of the Dorinet valley, and especially the neighbourhood of the lake, is rich in rare plants. Among others may be mentioned *Gentiana Burseri*, *G. purpurea*, *G. punctata*, and *G. angustifolia*, *Epipogium Gmelini*, *Listera cordata*, and *Corallorhiza innata*. From Planay another track bears to the E., and after passing the Colombe huts crosses the *Enclave* or *Col de la Fenêtre* (2,263 m., 7,425 ft.) to the La Balme inn, on the Col du Bon-

homme route, § 16. Rte. E, 3 hrs. from Planay. ]

The way to St. Gervais mounts from Planay to the N.E., and at the last huts becomes a foot path. Several small ravines are crossed, and steep grass slopes ascended till in  $1\frac{1}{2}$  hr. from Planay (4 hrs. from Beaufort) the **Col Joly** (1,999 m., 6,559 ft.) is attained. The descent lies N.E. to *Contamines* (1 hr.), on the Col du Bonhomme route, whence *St. Gervais* is  $5\frac{1}{4}$  m. distant by char road.

### ROUTE K.

#### ALBERTVILLE TO CONTAMINES OR BOURG ST. MAURICE BY BEAUFORT.

This route lies E. up the main branch of the Beaufort valley, the **Cornet de Roselend** being the principal pass, while there are other rougher foot paths through various side glens. The distance by this pass to Bourg St. Maurice is  $18\frac{1}{2}$  m., and there is a char road all the way, save between Roselend and Les Chapieux, where the mule path is being turned into a char road.

On leaving Beaufort the valley soon narrows into a very fine gorge, in which the road crosses to the l. bank of the torrent. At the hamlet of *Fontanus* ( $2\frac{3}{4}$  m.), where the Gitte joins the main stream (see 1. below), the road recrosses the stream. It now turns abruptly to the S., and, crossing the torrent, mounts by great zigzags on first one, then the other bank, till beyond Les Tines, opposite the mouth of the Treicol glen (for the passes through it see 2. and 3. below), it turns N.E. and mounts along the r. bank to the hamlet of **Roselend**, 1,480 m., 4,856 ft. ( $6\frac{1}{4}$  m. from Beaufort), a village admirably situated on the edge of the forest, and deserving to be better known to travellers. (Hence the route of the Col de la

Sauce, below, can be reached at the Gitte huts over a low pass.) Beyond Roselend the mule path crosses the Doron for the last time, then mounts on its l. bank, leaving it more and more on the l., round the N. foot of the *Roc du Biolley*, to some fine pastures, over which the track ascends gently to the **Cornet de Roselend**, 1,923 m., 6,309 ft. ( $3\frac{1}{4}$  m., about  $1\frac{1}{2}$  hr. walking, from Roselend.) (Cornet is the local word for a 'col.') A gentle descent E. over pastures leads down in a good hour to the village of *Les Chapieux*, 1,509 m., 4,951 ft. ( $1\frac{1}{4}$  m.), at the junction of the routes from the Cols du Bonhomme and de la Seigne (§ 16. Rte. E).

The great majority of travellers who visit Chapieux are on their way to or from one of the two last-named passes. Comparatively few descend through the wild and somewhat dreary glen which leads to the valley of the Isère. The char road follows the r. bank of the Ruisseau des Glaciers till it crosses to the *Crey Bettex* huts, on the opposite bank (1 hr., 2 m.),  $\frac{1}{4}$  hr. below which is the *Croix de Glinettes*. 2 m. further down the glen the traveller reaches *Bonneval les Bains* ( $2\frac{1}{4}$  hrs. from Les Chapieux), a hamlet at the height of 1,084 m. (3,557 ft.), at the junction of the main stream with the Versoye torrent (flowing S.W. from the little known *Col de Breuil*—see § 14. Rte. G), which has an Etablissement des Bains, at present sparsely frequented, but said to be on the high road to fame and popularity. A brighter vegetation offers an agreeable change from the stern barrenness through which the track has lain since quitting Chapieux. The road soon crosses to the r. bank, and keeping at some distance above it gains *Le Châtelard* at the mouth of the glen, then bears S.W. in order to descend to *Bourg St. Maurice* (§ 12. Rte. A), at the foot of the Little St. Bernard Pass, a good hr. from Bonneval.



There are several other mountain paths by which the traveller may cross more or less directly from Beaufort to the Isère valley. The first described below is most convenient for any one really bound for Contamines, while the two others properly lead down to Aime, about half-way between Moûtiers and Bourg St. Maurice.

1. *By the Col de la Sauce*.—4 hrs. to the Col; thence  $3\frac{1}{2}$  hrs. to Contamines, or  $5\frac{1}{2}$  hrs. to Bourg St. Maurice. From Beaufort the road is followed (as above) to the hamlet of *Fontanus* ( $2\frac{3}{4}$  m.). Hence the traveller mounts N.E. by a path first on the l., then on the r. bank of the Gitte, in the glen of that name, to the *Gitte* huts (1,674 m., 5,492 ft.), at its head (?  $2\frac{1}{2}$  hrs. from Beaufort). The scenery of the upper end of the glen is extremely fine, and the many scarce plants will reward the botanist. Near the highest huts *Phaca frigida* has been found, with *Potentilla minima*, *Gentiana brachyphylla*, and other rarities.

a. From the huts a path ascends steeply by zigzags on the r. bank of the torrent, and rounds the S. slope of *Les Bancs* to the *Cavets* huts near the Col du Bonhomme route, a little below the pass, by which Contamines is reached.

b. The traveller bound to Bourg St. Maurice should follow the track on the l. bank of the torrent, which leads in  $1\frac{1}{2}$  hr. from the huts to the *Col de la Sauce* (2,012 m., 6,601 ft.), between *Les Bancs*, the end of the M. Roselette ridge, on the N., and the *Roches Merles* on the S. The traveller has now reached a point not far from the junction between the head of the Gitte glen of the Beaufort valley and that of Montjoie, though  $\frac{3}{4}$  hr. distant from the Col du Bonhomme. The track over that pass is gained near the *Cavets* huts between the Col and the Croix, the former being crossed to reach Contamines, the latter if Chapieux or Bourg St. Maurice is the goal of the traveller.

c. If coming from Roselend the

*Cavets* huts may be reached direct in 4 hrs. by quitting the route of the Cormet de Roselend after it has rounded the N. foot of the Roc du Biolley, and then bearing N.E. by the Chavonnes huts, and over a pass, 2,319 m., 7,609 ft. (sometimes called Col de la Sauce), between the Roches Merles and the Crête des Gittes. A low pass also leads from Roselend, to the Châtelard huts, in the Gitte glen, and then to the Gitte huts themselves.

2. *By the Col de Bresson*.—About 10 hrs. from Beaufort to Bourg St. Maurice. This and the following pass lie through the *Treicol* glen, which joins that of the Doron not far from the hamlet of *Les Tines*, at the point where the road to Roselend finally bears N.E. To reach the Treicol glen the traveller must leave the road to Roselend just before it crosses to Les Tines, on the r. bank (2 hrs.), and keep along a mule path on the l. bank of the Treicol glen to the *Cula* huts ( $\frac{1}{2}$  hr.) This path soon crosses to the r. bank and passes the hamlet of *Treicol* before gaining that of *Presset* ( $1\frac{1}{2}$ -2 hrs.), where the mule path ends. The path to the Col de Bresson bears S.E., and mounts to the pass ( $1\frac{1}{4}$  hr.), 2,460 m., 8,071 ft., some way N.E. of the *Pierre Menta* (2,715 m., 8,908 ft.), a remarkable square tower of rock, easily accessible by its S. ridge. The descent leads S.E. to the *Balme* huts ( $\frac{3}{4}$  hr.), beyond which the path runs along the l. bank of the *Ormente* torrent. By following it due S. it is easy to reach *Aime* ( $4\frac{1}{2}$  hrs. from the pass), on the high road between Moûtiers and Bourg St. Maurice, 9 m. from the former and 7 m. from the latter place. But by taking from the pine forest some way below La Balme at each fork of the path the l.-hand track, even where it ascends, the traveller can gradually bear round to the E. to the village of *Les Chapelles*, and continue by paths above the high road to Bourg St. Maurice itself.

3. *By the Col du Coin*.—From the Presset huts in the Treicol glen a path

mounts S.W. to this pass (2,406 m., 7,894 ft.), and descends, after making a traverse, to the W. along the hillside, to the chapel of *St. Guérin* (c. 2½ hrs. from Pisset), on the Isère side of the Cormet d'Arêches, described in the next Route. From the pass the remarkable obelisk of the *Pierre Menta* (2,715 m., 8,908 ft.), on the E., may be reached in 1½ hr. by the S. ridge.

## ROUTE L.

BEAUFORT TO MOÛTIERS TAREN-  
TAISE.

As Moûtiers, the capital of the Tarentaise (§ 12. Rte. A), lies at the S. extremity of a ridge which projects to the S. from the main mass of the mountains of Beaufort, it is reached from Beaufort by passes which join the valley of the Isère some miles to the N.W. or N.E. of the town. The way from Beaufort to all of them lies due S. by a char road which mounts rather rapidly along the r. bank of the Argentine torrent to the hamlet of *Arêches* (1 hr.), at the junction of the Argentine with the Pontcellamot stream.

[Hence a well-traced mule path leads S.W. through the upper bit of the Argentine glen to the *Col de la Bâthie*, 1,906 m., 6,253 ft. (2½-3 hrs.), from which the La Bâthie or Cevins stations, on the railway from Albertville to Moûtiers, may be gained in 5½-6 hrs. from Beaufort. The former is 5½ m. from Albertville, and 12 m. from Moûtiers; the latter is 2½ m. nearer Moûtiers.]

The lover of Alpine scenery will prefer to follow the main branch of the valley, now called valley of *Pontcellamot*, by the char road along the r. bank of the torrent of the same name. This runs nearly due S. to *Colombières* (20 min. beyond Arêches), whence it

is only a mule path. The glen is narrow, and passes between wooded slopes, as well as through a considerable forest, before reaching the *Chapel of St. Guérin*, ½ hr. from *Colombières*, or 2 hrs. from Beaufort. Here the path divides, passing through glens on the S.W. or S.E. The most interesting way, especially to the botanist, is the former track, which passes over the *Col de la Louze*.

(a) *By the Col de la Louze*.—8 hrs. from Beaufort to N. D. de Briançon. The mule path mounts S.W. by the *Grande Combe* to the pass (2,125 m., 6,972 ft.) Hence it is easy to go W. by the Dar glen to Cevins. But the usual track descends S. to the chalet called *La Grande Maison*, and, after following the torrent in the glen of that name in a S.W. direction for a considerable distance, bears S. some way before reaching the *Trépitine* hut, in order to cross the ridge which separates it from another parallel stream more to the E. In this way the village of *Grand Naves* is attained, and here begins a char road, which leads down to *Petit Cœur*, not far from the *Notre Dame de Briançon* station, on the railway from Albertville to Moûtiers, 5 m. from the last-named place. It is also easy to keep from *Trépitine* always along the r. bank of the stream down the main glen straight to N.D. de Briançon. By the torrent descending from the *Col* the botanist may find *Eryngium alpinum*, *Rhaponticum scariosum*, and *Sonchus Plumieri*, and on the *Col Luzula pediformis*.

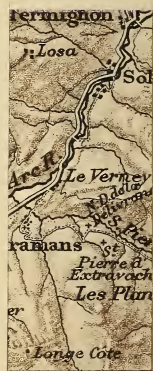
(b) *By the Cormet d'Arêches*.—6¼-7 hrs. to Aime. The main mule path mounts S.E. from *St Guérin* along the l. bank of the stream, the surrounding region being very bare after the *Dérochoirs* huts are passed. In 1¾ hr. from the chapel the traveller reaches the *Col* (c. 2,000 m., 6,562 ft.), N. of the *Crête du Rey* (2,689 m., 8,823 ft.), which can be easily ascended from the pass. The track descends S.E. to some chalets, where is a second *Chapel of St.*

*Guérin* (20 min.) (Here the path from the Col du Coin—see last Rte. 3—falls in.) It then continues to go down the r. bank of the torrent through a great pine forest, becoming a char road  $\frac{1}{2}$  m. before reaching the large village of *Granier* ( $1\frac{1}{2}$  hr.), which overlooks the valley of the Isère.

The road makes great zigzags, and by it  $1\frac{1}{4}$  hr. is required to gain Aime, in the Isère valley, which may be reached more directly in  $\frac{3}{4}$  hr. by the old mule path. Aime is 9 m. from Moûtiers, and 7 m. from Bourg St. Maurice, by the Little St. Bernard high road.







Co.

## CHAPTER V.

### GRAIAN ALPS.

#### SECTION 12.

#### GRANDE CASSE DISTRICT (WESTERN GRAIANS).

##### Route.

- A. St. Pierre d'Albigny to Bourg St. Maurice. The Tarentaise.
- B. Bourg St. Maurice to Lanslebourg by the Col d'Iseran. History of the Mont Iseran.
- C. La Chambre to Moûtiers by the Col de la Madeleine.
- D. St. Jean de Maurienne to Moûtiers by the Col de la Platière.
- E. St. Michel de Maurienne to Moûtiers by the Col des Encombres.
- F. St. Michel or Modane to Moûtiers or Pralognan by the Péclet Group.
- G. Modane to Pralognan by the Cols de Chavière and d'Aussois.
- H. Moûtiers Tarentaise to Pralognan. Excursions and Ascents from Pralognan. Ascent of the Grande Casse.
- I. Pralognan to Termignon by the Col de la Vanoise.
- K. Entre Deux Eaux to Tignes, Val d'Isère, Bessans, or Bonneval.
- L. Tignes to Moûtiers or Bourg St. Maurice by the Col du Palet. Ascent of the Mont Pourri.

#### SECTION 13.

#### LEVANNA DISTRICT (CENTRAL GRAIANS. I.)

##### Route.

- A. Bessans to the Viù Valley or the Mont Cenis by the Ribon Glen. Ascent of the Rochemelon.
- B. Bessans to Usseglio and Lanzo by the Col de l'Autaret.
- C. Viù Valley to the Dora Riparia Valley.
- D. Ala Valley to the Viù Valley and the Val Grande.
- E. Bessans to Balme and Lanzo by the Cols d'Arnas and du Collerin.
- F. Excursions and Ascents from Bessans and Bonneval.
- G. Bonneval to Forno-Alpi-Graie and Lanzo by the Cols de Sea and de Girard.

##### Route.

- H. Val Grande to the Orco Valley.
- I. Bonneval to Ceresole by the Col du Carro.
- K. Bonneval to Val d'Isère by the Col du Bouquetin.

#### SECTION 14.

#### SASSIÈRE DISTRICT (CENTRAL GRAIANS. II.)

##### Route.

- A. Excursions and Ascents from Val d'Isère.
- B. Val d'Isère to Ceresole by the Col de la Galise.
- C. Val d'Isère to Villeneuve by the Val de Rhêmes.
- D. Val de Rhêmes to Val Grisanche.
- E. Isère Valley to Liverogne by the Val Grisanche.
- F. Ste. Foy or Val Grisanche to La Thuille. Rutor Group.
- G. Bourg St. Maurice to Aosta by the Little St. Bernard.

#### SECTION 15.

#### GRAND PARADIS DISTRICT (EASTERN GRAIANS).

##### Route.

- A. Turin to Aosta by Ivrea.
- B. Aosta to Cogne.
- C. Excursions and Ascents from Cogne. Ascent of the Grivola.
- D. Cogne to Bard by the Fenêtre de Champorcher.
- E. Cogne to Pont Canavese by the Val Soana.
- F. Cogne to Locana by the Val Piantonetto.
- G. Cogne to Ceresole by the Col de Grandcroux.
- H. Cogne to the Val Savaranche.
- I. Aosta to Turin by the Col de Nivolet.
- K. Ascents and Passes from the Victor Emmanuel Club hut. Ascent of the Grand Paradis.



# V. THE GRAIAN ALPS

## The Tarentaise Alps (Western Graians)



SCALE, 1 : 250,000. (ENGLISH MILES TO 1 INCH (MEARY))



London Longmans & Co

Continental Geographical Institute, Leipzig



FROM the Mont Cenis Pass to that of the Little St. Bernard the main chain of the Alps, dividing the waters which flow to the Adriatic from those which are poured through the Rhône into the Mediterranean, runs in a tolerably direct line from S. to N. for a distance of nearly 40 miles. It forms throughout the political frontier between France and Italy, and is the backbone of the extensive mountain mass lying between the two passes named above. This chain is most conveniently distinguished as the **Central Graians**. At a point about midway in its course, having hitherto run slightly to the N.E., it inclines slightly to the N.W., and near this bend is traversed by two well-marked passes, the *Cols du Carro* and *de la Galise*, both leading to the head of the Orco valley. The former of these passes serves as the limit between the two Sections in which it is proposed to describe the Central Graians, the S. bit being included in § 13, the *Levanna District* (so named not from its highest but its best known peak), while the N. bit is comprised in Sect. 14, the *Sassière District* (called after its culminating point).

But a glance at the map will suffice to show that the mountain group in the immediate neighbourhood of the Carro and Galise passes possesses a very real topographical importance, for on its W. and N.E. it is connected with each of two considerable outlying mountain masses by a narrow neck or isthmus which forms in either case a low pass traversed by a good path. The pass on the W. is the *Col d'Iseran*, beyond which rise the *Alps of the Tarentaise*, or **Western Graians**, described in § 12 under the name of the *Grande Casse District*, from its loftiest summit, while the pass on the N.E. is the *Col de Nivolet*, and the mass beyond the **Eastern Graians**, described below, in § 15, under the name of the *Grand Paradis District*, as the Grand Paradis is its culminating point, as

well as the monarch of the entire Graian range. As might be expected from the physical character of these two great outliers the western lies wholly within French territory, while the more easterly is entirely Italian. On the French side the valleys of the Arc and Isère rivers completely enclose the Western Graians, while those of the Orco, of the Dora Baltea, and of the stream in the Val Savaranche (an affluent of the Dora Baltea) surround the Eastern Graians. It is to be remarked that four of these streams take their origin in or near the mountain mass between the Cols d'Iseran, du Carro and de la Galise, so that this group, described in § 13. Rt. K. and even now known to very few mountaineers, occupies one of the most important topographical positions in the Alps. Hence it *ought* by rights to be crowned by one of the giants of the Alps, and this may serve to explain the curious invention of the 13,000 feet high Mont Iseran, though as a matter of fact the loftiest point in the group is the *Grande Aiguille Rousse*, which attains the relatively small height of 3,482 m. (11,424 ft.)

Geologically the Eastern Graians are distinguished from the rest of the Graians by the fact that the eastern outlier is composed almost exclusively of crystalline schists, which are scarcely anywhere seen in the other high ranges of the Graians, in which comparatively little altered Sedimentary rocks have been carried to the summit of the highest peaks.

As already noted, the **Grand Paradis** (4,061 m., 13,324 ft.) is the culminating summit of the whole of the Graians, its nearest rival in the other districts being the *Grande Casse* (3,861 m., 12,668 ft.) Both peaks rise in the great outliers of the main chain, or Central Graians, the S. bit of which attains 3,760 m. (12,336 ft.) in the *Pointe de Charbonel*, while in the N. bit the *Aiguille de la Grande Sassière* (3,756 m., 12,323 ft.) is considerably higher than its neighbours.

The Graians were long neglected



by travellers, nor can it be said that they are even now often visited by English climbers. Yet it was mainly through the determination and energy of a few members of the English Alpine Club, and especially Messrs. W. Mathews, J. J. Cowell, and R. C. Nichols, that this fine mountain mass was first explored, and most of its higher peaks conquered. These early explorers, however, left much work for their successors in after years in the way of detailed examination of the various ridges and glaciers. Among these later explorers the names of Mr. Yeld and of Mr. Coolidge, of Monsieur H. Ferrand and the MM. Puiseux, of Signori Baretta, Vaccarone, Bobba, and Cibrario, may be mentioned. The Graians have now been pretty thoroughly investigated, but many new routes, and certain minor groups, remain for those climbers on whom the attraction of the unknown has any influence. All the sheets of the French and Italian Government Surveys (on various scales) for the Graians have now been issued.

Of recent years the accommodation in the Graians has very much improved, though even now a certain amount of roughing must be undergone, save in the more frequented villages. Good inns now exist at Pralognan, Val d'Isère, Bonneval, Ceresole, and Dégioz. Cogne, however, still lags behind, while Tignes has scarcely yet redeemed the character bestowed on it by early visitors.\* There are a few Club huts in the range, but, save those of Pera Ciaval, of the Crot del Clausiné, of Gura, of the Levanna, of the Rutor, of Victor Emmanuel II., and of Piantonetto (all on the Italian side of the chain), and that near the Mont Pourri, they are neither well placed, well kept up, nor really necessary. Of the inns in the remoter corners of the range those at Bessans, Balme, Fernet (Val Grisanche), and Peisey may be mentioned, not because they offer very superior accommodation, but because they are conveniently situ-

ated. It is much to be regretted that the fine scenery of the Val de Rhêmes can only be visited at the cost of some privations, owing to the want of any decent accommodation near its head. As in the Maritimes and Cottians, travellers (save at Pralognan and Cogne) should carry passports, and avoid sketching, photographing, &c., as the military authorities are very exacting.

As yet the Eastern Graians alone have been described in the series of the 'Climbers' Guides,' though other volumes dealing with the rest of the Graians are in preparation. Joanne's 'Savoie' (large edition, 1895) gives a very good summary of recent information as to the French portion of the range (a very concise account may also be found in Bädcker's 'Sud-Est de la France,' 5th edition, 1894), while for the Italian side of the Graians there is the excellent 'Guida delle Alpi Occidentali' (vol. ii. Part 1, 1889; Part 2, 1896), by Signori Vaccarone, Martelli, and Bobba. Many local details specially relating to the district described in § 12 may be found in M. François Arnollet's 'Nos Alpes—Isère et Dorons' (Moûtiers Tarentaise, 1895). Many useful articles and notes may be found in the publications of the English, French, and Italian Alpine Clubs; in particular, the 'Revue Alpine,' issued since 1895 by the Lyons Section of the French Alpine Club, devotes special attention to the French side of the range. Another book deserves careful and minute study, as it contains a very detailed and thorough account of the Central Graians, M. Henri Ferrand's 'La Frontière Franco-Italienne' (Grenoble, 1894), but it is unluckily made up of several independent articles, while the want of an Index is a serious drawback to its usefulness.

## SECTION 12.

GRANDE CASSE DISTRICT  
(WESTERN GRAIANS).

THE name **Tarentaise** properly belongs to the valley of the Isère above Albertville, with its tributary glens. The most considerable of these—that of the *Doron*—drains several of the higher summits of the district, and joins the Isère at *Moûtiers*. The *Isère* rises in the glaciers near the *Col de la Galise*, while the *Arc* rises in those of the *Levanna*, so that the head waters of both streams are not distant from each other, and it is easy to go from one to the other by the isthmus of the *Col d'Iseran*, which unites the Western Graians to the main chain of the Central Graians. These two rivers mingle their streams below *St. Pierre d'Albigny*, about 45 miles in a direct line W. of that pass, so that their valleys, and the *Col d'Iseran*, form the natural limits of the district we are about to describe. By far the greater part of the *Arc* valley, or the *Maurienne*, has already been described in connection with the *Mont Cenis Pass* (§ 7. *Rtes. A and B*), so that in this Section we have only to notice its upper course from its source to *Lanslebourg*. On the other hand the entire course of the *Isère* valley, as far as *St. Pierre d'Albigny*, is here included. From its source to *Aiguebelle*, near its junction with the *Isère*, the *Arc* describes a semicircle, the diameter of which is about 40 miles in length. The *Isère*, on the contrary, in the interval between its source and the junction, forms a tolerably regular zigzag, or reversed W., the re-entering angle of which, where stands the city of *Moûtiers Tarentaise*, is pretty near the centre of the semicircle formed by the *Arc*. The direction of these successive joints of the upper valley of the *Isère* appears to be intimately connected with the forces that have elevated this portion of

the Alps; but as regards the position of the principal peaks, and the direction of the secondary valleys, no part of the Alps shows so little trace of regularity as this district. The reason may probably be that it is mainly composed of slightly altered Sedimentary rocks, which have yielded so extensively to erosive action, whether that of water or of ice, as to preserve little trace of their original conformation.

The scenery of the Western Graians, or *Tarentaise Alps*, is doubtless inferior in grandeur to that of the *Penines* or of the *Dauphiné Alps*; yet there is no want of snow-clad peaks and spreading glaciers to tempt the aspiring mountaineer, while the broad green Alpine pastures, with their cows and Swiss herdsmen, vividly recall better known Swiss scenes, and afford a grateful change to the eyes of those who approach this district from the South, whether from the stone-choked valleys of *Dauphiné* or the scarcely less fertile glens of the *Cottian Alps*. Nevertheless the Western Graians were long neglected, and it is to the enterprise and perseverance of *Mr. William Mathews*, one of the most indefatigable explorers of the Western Alps, that we owe the first accurate account, based on personal experience, of the higher peaks of this group (see his classical paper in vol. ii. of the 2nd series of '*Peaks, Passes, and Glaciers*'). Since then some French and a very few English travellers have added much to our knowledge of this portion of the Alps. The culminating point of the group is the **Grande Casse** (3,861 m., 12,668 ft.), best reached, as is also the magnificent belvédère of the *Dôme de Chasseforêt* (3,597 m., 11,802 ft.), from *Pralognan*. The second summit is the *Mont Pourri* (3,788 m., 12,428 ft.), most conveniently attacked from the new Club hut above *Peisey*. The third summit is the *Dent Parrachée* (3,712 m., 12,179 ft.), the best starting point for which is *Modane*. Next comes the *Grande Motte* (3,663 m., 12,018 ft.),

easily accessible by the Col de Fresse and Col de la Leisse from Val d'Isère, while at the extreme E. end of the district is the *Pointe de Méan Martin* (3,337 m., 10,949 ft.), accessible from either Val d'Isère or Bonneval, and at the extreme W. end the *Aiguilles de Pécelet* (3,566 m., 11,700 ft.) and *de Polset* (3,538 m., 11,608 ft.), to attain which a bivouac in a chalet, or a long day's walk from Pralognan, is necessary. Pralognan, Val d'Isère, and Bonneval are thus the three best headquarters for travellers in this district, and are now all provided with excellent mountain inns. Pralognan, is, however, the only one of the three which is wholly in the district, so that for the chief ascents from Bonneval and Val d'Isère reference must be made to § 13 and 14 respectively. There are fair local guides, but a prudent traveller would do well to bring his own men with him.

The geological structure of the Tarentaise Alps has given rise to discussions, which at one time seemed to shake the foundations of the science. The reversal of the natural order of superposition in strata that have been extensively disturbed is a phenomenon not very uncommon in the Alps, but nowhere has it taken place so extensively, and under such singular circumstances, as in this part of Savoy. Between the zone of crystalline rocks extending from the valley of Beaufort to the valley of the Romanche, and the still more considerable metamorphic mass of the main range of the Graians, rocks of varied mineral composition, chiefly belonging to the Carboniferous series, fill the greater portion of the area which once apparently formed a trough, but whence by subsequent disturbance they have been raised more than 12,000 ft. above the sea level. Beds of anthracite, often thick enough to be worked for fuel, are extremely frequent throughout this formation, and are often associated with black, argillaceous slates, abounding in impressions of ferns,

either identical with, or nearly allied to, undoubted Carboniferous species. In the midst of the Carboniferous zone a narrow strip of Liassic rocks, containing belemnites, and other characteristic fossils, runs parallel to the general strike of the strata, from N.E. to S.W., and by the peculiarity of its relations with the earlier formations has raised doubts in the minds of some geologists as to the value of palæontological evidence in the identification of strata. Sometimes the Carboniferous rocks appear bodily to overlie the Lias, sometimes a thin bed of the former appears intercalated in conformable stratification between two of the latter. An instance of this last-named phenomenon, which was first noticed by Elie de Beaumont, and has since been constantly visited by geologists, is to be seen between Albertville and Moûtiers, in the bed of a torrent a short distance above the village of Petit Cœur, near the junction of the crystalline with the Sedimentary rocks. M. Mortillet has called attention to a case at Le Cudray, near N. D. de Briançon, not far from Moûtiers, where both Carboniferous and Secondary rocks are involved in the folds of the crystalline schists. For a history of the discussion up to 1863, see chapter xxx. of M. Alphonse Favre's '*Recherches Géologiques*' (1867).

ROUTE A.

ST. PIERRE D'ALBIGNY TO BOURG ST. MAURICE. THE TARENTAISE.

	M.
Albertville . . . .	15
Moûtiers . . . . .	32½
Aime . . . . .	41½
Bourg St. Maurice . . . .	48½
Railway to Moûtiers in	1¾-2¼ hrs. ;
thence diligence in	4 hrs.

*St. Pierre d'Albigny* (for the routes hence to Le Châtelard see § 11. Rtes. C and D) is a small town above the



junction of the Arc with the Isère, and on the Mont Cenis railway (described in § 7. Rte. A), 15½ m. from Chambéry. Hence the branch line starts up the Isère valley, following always the right bank, save for a short distance beyond Cevins. At first it runs parallel with the old road at the base of the mountains, and passes below Grésy, a village which abounds in Roman remains. To the N.W. the valley is enclosed by the rugged ridge which divides the Combe de Bellevaux (§ 11. Rte. D) from the Isère.

The new carriage road, which is hot and dusty, runs along the embankment on the right bank of the Isère, and joins the old road near the junction of that from the Col de Tamié, § 11. Rte. E.)

**Albertville** is the modern name given in 1845 by King Charles Albert of Sardinia to two small towns standing on opposite banks of the Arly, at its junction with the Isère. The name is, however, usually confined to the new town on the right bank of the Arly, formerly called *L'Hôpital*, and then a mere suburb of the old fortified town of *Confians*, with its narrow streets, perched on a rock on the other bank of the Arly. (For the routes hence to Le Châtelard, see § 11. Rte. D; for that to Annecy, § 11. Rte. E; for that to St. Gervais by the Arly valley, § 11. Rte. H; and for the ways through the Beaufort glen, § 11. Rtes. I and K.)

On leaving Albertville the railway runs between the carriage road, shaded by fine chestnut trees, and the right bank of the Isère, the valley gradually bending in a due S. direction. 5½ m. from Albertville is the old archiepiscopal castle of *La Bâthie* (for the pass of that name to Beaufort, see § 11. Rte. L). Some way beyond the railway crosses the road, as the valley has become so narrow that the road has to be protected by an embankment against the ravages of the Isère. 2½ m. from La Bâthie is the hamlet of *Cevins*, where are the most extensive slate quarries in Savoy. To the S.W.

opens the *Bayet* glen, through which a mule path leads in 7 hrs. over the *Col de Basmont* (1,607 m., 5,273 ft.) to Aiguebelle, in the Arc valley. Beyond Cevins the Isère valley again contracts, this being the most beautiful part of the route, and passes through the defile of the *Pas de Briançon*, formerly commanded by a castle, now in ruins. A fine waterfall of the *Glaize* is seen on the right just before reaching (4½ m. from Cevins) the station of *Notre Dame de Briançon*. Hence the Col de la Louze (§ 11. Rte. L) leads to Beaufort through the *Glaize* valley, on the N.E., while to the S.W. the *Celliers* glen gives access to the Col de la Madeleine (Rte. C. below) and La Chambre, in the Arc valley. This part of the valley of the Isère is interesting to the botanist as well as to the geologist. Amongst other scarce plants *Carlina nebrodensis* has been found near the castle of Briançon, while *Achillea nobilis* is abundant near Moûtiers. Close to N. D. de Briançon is Le Cudray, and nearly opposite the hamlet of Petit Cœur, both deserving a visit from a geologist (see Introduction to this §). After passing *Aigueblanche* (4 m. from N. D. de Briançon), with an ancient crenellated tower, the line passes above a very narrow gorge, and in 1 m. reaches

**Moûtiers Tarentaise** (480 m., 1,575 ft.), the chief town of the Tarentaise, situated in a small basin at the junction of the Doron with the Isère. Near here was the Roman town of Darentasia, the present little city taking its name from a monastery founded in the fifth century, and having been the seat of an archbishop or bishop since that date, save during the storms of the French Revolution. The Cathedral Church is Romanesque, with an ancient crypt, a fifteenth-century porch, and some twelfth-century ornaments in the sacristy.

☐The passes leading from Moûtiers to the Beaufort glen are described in § 11. Rte. L, and those to the valley of the Arc in Rtes. C, D, E, and F,

below. The salt springs of Salins, and the now fashionable watering place of Brides les Bains, are most conveniently described in Rte. H, below, as they are on the road from Moûtiers to Pralognan, the chief mountaineering centre of this part of the Tarentaise. The most interesting excursion to be made from Moûtiers direct is that up the splendid belvédère of the **Mont Jovet** (2,563 m., 8,409 ft.), to the E. It is accessible by mule path in  $5\frac{1}{2}$  hrs., and is worth a visit from those who do not propose to explore the higher ranges of the Tarentaise, as it commands a glorious panorama, extending from the great Dauphiné peaks to Mont Blanc, the Grand Combin, and Monte Rosa. There is now a comfortable little mountain inn,  $\frac{1}{4}$  hr. below the summit. The descent may be made by another mule path to Bozel, on the way between Moûtiers and Pralognan. ]

Above Moûtiers the Isère makes another acute angle, resuming its former direction from S.W. to N.E. The carriage road, which keeps always to the right bank of the river, first enters a narrow gorge, beyond which is the village of *St. Marcel*, dominated by the ruined castle of the archbishops of the Tarentaise, who till the eleventh century were also great feudal lords. It then traverses by means of several tunnels a second, still narrower defile, that of the *Détroit de Saix*, where *roches moutonnées* attest the former passage of a glacier. In the next open basin, amid vineyards and fine trees, the small village of *Centron* has preserved in a mutilated form the name of the Ceutrones, the original inhabitants of this region. To the S. is seen the *Mont Jovet* (see above). After passing *Villette* the road reaches *Aime*, the ancient Axima, one of the chief towns of the Ceutrones, and still containing many Roman remains. The mediæval church is built of fragments of a Roman building, and near it there is a Roman tower. (The passes hence to Beaufort are described in § 11. Rtes. K and L.)

I.

[On the other side of the Isère is the village of *Mâcot* (1 m.), whence it is a walk of 2 hrs. up the valley which opens to the S. to the extensive mines (argentiferous lead) of *Mâcot*. A mule path leads thence over to Champagne, and a foot path to Peisey.]

Above Aime the valley, though wide, is somewhat bare, and at *Bellentre* (3 m.) the last vines are seen. A little beyond, on the opposite bank of the Isère, is *Landry*, at the mouth of the *Peisey* valley (Rte. L. 2. below), through which there is a fine view of the snowy peak of the *Mont Pourri*, and of the *Bellecôte* range between the *Peisey* and *Prémouglens*. Some fine forests of pines and larches are seen opposite above the left bank of the Isère, while as the traveller approaches *Bourg St. Maurice* the pass of the *Little St. Bernard* comes well in view, and appears to be the natural termination of the valley of the Isère.

**Bourg St. Maurice** (815 m., 2,674 ft.) is a small town which is a centre of considerable traffic, as it stands at the junction of the carriage roads from Aosta over the *Little St. Bernard* (§ 14. Rte. G) from *Val d'Isère*, at the head of the Isère valley (see next Rte.), and the tracks from *St. Gervais*, *Beaufort*, and *Courmayeur* through the *Bonneval* glen (§ 11. Rte. K, and § 16. Rte. E).

## ROUTE B.

BOURG ST. MAURICE TO LANSLE-BOURG BY THE COL D'ISERAN.

Carriage road (20½ m.) to *Val d'Isère*; thence good mule path to *Bonneval* in 4½ hrs.; thence carriage road (13 m.) to *Lanslebourg*.

This is a very interesting route, the scenery of the upper valley of the

Q

Isère, particularly below Tignes, being very beautiful, while above that village it is savage and Alpine. The Alpine historian will also recollect that the Col d'Iseran was crossed on August 22, 1689, by the Vaudois on their way to make their 'Glorieuse Rentrée' into their native valleys, and can see with his own eyes how easily the problem of the lofty Mont Iseran can be solved by those who take the trouble to visit in person the régions they describe.

The road across the Little St. Bernard is followed for 2 m. as far as *Sées* (§ 14. Rte. G). That up the Isère valley then branches off to the right, and mounts above the right bank of that river, here a mountain torrent. The scenery continually increases in beauty and grandeur as the traveller advances. Several hamlets are traversed before the large village of *Ste. Foy*, 1,051 m., 3,448 ft. ( $5\frac{1}{2}$  m.), is attained. It is beautifully situated above the junction with the Isère of the torrent flowing from the *Sassièrre de Ste. Foy* glen, on the E. (For the passes from Ste. Foy through this glen to the Val Grisanche, the Rutor group, and the Little St. Bernard road direct see § 14. Rtes. E and F.) Nearly opposite Ste. Foy is the magnificent peak of the **Mont Pourri** (3,788 m., 12,428 ft.), which rises in one unbroken mass from the banks of the Isère, and forms the most conspicuous object throughout this part of the valley. (Opposite Ste. Foy is the village of *Villaroger*, whence the high snow pass of the *Col du Pourri* leads to the Club hut for the ascent of that peak, for all details as to which see Rte. L, below.)

$1\frac{1}{2}$  m. higher up the Isère valley is *La Thuille de Ste. Foy* (1,272 m., 4,173 ft.)

[Hence on Sept. 18, 1853, the writer (J. B.) made an easy and agreeable excursion to the *Croix de Foglietta* (2,818 m., 9,246 ft.), so called from the Ste. Foy man who set up a cross on this point, a buttress

of the Ormelune. There is a very fine view hence of the Mont Blanc range, and the peaks of the Tarentaise. The most agreeable way to return to La Thuille is by the track leading from the *Col de Vaudet*, or *Col du Clou* (§ 14. Rte. E. 2), the scenery in descending towards the Isère being varied and beautiful. The highest or W. summit of the *Ormelune* (3,283 m., 10,771 ft.) may be reached in about  $2\frac{1}{2}$  hrs. from that pass, or directly (in 4 hrs.) from the Plan huts in that glen; the direct descent to the La Motte huts in the *Sassièrre de Ste. Foy* glen takes about  $1\frac{1}{2}$  hr., while it is even easier to descend N.E. by easy glaciers in 2 hrs. to Fornet, at the head of the Val Grisanche. The Col du Mont (§ 14. Rte. E. 3) itself may be reached direct by the N. ridge. The panorama from the Ormelune is very extensive, and as the ascent offers no difficulties it ought to attract more attention than has hitherto been the case.]

Above La Thuille the road mounts through a forest at a considerable height above the river. Opposite is the hamlet of *La Gurra*, in a very striking position, just below the glacier of that name, which descends from the Mont Pourri, and is a perpetual menace to this eyrie. At *Le Bioley* the torrent from the *Fond* glen is crossed; through it a high but easy glacier pass leads over to the head of the Val Grisanche. This torrent is called the *Nant Cruet*, and forms a fine waterfall close to the bridge. After crossing another shoulder the road descends to the level of the Isère, and soon reaches a green basin, where stands the hamlet of *Les Brevières*, 1,572 m., 5,158 ft. ( $5\frac{1}{3}$  m.) Among many interesting plants to be found in this part of the valley the botanist will observe the beautiful *Cortusa Matthioli*, growing on steep damp rocks near the banks of torrents. On the W. side of the valley the ravine and *Col de la Sachette* lead over to the valley of Peisey (see Rte. L. below). The new carriage road forces



its way through the very striking and picturesque gorge of *Bossières*, the old mule path having mounted through a forest over a spur to the W. The Isère is crossed as the traveller attains a broad green basin, in which stands the beautifully situated village (2 m. from Brevières, or  $16\frac{1}{2}$  m. from Bourg St. Maurice) of

**Tignes** (1,659 m., 5,443 ft.)

It is at the junction of the streams flowing from the Lac de Tignes (Rte. L) and the Lac de la Sassièrè (§ 14. Rte. C), the latter forming a fine cascade just opposite the village. The position of Tignes is very beautiful, and attractive to the mountaineer, but the inns, though better than of old, are far inferior to that at Val d'Isère. Hence the latter village is the best headquarters for a traveller, and almost all the neighbouring peaks and passes can thence be reached as easily as from Tignes, and for this reason are described in § 14.

[There are, however, at least two excursions and two ascents for which Tignes is the best starting point. The *Lac de Tignes*,  $1\frac{1}{4}$  hr. distant by a mule path to the S.W., should be visited by every passing traveller, as it is exquisitely situated, and takes high rank among Alpine lakes. Val d'Isère may thence be easily reached in  $1\frac{1}{2}$  hr. by the grass pass of the *Pas de la Thouvière*. On the way from Tignes to the lake a mule path turns off to the N., and leads up to the *Marais chalets*,  $1\frac{1}{4}$  hr. from Tignes; from the grassy brow just E. of them one of the most glorious possible views of Mont Blanc and its neighbours may be obtained, so that a wise traveller would do well to combine this excursion with that to the lake on his way from Tignes to Val d'Isère. The *Marais chalets* are the most convenient night quarters for those who propose to ascend the *Mont Pourri* by its S. ridge, a long but not very difficult expedition, rewarded by the noblest of views. 7-8 hrs. should be allowed for the ascent from *Marais*, so that some will prefer to bivouac

higher up, in the *Sachette glen*. The chief ascent to be made from Tignes is, however, that of the **Aiguille de la Grande Sassièrè** (3,756 m., 12,323 ft.) The first traveller to make it was Mr. William Mathews, in 1860, who found on the summit a ruined cairn and a broken cross, due to a Tignes man, who had made the ascent over 50 years before. Mr. Mathews gained the summit in about 6 hrs. from Tignes, ascending from the Sassièrè glen, on the way to the Col de la Goletta (§ 14. Rte. C), by the great W. buttress to the glacier W. of the peak. This seems to be the usual way still taken from Val d'Isère, whence the Sassièrè glen is reached by crossing a spur and passing the hamlet of *Franchet* (§ 14. Rte. C. b). But if the ascent is made direct from Tignes it is at least  $\frac{1}{2}$  hr. shorter— $5\frac{1}{2}$  hrs. in all—to mount by the *Revielle chalets*, and a great stony hollow between two spurs of the great W. buttress to the glacier, which is gained without any difficulty near the point at which those two spurs split off. The view from the summit is one of the finest in this part of the Alps, and this ascent cannot be too warmly recommended. The ridge leading S.E. from the summit to the Col de la Goletta is not really difficult, but requires care, as it is sometimes fringed by great corniches. Half-way down this ridge it is easy to strike down to the *Gliairetta* glacier, on the Italian side, and so gain the head of the Val Grisanche. S.E. of Tignes a very bold rock needle attracts the attention of the traveller. This is the lower point of the *Rochers de Franchet* (2,818 m., 9,246 ft.), and is really only the butt end of a long ridge, so that it is easily climbed from the S. in  $3\frac{1}{2}$  hrs. from Val d'Isère; the E. summit is 60 m. (197 ft.) higher.]

The valley of the Isère between Ste. Foy and the Col d'Iseran, in addition to its other attractions, is interesting to a geologist as marking the limit between the crystalline rocks of the eastern portion of the

Graian range and the Sedimentary strata of the Tarentaise Alps, or Western Graians. The botanist too may here reap a rich harvest of rare plants. Among others may be mentioned *Draba frigida* and *D. nivalis*, *Oxytropis Gaudini*, *Gentiana punctata*, *G. brachyphylla*, and *G. tenella*, *Pedicularis rosea* and *P. cenisia*, *Primula pedemontana* (on the right-hand of the old path between Brevières and Tignes), *Carex rupestris*, *C. microglochis*, *C. curvula*, *C. lagopina*, and *C. bicolor*, *Alopecurus Gerardi*, and *Avena subspicata*.

Between the basin of Tignes and that of Val d'Isère there is a defile even grander than those lower down, but composed of very rotten rock, so that fragments frequently fall, particularly on the W. side. The carriage road from Tignes attains its entrance by several zigzags, and is then carried high above the stream, on the N.E. side of the gorge, passing below the hamlet of *Franchet*. The level of the Isère is gained a little before quitting the gorge, and two small hamlets are passed before (4 m.) that of

**Val d'Isère** (1,849 m., 6,066 ft.) is reached (20½ m. from Bourg St. Maurice). This village stands in the midst of a green basin, at the meeting point of the Isère valley on the E. with the wide *Calabourdane* glen on the S. It is admirably situated for the mountaineer, and hence it has been thought best to collect into 3 Rtes. (§ 14. Rtes. A, B, and C) the descriptions of the more important passes and ascents to be made from it towards the N.; those to the W., S., and E. are noticed in Rte. K, below, and § 13. Rte. K.

The old route across the Col d'Iseran made from Val d'Isère a round by *Fornet* (1½ m.), the last hamlet in the Isère valley. But the new road follows the former short cut used by pedestrians, and quits the Isère at the houses of *Laisenant*, 10 minutes beyond Val d'Isère. The two tracks join at the first of the great stone pyramids, often with poles fixed

in them, which serve not only to direct wayfarers when snow lies on the pass, or in bad weather, but also to give shelter, as many of them have a niche that holds two or three persons. The path mounts gently inclined, over bare pastures, to the little house on the crest of the **Col d'Iseran**, 2,769 m., 9,085 ft. (2½ hrs. from Val d'Isère).

☐N.E. of the pass is the point now called *Mont* or *Signal d'Iseran* (3,241 m., 10,634 ft.), which may be ascended in 1¼ hr. by its S. or W. face, or by a scramble of ¾ hr. by its E. ridge from the *Col Pers*, and commands a fine view of the surrounding peaks and glaciers. The view may be further extended by crossing the *Grand Pissailas* glacier nearly due E. of the Col d'Iseran, and then mounting by the S. ridge to the highest summit of the *Aiguille Pers*, 3,451 m., 11,323 ft. (rather over 2 hrs. from the Col), this point being the loftiest, save the Grande Aiguille Rousse, anywhere near the Col. ☐

The view from the pass itself is limited, but some way down the Charbonel, the Ciamarella, and the Albaron are seen. The track lies at first over stony pastures to the level of the torrent flowing from the Grand Pissailas glacier. It crosses to the left bank where the glen contracts into a gorge, and traverses high above that ravine before descending to rejoin the stream in the wide green basin of *Lenta*. Several groups of chalets are passed, and the torrent is crossed to its right bank at a small chapel where the Lenta stream descends more rapidly. Hence a series of stony zigzags bring the traveller down to the new Chalet Hôtel, just above the hamlet of **Bonneval**, 1,835 m., 6,021 ft. (a short 2 hrs. from the pass.) Bonneval and its neighbourhood are described in § 13. Rte. F. 3.

☐Mountaineers may find many more interesting ways from Val d'Isère to Bonneval, apart from that by the Col du Bouquetin, far to the E. of the Col d'Iseran (see § 13. Rte. K). The

ridge W. of the track over the Col d'Iseran, stretching from the Col to the Pointe de Méan Martin, can be crossed in several places by easy passes. A much-recommended route is to mount past the *Ouglietta* lake to the *Lessières* glacier, and thence to traverse the ridge southwards to the highest point on it, the *Pelaou Blanc* (3,136 m., 10,289 ft.), commanding a glorious panorama; the descent may be made by its S. ridge to the Col des Fours, and the Iseran track joined near the highest bridge on the Bonneval side. A rather longer expedition is to mount the whole of the Calabourdane glen to the *Col des Roches*, at the N. foot of the *Pointe de Méan Martin* (3,337 m., 10,949 ft.), another fine panoramic point easily gained hence; Bessans or Bonneval may be reached by descending its S. face, or Bonneval direct from the Col. A third way is to climb the *Pointe de la Sana* (3,450 m., 11,319 ft.) from Val d'Isère (see § 14. Rte. A), and then to traverse E. to the Col des Roches, or S.E. to the *Col de Méan Martin*, between the Pointe and *Aiguille* (3,288 m., 10,788 ft.) of that name, each being easily accessible hence, and so to gain either Bonneval or Bessans by the great path which traverses the pastures above the rock wall, N.W. of the road between those two places. ]

The road crosses the Arc by a stone bridge which seems out of character in so rugged and poor a region, and follows the left bank of the stream through a wild defile. Soon after issuing from it the road passes beneath the chapel of *N. D. des Grâces*, close to the bridge over the torrent from the *Avérole* glen (see § 13. Rte. B), and presently reaches (6 m.) the large village of *Bessans* (1,742 m., 5,715 ft.), described in § 13. Rte. F. 1. On leaving it the road crosses the Arc, follows its right bank, and crosses the low depression of the *Collet de la Magdeleine*, before descending to traverse the Arc at (5½ m.) *Lans le Villard* (whence there is a short cut to the first

zigzag of the Mont Cenis road), the river being crossed once more before the large decayed and straggling village of **Lanslebourg** is attained, 1½ m. (See for the routes hence over the Mont Cenis Pass, and down the Arc valley to Modane, § 7. Rte. B.)

[From Lanslebourg it is an easy ascent of 4-5 hrs. up the *Roc des Pignes* glacier to the *Pointe de Ronce*, 3,618 m., 11,871 ft. (see § 13. Rte. A.) Another pleasant climb from that village is the *Grand Roc Noir* (3,537 m., 11,605 ft.), on the N. The summit, which commands a very fine view, may be reached in 5½ hrs. or less by the S.E. ridge and E. face, up which there is a convenient gully in the rocks. The neighbouring *Pointe de Vallonet* may be hence gained in 40 min. from the S., but, as it is certainly lower than the *Boc Noir*, the height (3,566 m., 11,700 ft.) assigned to it on the French map is certainly wrong. It is easy to descend from the *Roc Noir* by the little glacier S.E. of the summit to the *Fesse* chalets (2 hrs.), whence the *Collet de la Magdeleine* is but an hour distant, so that these summits can be taken in a day on the way from Lanslebourg to Bessans. ]

*History of the Mont Iseran.*—In the case of an unknown district of the Alps it not unfrequently happens that mistakes are made as to the peaks thereof, either by the natives, who are inclined to believe their own mountains the highest, or among the highest in the Alps, or by travellers, whether through flights of fancy or erroneous observations. But a much more fertile source of error is the negligence or carelessness of map surveyors, who naturally do not pay much attention to high peaks, as low and easy passes are practically more useful. Now the remarkable fable that just E. of the Col d'Iseran there exists a lofty peak, the *Mont Iseran*, 13,271 or 13,275 ft. in height, is in no way due to the natives, who from early days have called, and still call, the pass the 'Col du Mont Iseran,'



therein following a very common practice ; witness the Mont Genève, the Mont Cenis, the Mont St. Bernard, the Monte Moro, the Mont St. Gotthard, &c. ; occasionally, indeed, they may have extended this name to the neighbouring peaks and glaciers, but there is no evidence that the natives on either side of the pass ever attributed any extraordinary height to any peak near the pass. That was reserved for the fancy of a writer who had never visited these regions, a fancy confirmed by the amazing mistake made, for some reason as yet undiscovered, by the Sardinian engineers. As the subject is of very considerable historical interest, and is not very well known in England, it may be convenient to give here a sketch of the origin and fall of this impostor, who has never existed save on paper. The present Editor (W. A. B. C.) is preparing a detailed monograph as to the matter, pending the publication of which reference may well be made to a very clear outline, giving all the main points, published in 1893 at Grenoble by M. Henri Ferrand under the title of 'Histoire du Mont Iseran.'

Possibly alluded to as 'mons Cales et Cinisius major,' in 1574 by Josias Simler, of Zürich, in his 'De Alpibus Commentarius,' and certainly traversed in 1689 by the Vaudois, and described by their leader, Henri Arnaud, in his history of the 'Glorieuse Rentrée' (1710), under the name of the 'Mont Tisseran,' the pass is mentioned and briefly noticed by at least three of the chief French military topographers of the eighteenth century, Brunet de l'Argentière (1742), Montannel (1777), and the marquis de Pezay (1793), being called in each case the 'Mont Iseran.' The existence of a pass implies, of course, that eminences of some sort lie on either side of it, but before 1801 the allusions even to these are very meagre. It should be noticed, however, that about 17 old maps, ranging from 1680 to 1772, place the peak of the

Mont Iseran north of the Col de la Galise, in the position occupied by the Pointe de la Galise (3,345 m., 10,975 ft.) of to-day ; the earliest of these maps, that of Borgonio, is specially remarkable as not only naming the peak E. of the Col d'Iseran the 'Mont de Lenta,' but also as giving the full name of the pass as 'Col du Mont Iseran.' But by far the larger number of maps from 1663 onwards indicate the peak of the Mont Iseran as rising S. of the Col de la Galise, and E. of the Col d'Iseran. In no case, however, is a height assigned to it on any of these old maps. It is only in 1801-2 that three writers, quite independently of each other, state more or less distinctly that E. of the pass there is a very lofty peak, also mentioning as something quite different the mule pass which is at its foot. Thus Bourcet (1801) mentions the Mont Iseran as rising between two of the divisions into which he parcelled out the Alps, and as giving birth to the Arc and Isère. In the same year Brossier speaks of this summit as the loftiest of the group of the Galise. But it is Albanis Beaumont (1802) who first, entirely out of his own head, gives a glowing description of the great granite colossus which rises between the valleys of Tignes, Bonneval, Locana, and Cogne, and from whose flanks stream forth the Isère, the Arc, and the Stura. Passing over the mistakes as to the Cogne valley and the Stura river (due, as in the case of Simler, to imperfect knowledge of the intricate topography), the whole of the description is quite accurate, save in its most important particular, the exceeding great height of the peak. Perhaps Beaumont had seized the very important topographical position of the mountain mass between the Col d'Iseran and the main ridge, and feeling instinctively that a very high peak *ought* to have existed there, jumped to the natural, but wholly unfounded, conclusion that it *did* exist there.

In reality the loftiest summit is the Grande Aiguille Rousse, which is considerably lower than any of its great neighbours, the Grand Paradis, the Levanna, and the Sassièrè.

But these hints seem to have passed without notice. Between 1806 and 1811 Corabœuf (whose results were published in 1825 only) measured a lofty peak (4,045 m., 13,271 ft.) between Monte Rosa and the Rochemelon; he calls it Mont Iseran, but the latitude and longitude he gives make it certain that this peak was really the Grand Paradis. The same name was given to the same peak by von Welden (1824), who measured its height as 4,046 m. (13,275 ft.) In 1825 appeared vol. i. of the 'Opérations Géodésiques et Astronomiques pour la mesure d'un Arc du parallèle moyen,' made by a party of Piedmontese and Austrian officers. The map annexed marks the pass only, but in two of the Panoramas the true Levanna is called Mont Iseran, the latter name being probably given in a third to the Albaron, as can be shown by modern photographs. But nothing whatever is said as to the height of either peak or pass. In 1829 Brockedon (whose narrative appears in the 1st edition, 1838, of 'Murray'), and in 1839 Forbes, crossed the pass, but noted no very high peak near it. Neither did Brockedon (before 1836) or Mr. Malkin (1843), when on the Col de la Galise, nor Mr. Ball in 1853, or an unknown traveller in 1854, who both crossed the Col de la Leisse. Mr. Weld (before 1850) and the Schlagintweits (1851) both crossed the Col d'Iseran itself, but preserve a remarkable silence about this lofty summit. Yet in 1845 it had been 'created' by the Sardinian surveyors and engineers in their work, 'Le Alpi che cingono l'Italia.' On their map they mark (without heights) both the pass and the peak E. of it; in their 'Profilo geometrico' the Mont Iseran appears as distinctly lower than the Grande Casse, to which the

height of 3,863 m. (12,674 ft.) is attributed; finally, in their Table of Peaks and Passes (as well as several times in their text) they mention the Mont Iseran (4,045 m., 13,271 ft.), the height being expressly said to be taken from the observations of the French engineers—that is, from Corabœuf. But now comes the strangest part of the story, which to this day remains unexplained: while taking the height from Corabœuf they *altered* (why, is the darkest of mysteries) both his latitude and longitude, those invented by them transporting his peak and his height to the position just E. of the Col d'Iseran, where the name had long stood on the old maps. These results were reproduced on the Sardinian map, scale  $\frac{1}{50,000}$ , this sheet being originally issued in 1853. But no one seems to have paid much, if any, attention to these remarkable statements, for the district was scarcely ever visited by travellers. It turned out, however, that the very first expedition made (Sept. 1859) by Mr. W. Mathews in the Tarentaise Alps, with the exploration of which his name will ever be honourably associated, was the passage of the Col d'Iseran, during which he was quite unable to see with his own eyes this lofty peak of 4,045 m., or 13,271 ft., or to obtain any information from his local guide concerning it. He therefore began to suspect its very existence. In Aug. 1860 he was again unable to see it from the Sassièrè, which is just opposite its alleged position. Next month Mr. J. J. Cowell twice crossed the Col, ascended the W. Levanna, and finally the point 3,241 m., 10,634 ft. (the Mont Iseran of to-day), proving beyond the possibility of a doubt that this peak of 13,000 ft. in height was an invention; and to him belongs the honour of having first published this discovery in his classical paper in 'Vacation Tourists in 1860' (1861), Mr. Mathews' account appearing in 1862 only in the 2nd Series of 'Peaks, Passes, and Glaciers.' Be-

fore Mr. Mathews' first expedition the 1st Series of the last-named work had appeared (June 1859), and in the list of the chief mountains of the Alps, at the end, we find 'No. 26. Mont Iseran, 13,271 ft. (Corabœuf),' between the Gross Viescherhorn and the Laquinhorn. Early in the summer of 1860 appeared the 1st edition of Joanne's 'Savoie,' and it is doubtless owing to the very precise account (by M. Elisée Reclus) of the lofty Mont Iseran, 4,046 m., 13,275 ft. (including an account of its ascent, though not of the view from the summit, as it is stated that clouds often veil it), that the invention (though dating only from 1845) of this lofty summit has struck such deep roots that as lately as 1872 the 'Times,' in 1889 a French guide-book, and in 1890 a French map, all firmly believed in its existence. Yet the explorations of Signor Baretta (1863-4), of Messrs. Bonney and Taylor (1864), and of Mr. Nichols (1866) had simply confirmed the discovery made in 1859-1860. In 1862 the French engineers climbed the peak just E. of the pass, found its height was but 3,241 m. (10,634 ft.), built a great cairn there, and gave it its present name of 'Signal du Mont Iseran,' but their map was not issued till 1873. As a curiosity it may be mentioned that on the latest map published by the French Government (the 'Carte Vicinale') the peak is neither indicated, named, nor given any height. Nowadays, when the mountains E. of the Col are far better known than they have ever been before, it seems all but incredible that a peak which had only a short existence, 1845-1859, and that merely on paper, should have retained its hold on the mind of geographers in a far greater degree than the mistakes as to the Pic and the Aiguille d'Olan, the Cima di Mercantour, the heights of the St. Gotthard, or the doubts as to the whereabouts of the true summit of Monte Rosa. It may be added that the theory which accounted for the creation of the lofty Mont Iseran

by supposing a confusion between the Grand Paradis, the Levanna, and the Sassièrè, seen from different points in the direction of the imaginary peak, is, though plausible in itself, not borne out by the facts when studied, as above, from a purely historical point of view.

### ROUTE C.

#### LA CHAMBRE TO MOÛTIERES BY THE COL DE LA MADELEINE.

This pass is traversed by a good mule path (at either end becoming, indeed, a char road), and is much frequented by the country people, as it is the easiest and shortest way from the Maurienne to the Tarentaise, but it is very rarely visited by strangers. 7 hrs. suffice for the passage, and in fine weather a guide is quite unnecessary.

From the village of La Chambre (§ 7. Rte. A) a mule path crosses the Bugeon torrent, and mounts above its right bank past *Mongellafrey* towards the pass. But the more frequented way is to mount from La Chambre by a char road to *St. Martin de la Chambre*, and then to follow the good mule path on the left bank of the Bugeon towards the pass. Both tracks join at the highest chalets, a short distance below the pass, 1,984 m., 6,509 ft. (4 hrs. from La Chambre). Hence it is apparent that the *Villards* or *Glandon* glen (§ 8. Rte. E), on the opposite side of the Arc valley, and the *Celliers* glen, on the N. side of the Col, are the continuation, in opposite directions of the trough, of which the central portion is the Bugeon glen, by which the Col is reached from La Chambre.

From the pass the *Cheval Noir* (2,834 m., 9,298 ft.), on the S.E., can be climbed in 2½ hrs. To the N.W. rise the jagged aiguilles of the *Lauzière group*—badly figured on the



maps — of which the culminating point has been named the *Grand de la Lauzière* (2,797 m., 9,177 ft.); it may be climbed in 1½ hr. from the foot of the Celliers glacier by the N. ridge, the last ½ hr. alone offering a scramble: this glacier can be reached in about 3 hrs. either by a traverse from the Col or direct from the hamlet of Celliers.]

At the *Rosets* chalets, some way down the N. slope of the pass, the track divides. One mule path follows the left bank of the torrent past *Celliers*, and other hamlets, to *Bonneval*, whence a char road descends to the *N. D. de Briançon* station (3 hrs.), on the line between *Albertville* and *Moûtiers* (Rte. A. above), 5 m. from *Moûtiers*. The more frequented way (also a mule path) crosses from *Rosets* to the right bank of the torrent, which is followed for some distance. The path finally turns to the right, crosses a low ridge, and descends to *Doucy*, whence a char road leads down by many zigzags to *Bellecombe* (3 hrs.), close to the junction of the *Morel* torrent with the *Isère*. That torrent, and then the *Isère*, are crossed in order to gain the *Aigueblanche* station, 5 m. from *Doucy* and 1 m. only from *Moûtiers*.

(The *Morel* torrent descends from the pretty *Combe des Avanchers*, which opens on the S. of *Bellecombe*. From the hamlet of *Avanchers* a mule track leads in 4 hrs. over the *Col du Golet* to *Villary*, in the *Belleville* glen (see Rte. E), while another path leads across the *Col de la Coche* to *Fontaine*, lower down the same glen.)

#### ROUTE D.

ST. JEAN DE MAURIENNE TO MOÛTIERS BY THE COL DE LA PLATIÈRE.

This is a very interesting pass, and when better known will probably be

often visited by tourists. In the apparent difficulty of the ascent from the Maurienne side, it may almost be compared to the *Gemmi*, but is longer and more laborious than that famous pass. It is said that 11 hrs. are required from *St. Jean de Maurienne* to *Moûtiers*. There is a char road to *Hermillon*, and a mule path thence to the pass, whence a foot track leads down to the *Fuz* chalets, where the mule path commences, this in its turn becoming a char road at the *Sausse* chalets.

From the railway station of *St. Jean de Maurienne* (§ 7. Rte. A) a bridge crosses the *Arc*, and a country road leads to *Hermillon* (½ hr.) Here the mule path turns sharply to the right, or rather S. of E., and mounts gradually along the base of a range of limestone cliffs to the chapel of *N. D. de Montandrey* (1 hr.), a well-known sanctuary, annually resorted to by large numbers of pilgrims on Sept. 8. (A new path now climbs the *Echaillon* precipices direct from the *Arc* to this spot.) Immediately above the church is a rock which commands a remarkably fine view of the high peaks between the *Arc* and *Romanche* valleys, and of the *Arvan* glen. After passing the mean village of *Montandrey* the track turns to the N., and mounts along the upper verge of the cliffs, the base of which it had previously skirted. *Hermillon* lies at a great depth below. After mounting rapidly for a good ½ hr. the path turns N.E. in the direction of the *Col*, continuing to ascend for another ½ hr. amidst fine old pine trees. On emerging from the forest the path seems to have entered a *cul de sac*, closed by impassable rocks; but a chimney, through which the track is carried by a series of steep zigzags, affords an issue. This leads to the pasture terrace of *Planey*, whence a last view is gained of the valley of the *Arc*, and of the town of *St. Jean de Maurienne*. Above *Planey* the extensive pastures, on which are several groups of chalets,

stretch towards the Col, and after skirting the edge of a formidably steep ravine which opens on the W. the track reaches the chalets of *Plan de Monsieur* ( $3\frac{1}{2}$  hrs. from Hermillon). In fine weather it is now easy to find the way, as the depression of the pass remains in view, and is marked by a square rock in the midst, called the *Bonnet du Prêtre*. To the right the Perron des Encombres is seen above the nearer ridge dividing this plateau from the Encombres glen. At a bifurcation of the mule path, the best marked branch, that to the right, must be avoided, as it leads over the *Col du Châtelard*, or *de la Varlossière* (marked by a wooden cross), to the path from the Col des Encombres, in the glen of the same name. That to the left leads up in about 2 hrs. from Plan de Monsieur (or 6 hrs. from St. Jean de Maurienne) to the *Col de la Platière*, or *Pas de la Roche* (c. 2,600 m., 8,531 ft.) It is possible to pass on either side of the Bonnet du Prêtre, but the track keeps to its left. The view from the pass is limited, except to the N.E., where the range of Mont Blanc, towering over the intermediate ranges, produces a grand effect.

The descent on the N. side of the Col leads into the *Nant Brun* glen, which is wild and rather dreary, bare of trees, and surrounded by slopes of débris, with here and there a patch of snow. The foot path leads down stones, and then along a promontory of shattered slate, which projects between two ravines. In  $\frac{3}{4}$  hr. the track reaches a point where the Nant Brun, formed by the union of the streams that drain the head of the valley, has cut a deep ravine through the rock. The track keeps to the left bank, and in 1 hr. more, at the chalets of *Fuz*, becomes a mule path. Some marshy meadows, the bed of an ancient lake, are traversed, and between the highest huts (*Varbuche*) and *Fuz*, after passing the next gorge, which formerly held back the waters of the lake, the path gradually recedes from the torrent, and is henceforward

carried along the W. slope of the valley, at a considerable height above the stream. In about 2 hrs. from the Col it crosses the considerable affluent of the Sausse torrent, descending from the W., and beyond attains the *Sausse chalets*, whence there is a char road. 20 min. farther is the village of *Deux Nants*, at the junction of another stream from the W. with the Nant Brun. The valley here becomes very picturesque. A pine forest clothes the opposite mountain slopes, while lower down corn fields are seen, with houses and mills, scattered amidst fine walnut trees. Three-quarters of an hour below Deux Nants is the village of *St. Jean de Belleville*, picturesquely placed above the junction of the Nant Brun with the Belleville glen. It is 2 hrs. (6 m.) more by a carriage road to Moûtiers, the route being identical with that from the Col des Encombres, described in the next Rte.

#### ROUTE E.

##### ST. MICHEL DE MAURIENNE TO MOÛTIERS BY THE COL DES ENCOMBRES.

This is a direct, but dreary and rather tedious, pass. The torrent descending from the Col joins the Arc about 2 miles below St. Michel, but the char road mounts by zigzags from St. Michel itself, winds W. of *Thyl* along the mountain-side, and having crossed several ravines reaches the village of *Beaune* (1 hr.), which commands a fine view up the two glens of Valloire and Valmeinier, on the opposite side of the Arc.

[Just E. of Beaune is the *Mont Brequin* (3,194 m., 10,479 ft.), easily reached from the *Col de la Pierre Blanche*, on its N.W.; by this pass the *Bruyères* huts, at the head of the Belleville glen, can be gained in about 6 hrs. from St. Michel, or

those of *Thorens*,  $1\frac{1}{4}$  hr. higher up, in 7 hrs. by crossing the spur between the two uppermost arms of the Belleville glen. ]

The **Col des Encombres** (2,337 m., 7,668 ft.) lies due N. of Beaune, and is reached by a mule path in about 3 hrs. from that place. 20 min. before gaining the pass are the *Sausse* chalets, with a Club hut (several beds), whence the *Perron des Encombres* (2,828 m., 9,279 ft.), to the N.W., may be climbed in  $2\frac{1}{2}$  hrs., the view from the summit being very extensive.

There are two chief ways of descending from the pass to St. Martin de Belleville.

(a) That through the *Encombres* glen on the N. is the most frequented, and has the advantage of a mule path. The path follows throughout the right bank of the torrent (for the Col de la Varlossière see last Rte.), and leads to *Le Châtelard*, above the junction of the *Encombres* and *Belleville* torrents. St. Martin is just opposite, and is gained in about 3 hrs. from the pass.

(b) A rather longer way is through the *Belleville* glen, which is reached by a foot path from the Col which traverses to the right to the *Collet Blanc* (2,669 m., 8,757 ft.), and then descends into the same arm of the glen which is gained from the Col de la Pierre Blanche. A stony ravine leads down to the *Bruyères* huts, whence there is a bad char road through the smiling *Belleville* glen to St. Martin (3 hrs. from the Col). But if bound from St. Michel direct to the *Belleville* glen, the Col de la Pierre Blanche is far shorter than the détour by the Col des *Encombres*.

(c) A third way to St. Martin is to keep high up above the right bank of the *Encombres* torrent and to cross the ridge to the pretty glen of *Gef-friend*, through which St. Martin is gained.

**St. Martin de Belleville** (1,380 m., 4,528 ft.), the chief village of the valley, stands on a terrace in the

midst of walnut and chestnut trees. Several easy paths lead hence over to the *Combe des Allues*, on the E.

The main char road soon crosses over to the left bank of the torrent, which is followed through pleasing scenery past *St. Jean de Belleville* (5 m. from St. Martin), *Villarly*, and *Fontaine* (for the paths from these villages over to the *Avanchers* glen see Rte. C. above), descending at last by some great zigzags to *Moûtiers* (3 hrs. or 11 m. from St. Martin). There is also a mule path (perhaps now a char road) which runs above the right bank of the stream from St. Martin to *Salins*, 1 m. from *Moûtiers*.

## ROUTE F.

ST. MICHEL OR MODANE TO MOÛTIERS OR PRALOGNAN BY THE PÉCLET GROUP.

Between the well-known routes over the *Cols des Encombres* and de *Chavière* there rises a very considerable, though as yet little frequented, glacier-covered group of mountains, which culminates in the **Aiguilles de Péclet** (3,566 m., 11,700 ft.) and de **Polset** (3,538 m., 11,608 ft.), both climbed for the first time by English travellers, who otherwise have paid hardly any attention to this region. These summits rise in about the centre of the group, which is of considerable length from N. to S., but not very broad, save at its S. end. S. of these peaks is the extensive *Chavière* glacier, which drains to the E. towards the upper part of the *Chavière* or *Polset* glen, while on the W. it is all but level with three smaller glaciers, those of *Rénod*, *Bouchet*, and *Thorens*. The latter descends towards the chalets of the same name, at the head of the S.E. most of the two arms of the *Belleville* glen, while the two others flow down into the steep *Bouchet*



glen, the stream from which joins the Arc between St. Michel and Modane. On the N. the narrow and elongated *Gébroulaz glacier* descends into the head of the *Combe des Allues*, which joins the Doron valley at Brides les Bains. From the *Gébroulaz glacier* a glacier arm (*Glacier du Lac Blanc*) flows down N.E. towards the Lac Blanc, at the very head of the Doron valley, which may also be reached lower down by several easy passes. On the W. of the *Gébroulaz glacier* is that of *Pécllet*, due E. of the Thorens chalets, and separated from the *Gébroulaz glacier* by a rocky ridge traversed by the *Col de Pécllet*. It is thus evident that the direct route through the *Pécllet* group leads from the Bouchet glen over the **Col de Gébroulaz**, between the two Aiguilles, to the *Combe des Allues*; the S. side of that pass may be also gained from the *Chavière glen* on the E., or that of *Belleville* on the W., while from the N. side many ways may be found E. into the upper Doron valley. Hence many routes may be made across this group in various directions, the chief of which only can be indicated here.

About 3 m. E. of St. Michel, and 6 m. W. of Modane, is the hamlet of *Francoz*, on the high road between those two places. It is close to the junction of the *Bouchet* torrent with the Arc. A stony foot path mounts hence, and crosses the torrent to *Bonvillard*, on its left bank. Beyond, it it passes through forests, with pretty views of the *Aiguilles d'Arves*, and ascends from one to another of several steep steps, the stream descending in rapids, till the highest chalets, those of **Plan Bouchet**, are gained (3 $\frac{3}{4}$  hrs. from *Francoz*).

To the N. and E. of these chalets, which stand in a basin at the meeting place of several streams and glens, are the *Bouchet* and *Rénod* glaciers. Over the former (N.) may be reached the *Col de Plan Bouchet*, W. of, and the *Col du Bouchet*, E. of the *Pointe de Plan Bouchet* (3,056 m., 10,027 ft.),

both above the *Thorens glacier*, and reached in 2 hrs. from the chalets: they command splendid views of the Dauphiné Alps, and give access in 1 $\frac{1}{4}$  hr. more to the *Thorens* huts in the stony hollow at the very head of the *Belleville glen*.

【Nearly due N. of this hollow is the grassy *Col de la Chambre*, by which the *Allues glen* may be gained in 4 hrs. from the true *Col de la Montée du Fond*—W. of the *Cîme de Caron* (3,149 m., 10,332 ft.), S.E. of which peak is the *Col de Caron*—while to the E. the wide, snowy depression of the *Col de Thorens* (3 hrs. from the *Thorens chalets*) gives access in 1 hr. more to the *Col de Gébroulaz*. From the *Thorens chalets* the *Col de Pécllet*, S. of the *Mont du Borgne*, leads over a rocky ridge to the *Gébroulaz glacier* (3 hrs. from the *Thorens huts*).】

But the direct route from the *Plan Bouchet chalets* to the *Col de Gébroulaz* is over the steeper glacier, that of *Rénod*, to the E., the *Col* at the head of which, the *Col Rénod*, is attained in 2 hrs. from the chalets. It is between the *Pointe du Bouchet* (3,407 m., 11,178 ft.) on the N.W. (reached in rather over 1 hr.) and the *Pointe Rénod* (3,372 m., 11,063 ft.) on the S.E. (perhaps accessible hence, but as yet ascended only in 5 hrs. from the *Polset chalets*, on the S.E.) A steep snow slope leads in 10 m. to the level of the great *Chavière glacier*, the traverse of which in a due N. direction offers no difficulty, though quite 2 hrs. are required before the **Col de Gébroulaz** (3,470 m., 11,385 ft.) is attained.

【On the W. the traveller sees easy openings (the *Col Lory* and the *Col de Thorens*) giving access respectively to the *Bouchet* and *Thorens glaciers*, while to the E. a steep descent down rocks past three waterfalls, near the point 2,655 m. of the map, leads down to the *Polset glen*; nearer the *Col de Gébroulaz*, and N. of the point 3,217 m. of the map, the *Col de Polset* crosses a ridge not dis-

tinctly marked on the map, and leads down the Polset glacier and to the N. of a fine waterfall to the upper part of the Polset glen, not far from the Chavière lake ( $1\frac{1}{2}$  hr. from the S. foot of the Polset peak).

As stated above, this lofty snow pass lies between the **Aiguilles de Péclét** (3,566 m., 11,700 ft.) and **de Polset** (3,538 m., 11,608 ft.) Both may be easily ascended from it. The S. base of the former is gained by snow in  $\frac{1}{4}$  hr., and the summit in  $\frac{1}{2}$  hr. more by débris slopes and the S.E. ridge. The highest and central rock pinnacle of the Polset is ascended in  $\frac{1}{2}$  hr. from the pass; the E. summit (3,430 m., 11,254 ft.), the fine snow dome so conspicuous from Pralognan, might be also gained in a short time. In 1878 Mr. Coolidge made the first ascent of the Péclét by the route described; in 1861 Mr. W. Mathews climbed from the Col de Chavière in  $2\frac{1}{2}$  hrs. over the E. summit of the Polset (or *Dôme de Polset*) to the highest point; the latter was gained from the Col de Gébroulaz in 1878 by the route described by Mr. Coolidge, who in 1884 reached the E. summit in  $6\frac{1}{2}$  hrs. from Pralognan by way of the Lac Blanc, the Lac Blanc glacier, and the snowy N. face; both the parties mentioned went down from the S. foot of the peak by the *Col de Polset* to the upper Chavière glen.]

Save for some séracs at the foot of the Péclét the descent of the Gébroulaz glacier offers no great difficulties, a due N. direction being always kept.

[By bearing N.E. the *Col du Lac Blanc*, over the N.E. arm of that glacier, or *Glacier du Lac Blanc*, can be crossed, and Pralognan gained in 3 hrs. past the Lac Blanc, where the way from the *Pas du Soufre*, lower down that glacier, falls in.]

The glacier is quitted at its N. extremity in  $2\frac{1}{2}$  hrs., and the Gébroulaz chalets gained in  $\frac{1}{4}$  hr. more, these being  $\frac{1}{2}$  hr. above those of **Saut** (2,154 m., 7,067 ft.)

[Hence the *Col Rouge* (2,736 m.,

8,977 ft.) leads over direct to the Doron glen, near the Ritort chalets.]

A party bound for Pralognan (which has not taken the shorter route by the Lac Blanc mentioned above) may hence mount E. by a zigzag path to the *Col de Chanrouge*, 2,538 m., 8,327 ft. (1 hr.), and then, avoiding the direct descent by the Petite Val on the N. to Bozel, may work round to the depression N. of the Petit Mont Blanc de Pralognan (*Col des Saulces* of the French map), 2 hrs., whence Pralognan is easily attained in  $1\frac{3}{4}$  hr. more.

The direct path from Saut towards Brides descends beneath the imposing rock mass of the *Aiguille du Fruit* (3,056 m., 10,027 ft.) to the *Plan* chalets, at the head of the Combe des Allues proper (1 hr.), passing on the way the Fruit chalets, whence the pass of that name leads over to Bozel, while from them the *Aiguille du Fruit* has been ascended with difficulty in  $7\frac{1}{2}$  hrs., mainly by a great couloir in its W. face. From the Plan chalets there is a mule path to the hamlet of *Les Allues*, whence a char road leads down in 4 m. through the pretty pasture valley of *Allues* to Brides les Bains ( $1\frac{1}{2}$  hr.), 4 m. by carriage road from Moûtiers.

#### ROUTE G.

MODANE TO PRALOGNAN BY THE COLS DE CHAVIÈRE AND D'AUSSOIS.

The Péclét group (described in the last Rte.) is separated from the Vanoise Group (described in Rte. H) by the long upper valley of the Doron, at the head of which rises a tangled mountain pass crowned by the *Pointe de l'Échelle* (3,432 m., 11,260 ft.) This mass sends forth on the S. a great spur, which separates the *Chavière* and *Aussois* glens, which join the Arc valley at or near Modane.

Each, therefore, leads up to a pass over into the upper Doron valley, the *Col de Chavière* (the more frequented), and the *Col d'Aussois*, passing W. and N.E. respectively of the Pointe de l'Échelle. Both passes are seen to the best advantage when taken from Modane, but as that place is 371 m. (1,217 ft.) lower than Pralognan, each pass is more laborious if Modane be taken as the starting point. The tracks only join at the *Ritort* chalets, in the Doron valley.

1. *By the Col de Chavière* (7-8 hrs.)—From the railway station at Modane the traveller must follow the high road to the town (20 min.), where an iron bridge crosses the Arc. A steep, stony mule path mounts nearly due N., and then through woods (broken by great white crags), in which it makes a great zigzag. The fort of *Le Sappey* is seen on a spur on the other side of the wooded gorge to the l. This ravine is interesting to the geologist, as it lies along the line of junction between the Carboniferous rocks to the W. and newer Secondary strata to the E. The chalets of *Polset* (1,809 m., 5,935 ft.) are 1½ hr. from the town, and here the mule path ends. They afford fair night quarters for travellers bent on the ascents of the *Aiguille de Polset* or the *Pointe Rénod* (see last Rte.), or of the *Pointe de l'Échelle* (see below). The foot path continues to mount steeply above the l. bank of the torrent, till it gains the upper stone-strewn basin at the foot of the last ascent to the pass (1½ hr.). To the W. are seen the steep cliffs, seamed by waterfalls, below the *Chavière* and *Polset* glaciers.

For the ascent of the *Pointe de l'Échelle* (3,432 m., 11,260 ft.) it is necessary to strike off to the E. at this point, so as to gain the glacier at its S.W. foot, whence a broad snow couloir leads up to the S. ridge, by which the summit is reached in 3 hrs. from the path. The view is very extensive. If coming direct from *Polset* it is shorter to leave the path

sooner, so as to mount to the r. towards the *Lac de la Partie*. ]

Some slopes of stones and a snow slope then lead up to the pass, 2,806 m., 9,206 ft. (1 hr., or 4¼ hrs. from the station.) It commands a fine view of the Dauphiné peaks, and of *Mont Blanc*.

The track on the other side is at first very indistinct. It is best to bear round to the N.W. so as to gain a small lake, cow tracks then leading down to the level of the Doron glen opposite the *Ritort* chalets (1½ hr. from the Col), where the mule path begins again. On the way the tracks to the *Gébroulaz* glacier by the *Lac Blanc* and by the *Pas du Soufre* are passed, and lower down that over the *Col Rouge* or *de Corneiller* to the chalets of *Saut* (see last Rte.) In 20 min. more the chalets of *La Motte* (the best night quarters in the valley) are reached. Beyond, the path continues down the valley, crossing and recrossing the stream. The wooded mound of *La Chollière* is skirted on its l. flank, and then the path descends into the basin of *Pralognan*, a very fine view of the *Grande Casse* being obtained while crossing the meadows to the hamlet of *Le Barioz*, where are the inns (1½ hr. from *La Motte*, or ¾ hrs. from the Col).

2. *By the Col d'Aussois* (9 hrs.)—After crossing the Arc by the bridge described above, a char road mounts past the waterfall of *St. Benoît*, above the village of *Arrieux*, and through the Fort of *Esseillon* by many zigzags to the village of *Aussois* (2 hrs.).

3 hrs. N.E. of *Aussois* by a direct path are the *Fournache* chalets, the most convenient night quarters for the ascent of the *Dent Parrachée* (3,712 m., 12,179 ft.), which was ascended hence in 1864 by Messrs. *Blanford*, *Cuthbert*, and *Rowson*, who found, a little below the top, a cairn, probably built by the French engineers. Hence in 2½ hrs. the *Col de l'Arpont*, on the S.W. ridge of the peak, is gained with difficulty, and the summit in under 2 hrs. more,



along or near the ridge. The view is one of the noblest in the Alps. The descent from the Col to the *Dent Parrachée* glacier takes only 20 min. Thence the Arpont chalets, on the N.E., can be gained in 2 hrs., or, if preferred, one of the summits of the *Dôme de Chasseforêt* ridge, on the N.W., climbed, in 3 hrs. or so, or traversed, Pralognan being gained either by the *Genépy* glacier or the *Nants* glen. Difficult routes have been forced up the *Dent Parrachée* from the S. and from the E., but that from Fournache is the best. It is, of course, possible to sleep at the *Trois Granges*, above *Termignon*, and then gain the Col de l'Arpont by its N. slope. ]

A mule path mounts from Aussois by a succession of terraces of green pasture, separated by steep steps of pine-covered rock, the torrent forming pretty cascades alongside of the path, and passes many chalets, before the highest, those of *Fond* (2,333 m., 7,655 ft.), are attained in 2 hrs. from Aussois.

[Hence two variations on the ordinary route over the pass can be made. One consists in ascending N.E., and by easy snow slopes gaining the *Pierre Humide*, 3,520 m., 11,549 ft. (4 hrs.), at the meeting point of several ridges; hence the descent may be made by the l. bank of the *Genépy* glacier to the *La Motte* chalets in the valley of the *Doron*, and so to Pralognan (5 hrs.), or by skirting along its E. slope at first the *Dôme de Chasseforêt* ridge may be attained, and crossed in various directions. Another variation is to mount nearly due N. from the *Fond* chalets in 2 hrs. to the depression W. of the *Roche Chevrrière* (3,282 m., 10,768 ft.), thence accessible in  $\frac{3}{4}$  hr., and commanding a fine view; the descent on the other side of this depression soon joins the ordinary route. ]

The ascent from *Fond* to the Col d'Aussois lies slightly N.W., and is very steep, taking 2 hrs. or so. The pass, near which there is a cross, is

9,228 ft. in height, and the prospect thence includes *Mont Blanc*, the *Pourri*, the *Chasseforêt*, and the *Péclet* group. It is separated from the depression at the W. foot of the *Roche Chevrrière* by a long ridge rising in a peak of 3,156 m. (10,355 ft.), the traverse from one depression to the other, mainly along the ridge, taking nearly 2 hrs. The route on the N. slope lies down snow and stones, 1 hr. sufficing to reach a great cairn at the edge of the steep descent ( $\frac{1}{2}$  hr.) to the *Ritort* chalets, where the *Doron* is crossed to join the Col de *Chavière* path, by which Pralognan is attained in less than 2 hrs. more.

## ROUTE H.

MOÛTIERS TARENDAISE TO PRALOGNAN. EXCURSIONS AND ASCENTS FROM PRALOGNAN. ASCENT OF THE GRANDE CASSE.

Carriage road (16 $\frac{1}{2}$  m.) to Pralognan.

The excursion from Moûtiers to Pralognan is one that should be omitted by no traveller visiting these regions, for Pralognan is one of the most charming spots in the district, while the good new inn forms an excellent headquarters. On the way the mineral springs of *Salins* and *Brides* are passed, the drive whence up to Pralognan is one of the favourite methods of beguiling the weariness of a 'cure.'

The high road crosses the *Isère* on leaving Moûtiers, and runs along the right bank of the *Doron* to (1 m.)

*Salins* (492 m., 1,614 ft.), opposite the opening of the *Belleville* glen (Rte. E). Here are salt springs, the water containing a considerable proportion of common salt, and sulphate of lime, along with a moderate quantity of carbonate of lime, and other salts. They are now largely

used for bathing purposes, and there is a fine new *Etablissement Thermal*. These salts are now evaporated by a new process, but the old method (chiefly for obtaining culinary salts) is picturesque enough to deserve a short description, as, though of the simplest kind, it was yet effectual. The water from the springs was conducted through a long succession of sheds by means of gutters, from which it was allowed to drop slowly over faggots of thin twigs, and was finally brought into a building, where it trickled down a vast number of cords arranged vertically in frames. The effect was to deposit on the branches of the faggots, and the cords, the greater part of the calcareous salts which the water holds in solution, and to produce a highly concentrated solution of common salt, which was then evaporated with a comparatively trifling expenditure of fuel. When the deposit of stalactitic matter became excessive, the faggots were renewed, and the cords cleaned of their load by a few blows of a mallet.

The road crosses to the left bank of the Doron, some way above its confluence with the torrent from the Belleville glen, and mounts along that bank, in full view of the Vanoise ice fields, and the Grand Bec de Pralognan, to (3 m.)

**Brides les Bains** (570m., 1,870 ft.), now one of the most fashionable watering places in Europe. The mineral springs were only rediscovered after having long been buried, in 1818, by an inundation of the Doron which washed away the earth and rocks by which they were obstructed. The waters are alkaline, a modified form of those at Carlsbad, and efficacious in maladies of the stomach. Brides now possesses a large new *Etablissement Thermal*, and good hôtels, and is more and more frequented every year. It is prettily situated, and many pleasant excursions may be made from it, for which reference should be made to the detailed account in 'Joanne.' A moun-

taineer will prefer to escape to Pralognan, where the air is much fresher and keener.

¶ Brides stands at the opening of the pretty *Combe des Allues*, up which there is now a char road; it has been said that it terminates in impassable glaciers, an expression which, as has well been observed, merely means that no one had attempted to pass them; but this reproach has been removed for the last twenty years at least, as was shown in Rte. F. above. ¶

There is a char road along the right bank of the Doron to Bozel, but that which winds above the left bank is better shaded and more picturesque, the Doron being crossed just before entering (4 m.)

**Bozel** (877 m., 2,877 ft.) This is a large village at the S. foot of the *Mont Jovet* (accessible hence in 4 hrs. by a mule path), and opposite the rocky pyramid of the *Dent du Villard*, which rises between the Grande Val on the W. and the Doron on the E. The Grand Bec towers up finely towards the E. (Pedestrians may vary the way to Pralognan by ascending the Grande Val on the S., and crossing the passes N. or S. of the Petit Mont Blanc (see below), or may reach Saut, and so the Combe des Allues, by the Col de Chanrouge: see Rte. F.)

Soon after quitting Bozel the road up the Champagny valley (see Rte. L) mounts towards Champagny, while that to Pralognan descends towards the Doron and attains the village of *Villard* (2 m.), standing amidst beautiful scenery at the junction of the *Prémou*, flowing from the Champagny valley, with the Doron. Above the junction there is a steep rocky slope up which the carriage road climbs by several zigzags, through a fine pine forest, to a chapel on the summit of this steep ascent, the hamlet of *Planay* being a little way beyond (3 m. from Villard).

¶ The Doron itself descends on the right hand through a splendid gorge, in a succession of cascades, those of *Ballandaz*. It is quite worth while

for a pedestrian to follow the path through this gorge to the cascades, at the bottom of a deep gorge, a path leading up thence to Planay, which is reached in about  $\frac{3}{4}$  hr. from Villard by this striking route. For the forest path to Planay, in the Prémou glen, see Rte. L. ]

The scenery above this ascent completely changes its character. The Doron now flows through a nearly level valley, the lower slopes of which, covered with pine forests, are dominated by peaks of great boldness and variety of form. This is, however, only for a time, as after passing near the chapel of *N. D. des Neiges*, opposite the hamlet of *Villeneuve*, the road crosses to the left bank of the Doron, and mounts by zigzags amidst splendid forests through the *Montcharvet* gorge, the summit of this second step being marked by a large cross ( $2\frac{1}{2}$  m.) The road is thence carried at a level along that bank of the Doron, and some scattered houses are passed, as well as some bosses of rocks, rounded by the passage of ancient glaciers, till a sudden turn (1 m.) discloses the green basin of *Pralognan*, at the further end of which, across the Doron, at the hamlet of *Le Barioz*, are the inns, church, &c.

**Pralognan** (1,424 m., 4,672 ft.) is charmingly placed at the junction of the *Glrière* torrent, descending from the Col de la Vanoise (see next Rte.), with the *Doron*, descending nearly due N. from the Col de Chavière (see last Rte.) The basin is rather shut in, though very pretty, and the Grande Casse can only be seen by a stroll across the meadows to the S. On the S.E. rise the precipitous cliffs of the *Grand Marchet*, while at the head of the Doron valley is seen a fine snowy cone, the E. summit (3,430 m., 11,254 ft.) of the *Aiguille de Polset*.

Less picturesque than *Cogne*, and less Alpine in appearance than *Val d'Isère*, or *Bonneval*, its chief rivals in the Graians, Pralognan is admirably situated for the exploration of

the central mass of the Tarentaise Alps, or the **Vanois** group, the first accurate knowledge of which we owe to the careful explorations of Mr. W. Mathews. This group lies between the upper Doron valley on the W., that of Prémou on the N., that of Leisse on the E., and that of the Arc on the S. This great mass, about 13 miles in length, by 5 or 6 in breadth, presents on every side bold peaks, and faces of rock, while it everywhere rises above the limit of perpetual snow, save in the depression traversed by the mule path over the Col de la Vanoise (see next Rte.) from the Doron to the Leisse valley. N. of that depression rises the highest peak of the group, the *Grande Casse* (3,861 m., 12,668 ft.), connected by a jagged ridge with the graceful *Grande Motte* (3,663 m., 12,018 ft.) on the E., while on the W. the deeply-cut gap of the *Col de la Grande Casse* separates the monarch from a group of rocky needles, the best known of which is the *Pointe de la Glrière* (3,386 m., 11,109 ft.) But far more important, so far as size and extent are concerned, is the vast undulating glacier-plateau S. of the Col de la Vanoise, which is known generally as the *Glaciers de la Vanoise*. Its culminating point is the *Dent Parrachée* (3,712 m., 12,179 ft.), at its S. extremity, which is there balanced by the *Roche Chevrrière*, 3,282 m., 10,768 ft. (for both peaks, see last Rte.) Nearly in the centre is a huge snow-covered backbone, running N. and S., and rising to a height of 3,619 m. (11,874 ft.), in the *Dôme de l'Arpent*, though the lower *Dôme de Chasseforêt*, slightly to the N.E., is far better known. This great glacier mass sends down many arms on all sides, so that it is easily gained by many routes, while its projecting spurs appear, when seen from the valleys beneath them, to be conspicuous peaks.

Besides the gorges of *Ballandaz* (mentioned above), the chief excursions from Pralognan are to the



*Fraîche* waterfall, reached in 25 min. through the beautiful forest of *Creuset*, and strolls up towards the Col de la Vanoise (the Glière chalets or those of Mont Bochor are reached by pleasant walks), or the Col de Chavière. The finest among the lower view-points near Pralognan are the summits in the range on the W. of the village. The *Petit Mont Blanc* (2,685 m., 8,809 ft.) is accessible in  $3\frac{1}{2}$  hrs. either on mule back from the depression to its S., or by pedestrians from that on its N.; from the latter Col the higher *Rocher de Plassas* (2,865 m., 9,400 ft.) may be climbed in 4 hrs. from Pralognan. Farther to the N. in the same range are the *Dent Portettaz*, 2,634 m., 8,642 ft. (4 hrs.), and the *Rocher de Villeneuve* ( $2\frac{1}{2}$  hrs.) Those who wish to obtain a nearer view of the immense Vanoise ice-fields should go in 3 hrs. to the Col de la Vanoise, and thence, in  $2\frac{1}{2}$  hrs. more, without any difficulty, ascend the snow-clad *Pointe de la Rechasse* (3,223 m., 10,575 ft.), at their N. end: even finer is the view from the rather higher and more distant *Pointe du Dard* (3,266 m., 10,716 ft.) But incomparably the best point whence to study these great ice-fields, as well as a most extensive and magnificent Alpine panorama, is the *Dôme de Chasseforêt* (3,597 m., 11,802 ft.), which rises in their midst. It is best attained through the *Nants* glen, opening into the Doron valley at the *Prioux* chalets, 1 hr. from Pralognan on the Col de Chavière track; there is a rebuilt Club hut  $\frac{3}{4}$  hr. above the Nants chalets, but it is not really necessary, as the edge of the ice can be gained in  $4\frac{1}{2}$  hrs. from Pralognan, and thence it is only  $1\frac{1}{2}$  hr. or less over easy snow fields to the Dôme, which in many respects, minus, however, the precipice on the Italian side, resembles the Cima di Jazzi, near Zermatt. It is easy to descend in 2-3 hrs. by the great glacier to the Col de la Vanoise path past the Dard and the Rechasse, or to Entre Deux

Eaux by the Pelvoz glacier, or to Termignon by that of Arpont.

The climber may be tempted by the rocky needle of the *Pointe de la Glière*, 3,386 m., 11,109 ft. ( $5\frac{1}{2}$  hrs. by way of the Col de la Vanoise track), or by the *Grand Bec de Pralognan* (3,420 m., 11,221 ft.), the ascent of which is hard from this side, being effected by a rocky rib running down towards the *Pointe de la Vuzelle*, though it is perfectly simple and easily made in  $4\frac{1}{2}$  hrs. from the hamlet of Le Bois, in the Prémou glen. The snowy *E. point of the Polset* (3,430 m., 11,254 ft.) is  $6\frac{1}{2}$  hrs. distant from Pralognan, and is best taken on the way to Modane (see Rte. F). But no active mountaineer who visits Pralognan will be satisfied with his sojourn unless he has made the ascent of the monarch of the group, the *Grande Casse* (3,861 m., 12,668 ft.), first conquered by Mr. W. Mathews in 1860. The route then taken from the Col de la Vanoise (3 hrs. distant) is still the best and shortest, but a good walker need not make use of the Vanoise Club hut, a few minutes W. of the Col. The foot of the glacier flowing down from between the two summits in a S.W. direction is gained without trouble, and is mounted till the base of the great wall, which is simply the upper portion of the glacier, is attained. It is generally necessary to cut many steps up this, but by taking to the rocks on the left hand this labour may be avoided. Above, it is easy to bear right to the lower summit (3,806 m., 12,487 ft.), the higher lying to the left, and being approached by a narrow ridge, which is sometimes troublesome when loaded with snow. The summit is a snowy point, and may be reached in 4-5 hrs. from the Col under ordinary circumstances. The magnificent view takes in everything between Monte Rosa and the great Dauphiné peaks. It is a pleasant expedition to climb the peak on the way over the Col from Pralognan to Entre Deux Eaux. The Grande Casse has also been attained from the

Col of that name on its N.W. in 4 hrs. by rotten rocks, and a very steep ice and snow slope, as well as from the S.E., the latter route being only possible when there is no snow on the rocks, while it is much exposed throughout to falling stones.

A glance at the map will show that between Pralognan and the head of the Isère valley there are the Leisse and Prémou glens, so that a traveller bound from Pralognan to Tignes or Val d'Isère must cross two passes, the day being rather a long and laborious one—either the Cols de la Grande Casse and du Palet, or the Cols de la Vanoise and de la Leisse. By far the best route for a mountaineer who can spare two days is to climb the Grande Casse on the way over the Col de la Vanoise to Entre Deux Eaux, and next day to take the Grande Motte on his way over the Col de la Leisse (Rte. K) to Tignes or Val d'Isère.

## ROUTE I.

### PRALOGNAN TO TERMIGNON BY THE COL DE LA VANOISE.

This is a very interesting route, leading through the centre of the Tarentaise Alps, while there is a good mule path (becoming, indeed, a char road at its further end) all the way (8 hrs.) In fine weather a guide is not needed, though near the summit of the pass the path is not clearly marked.

The mule path begins to climb by zigzags at once after quitting Pralognan, and passes through a noble forest before crossing to the left bank of the torrent in order to gain the *Glrière* chalets (1¼ hr.) The rare *Dracocephalum Ruyschiana* has been found on the way up from Pralognan. Above the chalets the scenery becomes wilder and more imposing, and the steep *Aiguille de*

*la Vanoise* (2,812 m., 9,226 ft.) is seen in the direction of the pass. The regular track, marked by poles, traverses a marshy plain, on the N. side of the Aiguille, and then skirts along the *Lac Long* before gaining the summit of the pass, 2,527 m., 8,291 ft. (3 hrs. from Pralognan.) But it is also possible to pass on its S. side, and this is the shortest way (2½ hrs.) from Pralognan to the *Vanoise Club hut* (2,486 m., 8,157 ft.—a small *Cantine* was opened here in 1897), ¼ hr. S.W. of the main track.

☐ Hence the *Col de la Grande Casse* (3,100 m., 10,171 ft.), a deep cleft at the N.W. foot of the Grande Casse, can be reached in 2½ hrs. by the easy Grande Casse glacier; if coming from Pralognan it is not necessary to go quite to the top of the Col de la Vanoise. The descent on the other side over the *Lépéna* glacier is exposed to avalanches from the Grande Casse, so that it is best to keep well out into the glacier, itself merely a narrow shelf. The *Rosolin* glacier is then descended, the ice being cleared on its left bank in about 1 hr. from the Col. Thence it is 2½–3 hrs. down to Le Bois, in the Prémou valley, or 2½ hrs. to the Col du Palet, if bound to Tignes.☐

The way from the Col de la Vanoise to Entre Deux Eaux lies for a long distance in a S.E. direction along a broad level trench which seems to have been cut through the steep and rugged peaks on either side. Several small tarns are passed on this plateau, the passage of which in bad weather is much feared by the natives, on account of the furious blasts (hence called 'la Vanoise') which sweep it when the wind sets from the N.W. In about 1 hr. from the Col the path, which is throughout marked by poles, reaches the verge of a steep descent, overlooking the junction of the stream from the Col with the *Leisse*.

☐ Here, or better some way before, a party bound direct for the Col de la Leisse should leave the path in order

to traverse by great stony slopes round the foot of the Grande Casse to the Leisse glen, gained near a green hillock in about 1 hr. ]

The path winds steeply down in a series of stony zigzags, keeping on the right bank of the torrent, which falls over the rocks in cascades. It takes  $\frac{1}{2}$  hr. to reach the bridge over the Leisse, and a little way beyond are the chalets of **Entre Deux Eaux**, 2,161 m., 7,090 ft. ( $1\frac{3}{4}$  hr. from the Col.) Rather above the chalets on the path is a little mountain inn, sometimes closed, but when open affording very convenient night quarters.

[For the routes hence to Tignes, Val d'Isère, Bessans, and Bonneval, through the Leisse and Rocheure valleys, and for the ascent of the peaks therein, see next Rte. ]

From **Entre Deux Eaux** the *Leisse* torrent pursues a nearly straight course to Termignon, where it falls into the Arc, and the natural direction of the path would be along either bank of the stream. It is possible to make a way along the pastures above the precipices which wall in that stream on the W., but this is a great détour, while the stream itself flows through a narrow, and practically impassable, defile. Hence the track from **Entre Deux Eaux**, after crossing the torrent from the Rocheure valley, mounts by some zigzags to a remarkable plateau (1 hr.) This trough-like depression is parallel to the Leisse gorge, from which it is separated by a rocky ridge, and though less elevated than that on the Col de la Vanoise is nearly as long. It is along this plateau that the mule path is carried. To the left on a rock is the chapel of *St. Bartholomew*, beyond which the plateau (called the *Plan du Lac*, from several tarns) continues, at first nearly level, then descending slightly, till at its S. end a steep descent leads down the bare mountain-side to the chalets of *Chavières*.

[A steep foot path winds hence round the steep mountain-side in a

S.E. direction, and descends direct to Lanslebourg; but, though shorter in point of distance, there is said to be no saving in time. ]

The scenery during the descent from *Chavières* to Termignon is very singular and striking. Immediately below the chalets the gorge of *Combarcnel* descends very steeply. The path is carried down above the right side of this gorge, in long zigzags through a forest of fir and pine, dimly lighted, even at midday, amid the rocks that enclose it. A peculiarity of the rock in this neighbourhood is to form vertical columns or obelisks, which stand out abruptly from the mountain slope. Several of these are seen near *Chavières*, but the most remarkable (called *Rocs du Pelvaux*) are close to the road on the descent through the forest. Throughout the descent the rocks which rise on either side of the gorge present bold and fantastic forms, and a fine background gradually opens as the path approaches the level of the Leisse, reached after passing the hamlet of *Villard* (here begins the char road), and descending a final stony slope. The great gorge through which that stream descends from **Entre Deux Eaux** here comes well into view, while on the opposite side of the valley another torrent, the *Grand Puy*, issuing from the *Combe d'Enfer*, forms a remarkable series of cascades. A short walk along the nearly level valley (a short cut on the left leads to the high road above the village) brings the traveller to the large village of *Termignon* ( $3\frac{1}{4}$  hrs. from **Entre Deux Eaux**). Termignon is on the Mont Cenis road, 5 m. below Lanslebourg (§ 7. Rte. B).



## ROUTE K.

ENTRE DEUX EAUX TO TIGNES, VAL  
D'ISÈRE, BESSANS, OR BONNEVAL.

The chalets of **Entre Deux Eaux**, mentioned in the last Rte., stand at the W. foot of a considerable mountain ridge, which rises at its E. end in its highest point, the *Pointe de la Sana* (3,450 m., 11,319 ft.), just on the watershed between the Arc and the Isère. This ridge separates the upper valley of the *Leisse*, on the N., from the valley of *Rocheure*, on the S., the latter being the most important affluent of the former. Through the former valley the *Col de la Leisse* leads in 6 hrs. to Tignes, and it is easy from the pass to gain Val d'Isère by bearing to the E. The *Rocheure* valley gives access to the *Col de la Rocheure*, or *Quecés de Tignes*, by which Val d'Isère is gained in 6 hrs. from *Entre Deux Eaux*, while by bearing to the E. from the head of the glen it is easy to reach Bessans or Bonneval.

1. *By the Col de la Leisse*.—After retracing his steps along the path to the *Col de la Vanoise* from *Entre Deux Eaux* to the bridge over the *Leisse*, the traveller turns N.E. along the left bank of that stream, and enters the *Vallon de la Leisse*, one of the wildest in the Alps. The ground is rough, but there is no other difficulty in advancing. Along the floor of the valley itself, and the slopes on the N. side, little is seen but the traces of ruin and desolation—everywhere broken fragments, from the size of fine gravel to that of huge blocks; and even the snow which lies in hollows, and in several places bridges over the stream, is soon discoloured by the new rubbish that is constantly discharged from the heights above. Although everything looks bare and inanimate there is more vegetation, especially on the S. slope, than might at first sight be expected, and the botanist

may detect several scarce plants growing in the midst of the débris, amongst which *Alopecurus Gerardi* is abundant. One object alone presents an agreeable contrast to the dreary aspect of the glen. This is the peak of the **Grande Motte** (3,663 m., 12,018 ft.), which rises in a beautiful snow pyramid S.W. of the Col.

[This summit, which is very easy of access, and commands a superb view, was first reached in 1864 by Messrs. Blanford, Cuthbert, and Rowsell. If coming from *Entre Deux Eaux* it is not necessary to go to the top of the Col, as it is easy to reach the glacier on the W. direct by a wall of rocks. 2½ hrs. are required for the ascent from near the Col, whether by the E. or N. ridge at the end, and there is a direct descent to the N. by the *Grande Motte* glacier to the *Lac de Tignes*. If the snow is likely to be in a bad state, it is best to mount from the *Leisse* valley due N. by the easy, though rather steep, rocks of the S. buttress to a great cairn on the S.W. summit (3,560 m., 11,680 ft.), whence 20 min. up easy snow slopes lead to the top in about 3-4 hrs. from the level of the glen.

Near the head of the valley, and before reaching the pass, there is no difficulty in crossing the ridge S. of the *Rochers de Gènepey* (3,157 m., 10,358 ft.), easily reached hence, to the *Charvet* glen, and so descending to Val d'Isère in 2 hrs. But a pleasanter way of gaining that village (2 hrs.) is to cross from the other side of the *Col de la Leisse* by the *Col de Fresse* (2,589 m., 8,494 ft.), and pass over the splendid *Thouvière* pastures.]

A final steepish ascent from the lower valley over stones leads to the *Col de la Leisse* (2,780 m., 9,121 ft.), 3½ hrs. from *Entre Deux Eaux*, marked by a pole (some travellers have found an iron cross fixed to the summit of a boss of rock).

A short descent leads down to a little plateau, whence the traveller, leaving on the right the way to the *Col de Fresse*, must take care to keep to

the right of the mound called *Petite Balme*, high up the slopes above the right bank of the E. arm of the *Paquier* stream, descending from the Col, as the direct way along the W. arm leads to a vertical precipice, over which the torrent leaps in a fine waterfall. A bad stony path brings the traveller to the green meadows at the S. end of the beautiful *Lake of Tignes*. A track along either shore to its N. end is succeeded by a rough, stony mule path, by which Tignes is reached in  $2\frac{1}{2}$  hrs. or less from the Col.

2. *By the Col de la Rocheure*.—From *Entre Deux Eaux* the mule path winds round the hill-side towards the E., in order to enter the rich pasture valley of *Rocheure*, and passes (gradually becoming a foot path) the chapel of *St. Jacques* and the *Fontaine Gaillardé*, some way above which the ascent becomes steeper. The Col itself (2,940 m., 9,646 ft.) is a débris-covered ridge slightly to the N.E., and is attained in  $3\frac{1}{2}$  hrs. from *Entre Deux Eaux*. It is often traversed by the country people, as it is easier than the Col de la Leisse, but is scarcely known to travellers as yet.

¶ Before reaching the pass a party wishing to make the ascent of the *Pointe de la Sana* (3,450 m., 11,319 ft.), on the W., should bear up to the glacier on its S.E., whence the summit is easily gained by the E. ridge in  $4\frac{1}{2}$  hrs. from *Entre Deux Eaux*; probably  $1\frac{1}{2}$  hr. extra would suffice for this détour for a party crossing the pass. There is, perhaps, no more advantageous point whence to study the whole of the Western Graians, and much else besides.

A party bound from the head of the *Rocheure* glen from Bessans or Bonneval has a choice between various routes. By keeping S.E. during the last ascent to the Col, it is easy to cross the *Col du Pisset*, S.E. of the *Pointe du Pisset*, whence a traverse across the *Fours* glacier leads to the *Col des Roches*, and so to Bonne-

val direct in little over 3 hrs. More to the S. the *Col de Méan Martin*, N., and the *Col de la Roche Blanche*, S. of the *Aiguille de Méan Martin* (3,288 m., 10,788 ft.), lead over without difficulty to the head of 'Le Vallon,' where these routes are joined by the way over the *Col de Véfrette*, connecting the *Véfrette* with the *Méan Martin* glacier, either Bessans or Bonneval being reached in under 4 hrs. by any of these routes. From the two former passes the *Aiguille de Méan Martin* is accessible in  $\frac{1}{2}$  hr., or less, while from the *Col de Véfrette* the highest and westernmost of the three *Pointes du Châtelard* (3,503 m., 11,493 ft.) is attained in  $1\frac{1}{2}$  hr. by passing over the two lower summits, from the central one of which Bessans is well seen. ]

A short glacier on the N. side of the pass is crossed, and then it is best not to follow the path along the left bank of the *Charvet* torrent marked on the French map, but to bear by a path high up to the right, only crossing the stream lower down near its junction with a western tributary. A gentle descent by a good mule path then leads down the *Calabourdane* glen, passing opposite *Le Manchet*, and so enables the traveller to reach *Val d'Isère* in  $2\frac{1}{2}$  hrs. or less from the Col.

#### ROUTE L.

TIGNES TO MOÛTIERS OR BOURG ST. MAURICE BY THE COL DU PALET. ASCENT OF THE MONT POURRI.

In its downward course from Tignes to Moûtiers the Isère makes a long détour to the N., flowing round the N. base of the great ridge, of which the highest summit is the *Mont Pourri*. A more direct course from Tignes to the Isère valley between Moûtiers and Bourg St.

Maurice lies over the *Col du Palet*, a comparatively low and easy pass, whence the descent may be made either W. through the Val de Prémou to Champagny and Moûtiers, or N.N.W. to the Isère valley between Bourg St. Maurice and Aime.

A brawling stream descending N.E. to Tignes flows from the *Lac de Tignes* (2,088 m., 6,851 ft.), a rather large Alpine lake (excellent trout), about 1 m. in circumference, lying in a mountain hollow in a very beautiful position, at the foot of the Grande Motte, which, like the *Sassièr* opposite, is mirrored in its calm waters. The chalets near its N. end may be reached by a rather stony mule path in about  $1\frac{1}{4}$  hr. from Tignes. The path to the *Col du Palet* (2,658 m., 8,721 ft.) mounts first S., then due W., from the lake, and leads without difficulty up stony grass slopes in about  $1\frac{1}{4}$  hr. to the top.

[S. of a grand pyramid of rock rising S. of the Col Mr. Nichols in 1865 crossed a small glacier, and made a new and direct pass, the *Col de Plantrin*, to the Prémou glen.]

The Col du Palet leads to a small undulating plateau, which descends on the one hand S.W. to the Val de Prémou, and on the other N.W. to the Val Peisey, so that when clouds lie low it is not easy to preserve the right direction.

1. To reach **Moûtiers** it is necessary to bear S.W., high above the little *Lac de Grâtel*, and to ascend for a few minutes to the *Croix des Frêtes* (2,726 m., 8,944 ft.), which is the culminating point of the pass to the Prémou glen. Gently inclined and stony grass slopes on the N. side of that glen are succeeded by some mountain tarns and steeper grass slopes, beyond which the considerable *Lac de la Plagne* is seen below, near the chalets of that name.

[To the S.E. is the route to the Col de la Grande Casse, Rte. I.]

Further on the path descends by steep zigzags, and at the hamlet of

*Laisonnay* (where falls in the track from the *Col du Plan Séry*, leading over in  $3\frac{1}{2}$  hrs. from the Plagne lake, in the Peisey glen) crosses to the left bank, but recrosses before reaching the village of **Le Bois** or **Champagny-le-Haut** ( $2\frac{1}{2}$  hrs. from the Col). On the way down, as well as from this village, very fine views of the Grande Casse and of the Grande Motte are gained.

[To the S. of this village rises the *Grand Bec de Pralognan* (3,420 m., 11,221 ft.), which may be attained thence in  $4\frac{1}{2}$  hrs. without any difficulty by way of the *Becca Motta* glacier. To the N. is the *Sommet de Bellecôte* (3,421 m., 11,224 ft.), which commands an even finer view; it may be climbed in  $4\frac{1}{2}$ –5 hrs. by way of the path towards the *Col de Frette* (2,504 m., 8,216 ft.)—5 hrs. by many zigzags on both sides to the village of Peisey—and the *Thiaupe* glacier. Direct but steep and wearisome descents may be effected to the N. and to the E.]

From Le Bois a char road, becoming more and more picturesque, leads down in  $\frac{3}{4}$  hr. ( $3\frac{1}{2}$  m.) through a gorge to the considerable village of *Champagny-le-Bas*, built on a terrace above the confluence of the Prémou torrent with the Doron. It lies in the midst of very agreeable scenery, while the women here have preserved the national costume better than in most parts of the Tarentaise. [Hence there is a mule track over to Mâcot, Rte. A.]

[On the way the hamlet of *Planay* is passed, whence a delightful walk through the magnificent *Forêt Noire* round the W. base of the Grand Bec leads the traveller to the high road to Pralognan, just above the great zigzags;  $3\frac{1}{2}$  hrs. suffice from Le Bois to Pralognan by this charming route.]

$\frac{3}{4}$  hr. (3 m.) beyond Champagny by a steep road is the large village of *Bozel* (on the way from Moûtiers to Pralognan), and thence 8 m. more along the high road described in Rte. H bring the traveller to Moûtiers.



2. If bound for the **Val de Peisey** the traveller commences the descent at once from the Col du Palet, turning due N., and passing along the W. shore of the *Lac de Grately*. In rather more than 1 hr. he reaches the chalets of *Plagne*, N. of the pretty lake of that name.

[On the way the Palet track is joined by that from the *Col de la Tourne* (2,460 m., 8,071 ft.), which having mounted N.W. from the Lac de Tignes descends to *Plagne* ( $3\frac{1}{2}$  hrs. from Tignes) through a striking and very narrow corridor or gorge, which expands into a great hollow shut in by a series of bold rock needles of a reddish hue. At the Plagne huts falls in the way from Tignes past the Boisses or Marais chalets over the *Col de la Sachette* (2,729 m., 8,954 ft.) —4 hrs. from Tignes to the Plagne huts.  $\frac{1}{2}$  hr. below them, at the edge of a steep descent, it is possible to climb up to the N. towards a fine waterfall, and then to traverse many stony slopes to the *Sevolière* chalets,  $1\frac{1}{2}$  hr., and thence in  $\frac{3}{4}$  hr. to cross a grassy shoulder to those of *Entre Deux Nants*, both mentioned below in connection with the Mont Pourri.]

The head of the Val de Peisey is wild and solitary, enclosed between the lofty range of the Mont Pourri on the N., and that on the S., of which the highest summit is the glacier-clad *Sommet de Bellecôte* (see under 1). Fine views are gained of the Grande Motte, and of the Mont Pourri high up on the right, above precipices seamed by many pretty waterfalls. About 1 hr. further ( $2\frac{1}{2}$  hrs. from the Col) the traveller reaches the now abandoned buildings connected with the *mines of Peisey*, which, as at the neighbouring mines of *Mâcot*, contain an argentiferous sulphide of lead. They are beautifully situated in a fertile basin. The mule track descends along the right bank to *Le Moulin* (opposite the glen leading up to the Col de Frette: see under 1), where a char road commences. A few minutes beyond ( $\frac{1}{2}$  hr. from the

mines) is the village of *Peisey*, above the stream, and in less than 1 hr. more (4 m.) the traveller reaches the village of *Landry*. A road leads across the Isère to the high road, about half-way between Aime and Bourg St. Maurice, but there is a shorter one along the left bank of the Isère, by which Bourg St. Maurice is gained in  $1\frac{1}{2}$  hr. (5 m.) from Landry.

*Ascent of the Mont Pourri.*—The *Mont Pourri* (3,788 m., 12,428 ft.), formerly called the *Chaffe Quarre* and the *Mont Thuria*, is the noble peak which is so conspicuous from the W. side of the Little St. Bernard, from the Col du Bonhomme, and throughout a considerable portion of the upper valley of the Isère. Rising boldly, as it does, to a height of 9,000 to 10,000 ft. above the Isère, there are few peaks in the Alps which present a more imposing aspect. It is formed of a ridge, 8 to 10 m. long, and rising between the Isère and the Val de Peisey, which drain its E. and W. flanks respectively. It consists of a central and highest peak, flanked on the N. by the summit now known as the *Mont Thuria* (3,615 m., 11,861 ft.), and on the S. by the *Dôme de la Sache* (3,611 m., 11,848 ft.) The latter summit was reached in 1861 by Messrs. W. Mathews and Jacob, but the highest peak rises about 2 m. to the N.N.W., and the ridge between the two was not traversed till 1880 by M. Rochat. (For this route see Rte. B. under Tignes, and for the history of the Pourri generally consult M. Paillon's monograph in vol. i. of the 'Revue Alpine.') At the suggestion of Mr. Mathews, one of his guides, Michel Croz, of Chamonix, attempted the ascent, and on Oct. 4, 1861, succeeded in making the first ascent of the peak, quite alone. In 1862 Messrs. Mathews and Bonney effected the second ascent by the same route. The party started from the chalets of *Entre Deux Nants* ( $2\frac{1}{2}$  hrs. above the village of Peisey), and in 2 hrs.

40 min. gained the *Col du Pourri* (2,937 m., 9,636 ft.), leading into the Thuria glen, opposite La Thuille de Ste. Foy. They then passed along the N.E. side of the ridge extending from the Col towards the Mont Thuria, keeping high up over snow slopes on the upper shelf of the *Thuria* glacier, and having climbed a steep snow wall regained the same ridge at a much higher point, just at the N.W. foot of Mont Thuria, there being here two neighbouring depressions, the *Col des Roches* and the *Col de Thuria*. Here they overlooked the immense snowy amphitheatre formed by the *Roches* glacier, above the S.E. corner of which rises the highest summit of the mountain, a great rocky spur being thrown out towards the S.W. on the S. side of that glacier. Descending to this amphitheatre the party circled round its head, climbed by steep snow slopes to the crest of the upper part of this great S.W. spur, and so attained the culminating point of the Pourri. From the Col du Pourri 3 hrs. 40 min. had been employed. It was ascertained that it is the second highest peak in the Western Graians, and the magnificent view of the Western Alps was carefully studied.

[Returning to the Col du Pourri, Mr. Mathews, with J. B. Croz, scrambled down a steep ravine by the side of a series of glacier séracs, and bearing well to the left descended over the *Thuria* alp to the village of *Villaroger*, opposite Ste. Foy. Mr. Bonney, with M. Croz, descended from the Col to the N. by the *Pisse-veille* glen, avoiding a range of steep precipices by taking a path to the left which wound down the steep face of the great buttress of the Pourri above Bourg St. Maurice, thus gaining that town direct.]

This route up the Pourri is rather intricate, as the same ridge is crossed twice (avoid descending from the Col du Pourri to the lower part of the Thuria glacier below the séracs), but is not otherwise difficult.

A useful variation of this route was made by Mr. Coolidge in 1878, and this is really the quickest and best way of reaching the summit of the Pourri. Having gained the summit by the 1862 route in 4 hrs. 50 min. walking from *Entre Deux Nants*, Mr. Coolidge's party on its return, when half-way across the great snowy amphitheatre of the *Roches* glacier, struck to the S.W. down that glacier, which was perfectly easy, quitted it on its right bank, near the figures 2,600 m. on the French map ( $\frac{3}{4}$  hr. only from the summit), passed above the *Sevolièrè* chalets (20 min.), and in  $\frac{3}{4}$  hr. more regained *Entre Deux Nants* by a grassy depression to the N.E. of *Les Lanchettes*, having thus taken but 1 hr. 50 m. walking from the top to their night quarters. In 1868 Mr. Horace Walker from the Col de Thuria rounded the base of the Mont Thuria (first ascended in 1874 by Miss Brevoort and Mr. Coolidge by way of its N.E. spur), and then worked along the E. slope of the ridge (many rocky teeth, traversed in 1874 by Mr. Coolidge) between the Mont Thuria and the Pourri, gaining the latter summit in about 2 hrs. from the Col de Thuria.

Yet a fourth main route up the Pourri mounts from the *Plagne* chalets at the head of the *Val de Peisey* (6 hrs. to the summit) by the S.E. face, and crest of the great S.W. spur, the 1862 route being joined near the summit. For the two northern routes (1862 and 1868, with the variation of 1878) the best night quarters is now the *Club hut* (2,650 m., 8,695 ft.), 4 hrs. above *Peisey*, and a short distance below the Col du Pourri on its W. slope. Hence three other interesting ascents may be made. The *Aiguille du St. Esprit*, 3,393 m., 11,132 ft. (at the junction of the two ridges enclosing the *Roches* glacier on the N.W. and S.E.), can be reached in 2 hrs. from the Col du Pourri by way of the W. slope of the ridge (shifting *débris*) between the Col and the peak. The *Aiguille*

*Rouge*, 3,237 m., 10,621 ft. (whence there is a wonderful view of the Pourri), N. of that Col, can be reached by the débris and rocks of its W. slope in about 2 hrs. from the Club hut, but much easier is the ascent of the *Aiguille Grive* (2,735 m., 8,973 ft.), accessible in under 1 hr. A pleasant route from Bourg St. Maurice to the Club hut (4¼ hrs.) is past the chalets of *Têtes* and *Arc* (probably identical with Mr. Bonney's descent in 1862), it being also possible to join this route (not far from the former chalets) by mounting a zigzag path (faintly marked and stony) which starts opposite Montvalezansur-Sézez, and leads up through a magnificent forest.

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### SECTION 13.

#### LEVANNA DISTRICT. (CENTRAL GRAIANS. I.)

THIS district includes the S. bit of the **Central Graians**, extending from the Mont Cenis Pass to the Col du Carro. In other words, it takes in the peak of the Rochemelon, and the ridge bounding the Maurienne or valley of the Arc on the S.E., as well as a very considerable mass of peaks and ridges on the Italian, or E., side of the main chain. Indeed, this last-named mass forms the greater part of the region described in this Section, and is known as the **Valleys of Lanzo**. N.W. of Turin is the little town of *Lanzo*, on the Stura di Lanzo, which is formed by the union of three torrents flowing eastwards from the main Graian chain through three valleys, those of *Viu*, *Ala*, and the *Val Grande*. The Valleys of Lanzo are enclosed by four considerable ridges, two of which divide these glens from each other, while a third rises between the *Viu* glen and that of the Dora Riparia, the fourth similarly forming the boundary be-

tween the Val Grande and the Orco valley. Each of the three valleys communicates with the upper valley of the Arc by high snow or glacier passes, rarely used by the natives, and still more rarely by foreigners, although to practised mountaineers they offer no difficulties. A fair amount of information as to the ridges enclosing these valleys, and a great deal about the valleys themselves, may be found in a quaint work entitled 'Lettres sur les Vallées de Lanzo,' by Louis Francesetti, Count of Mezenile (Turin, 1823), but the more recent work of Signor L. Clavarino, 'Le Valli di Lanzo' (Turin, 1874), contains many details useful to climbers. Both books have, however, been now superseded by vol. ii. Part I of Signori Martelli and Vaccarone's 'Guida delle Alpi Occidentali' (Turin, 1889), while those who desire to make a minute study of the valleys should not omit to consult Signor Vaccarone's two classical papers on the ridges at the head of the Val Grande, published in the 'Bollettino' of the Italian Alpine Club for 1885 and 1887, and those by Signor Cibrario on the region between the Rochemelon and the Charbonel, and on the Bessanese, in the same periodical for 1893 and 1894. Joanne, and particularly M. Ferrand's book, mentioned in the Introduction to this Chapter, will also be found very useful. Bonneval and Bessans on the French side, Balme, Ceresole, and the Club huts of the Italian Alpine Club, on the Italian side, are the best headquarters for mountaineers.

It was long thought in former days that the Rochemelon was the highest summit in the Alps, and hence naturally of this portion of the great chain. But its 3,537 m. (11,605 ft.) is surpassed by quite a number of other summits. The loftiest of all is the **Pointe de Charbonel** (3,760 m., 12,336 ft.), above Bessans, and wholly in France, next to which come the *Uja di Ciamarella*, 3,676 m.,



12,061 ft. (wholly in Italy), the *Albaron*, 3,662 m., 12,015 ft. (wholly in France), the Central and highest point of the three-peaked *Levanna* (3,640 m., 11,943 ft.), and the *Bessanese* (3,632 m., 11,917 ft.) Several other mountains also exceed the Rochemelon in height; but that summit, with the Albaron, the W. (and lowest) summit of the Levanna, and the Grande Aiguille Rousse, are the belvédères of the region, and easily accessible even by those who have no great experience of climbing. It may be pointed out as a curiosity that the three highest summits of the district crown spurs projecting from the main ridge, the Central peak of the *Levanna* being the loftiest point actually on the crest of the main chain, so that, as it is also the best known to students of Alpine literature, it may fitly give its name to the Section wherein it is described.

#### ROUTE A.

BESSANS TO THE VIÙ VALLEY OR THE MONT CENIS BY THE RIBON GLEN. ASCENT OF THE ROCHE-MELON.

The village of Bessans, in the upper Arc valley, stands at the N.W. foot of the *Pointe de Charbonel*, the loftiest summit of the group to be described in this Section. From that peak a long crest runs S.E. to the frontier ridge, and this crest separates the two glens of *Ribon*, and of *Avérole*, which join the Arc valley not far from Bessans. These two glens form the subject of this and the succeeding Route. Each leads into the Viù valley, the most southerly of the three Valleys of Lanzo, while the former also gives access to the plateau of the Mont Cenis, and the latter also communicates directly with the Valley of Ala.

The *Ribon* glen is closed at its head by the great mass of the *Rochemelon*, the most celebrated of the historical peaks of the Alps, and it is necessary to cross this mass, near the summit, in order to reach the Viù valley. At first sight this seems an enterprise reserved only for active climbers, but the pilgrims' tracks from both the Ribon and Viù glens permit even inexperienced climbers to reach this summit, whence it is possible to descend by a good track to Susa direct, or by a rough foot track to the plateau of the Mont Cenis. In this Rte., therefore, we have mainly to deal with the *Rochemelon* (3,537 m., 11,605 ft.), the most southerly of the great peaks in the Graian range.

A good path mounts from Bessans past a chapel and around a shoulder to the level of the Ribon glen, reached on the right bank of the stream, which is henceforth followed through a treeless and desolate pasture valley, relieved only by the sight of the Rochemelon glacier descending steeply at its further end. Many groups of chalets are passed, the first being those of *Pierre Grosse* ( $1\frac{1}{4}$  hr. from Bessans).

⌈ Steep but easy broken rocks lead up hence on the S. in  $3\frac{1}{2}$  hrs. to the *Pas du Chapeau* (3,230 m., 10,598 ft.), whence  $1\frac{1}{2}$  hr. or less suffices to gain the Mont Cenis Hospice. From the pass it is a stroll of about  $\frac{1}{2}$  hr. in a S. direction to the *Mont Lamet* (3,478 m., 11,411 ft.), or the rather higher *Roche Michel* (3,492 m., 11,457 ft.), ascended by Saussure as far back as 1787, eight weeks after his famous ascent of Mont Blanc. But an even finer view is gained from the *Pointe de Ronce* (3,618 m., 11,871 ft.), to the N.W., easily reached by the ridge in  $1\frac{1}{2}$  hr. from the Col, and commanding a most superb view. Easy snow fields lead from it down direct either to the Mont Cenis plateau or to Lanslebourg. The return to Bessans may be varied by pushing on in  $1\frac{3}{4}$  hr. to the *Pointe de Solliette*

(3,046 m., 9,994 ft.), which overhangs the plain of Bessans, gained thence by a steep, rocky descent in 3 hrs. to the N. of a hanging glacier, and past the Pierre Grosse huts.]

In about  $1\frac{1}{2}$  hr. more the foot of the icefall of the Rochemelon glacier is reached. Here the traveller naturally wonders how this is to be climbed by pilgrims. Practised mountaineers may clamber up a steep gully on the right bank to the edge of the upper level snow-field. But the pilgrims' route (ill-marked, except soon after the annual journey, when it was traced with ease by the present writer—W. A. B. C.—on Sept. 7, 1889) winds away by a path far to the left over the rocks, returning higher up to the right, and so enabling them to reach the right edge of the upper level snow-field above the ice-fall in  $1\frac{1}{2}$  hr. or less from the Ribon glen. A trudge up and over this extensive snow-field (laborious only when the snow is soft) brings the traveller to the summit of the final pyramid of the *Rochemelon* (3,537 m., 11,605 ft.) in  $1\frac{3}{4}$  hr. more, or 6 hrs. from Bessans.

Besides the great cairn on the top there are also near by the ancient wooden chapel, full of ex-votos, &c., marble tablets recording the ascents in 1659, and later, of some princes of the House of Savoy, and a bronze bust of Victor Emmanuel II., which has lately replaced one in terra cotta.

There are few points in the range of the Alps, save the Monte Viso, the Ciamarella, and the Tour du Grand St. Pierre, so well placed as this to command a view of the undulating plateau between the Alps and the Appennines, scored by the channels of many rapid rivers, that makes up the territory of Piedmont, as well as of the countless peaks that close it in on the W. and the N. But though the panorama is very fine it is often concealed by clouds, which frequently gather early in the day round the summit of this advanced bastion of the Alps.

It is probably due to the remark-

able history of the Rochemelon that the actual summit is now wholly in Italy, the frontier line passing N. of it across the great snow-field. As far back as the twelfth century there were legends of a great treasure hidden on this mountain by an ancient king, from whom it was called 'Arx Romulea.' But no one was for long able to reach the summit, as storms drove back several parties, raised, it was alleged, by the spirit of the mountain. Yet a certain Bonifacius Rotarius of Asti, having, according to tradition, escaped out of the hands of the Mussulmen in the Holy Land, in consequence of a vow that in such case he would build a chapel on the highest summit of the Alps, carried out this vow by ascending the peak on Sept. 1, 1358, this being, as far as is known, the very first time that any snowy peak of the Alps was ever climbed. It is said that the original chapel was hewn out of the rock, in a spot now covered by névé, and the existence of a recess artificially hollowed out in the rock was proved in the hot summer of 1820, when the entrance was uncovered by the melting of the snow, and the supposed chapel entered by M. Francesetti. Rotarius' bronze triptych, representing the Blessed Virgin and Child, with St. George mounted, on one side, and on the other St. James, presenting a kneeling warrior, supposed to be Rotarius, is now preserved in the cathedral at Susa, but is carried to the summit annually, when mass is said in the chapel on August 5, the festival of N. D. de la Neige. Many pilgrims flock thither on that occasion from all sides, bivouacking out on the mountain, so as to reach the summit early, and it is said that disputes are not unfrequent between the rival Savoyard and Piedmontese men, who meet here.

It should be added that the history of Asti about that time makes it more probable that the triptych was carried up the Rochemelon in connection with some local troubles,

rather than the fulfilment of a vow made on a Crusade. The triptych, the history of which between 1358 and 1659 (when Charles Emmanuel II. of Savoy made the ascent, as is recorded on a white marble tablet still on the summit) is unknown, bears the following inscription: 'Hic me apportavit Bonefaciùs Rotariùs Astensis in honorem D. N. J. C. et Beatae Virginis. Anno Domini MCCCCLVIII, die 1 Septembris.'

From the foot of the final pyramid a traveller may, by bearing to the S.W., cross the *Col della Novalesa* (3,209 m., 10,529 ft.) to the *Budin* huts. Hence there is an easy path down to Novalesa, near the Mont Cenis road, above Susa, but, if it be desired to gain the Hospice on the Mont Cenis, a rough route, across steep slopes, intersected by many ravines, must be followed to the N.W. to the *Tour* huts (here a direct route from the Rochemelon glacier falls in) and those of *Lamet*, whence the path improves; but 4 hrs. at least, if not more, are required from the summit to the Hospice by this route, against which travellers are strongly warned. This W. face of the peak is steep, so that no snow can rest on it in summer. So is the S. slope, down which there is a fair track to Susa, which is the easiest way up the mountain. This track leads down steep slopes of débris, past the *Crocetta di Ferro*, to the *Cà d'Asti*, 2,834 m., 9,298 ft. (1 hr. from the summit), a stone chapel (in which mass is said when bad weather prevents the ascent to the summit), surrounded by a number of huts (one fitted up for travellers by the Italian Alpine Club) for the accommodation of the pilgrims the night before their annual ascent. (By following a well-marked track hence to the E. along the mountain-side the *Col della Croce di Ferro*, 2,553 m., 8,376 ft., may be gained in 3 hrs., and Usseglio, in the Viù valley, in 3 hrs. more past the Malciaussia chalets.) Less than 3 hrs. suffice for the descent from the Cà

d'Asti over steep pastures past the chalets of *Trucco* and the village of *Mompantero* to Susa, but, as the slopes are very bare, and exposed to the S., travellers should recollect that this part of the mountain is very hot, particularly in the afternoon.

Hitherto we have been considering the N., W., and S. slopes of the Rochemelon. But for a party bound to the Valley of Viù the E. slopes are far more important. A mountaineer will be tempted by the look of the slightly higher *Pic du Ribon* (3,543 m., 11,625 ft.) to the N., easily gained by snow slopes in 1½ hr. or less from the Rochemelon, and commanding an admirable view, lacking, however, the outlook over the Piedmontese plains obtained from the more famous summit. From the Pic there is no difficulty in following the N. ridge for a short distance, and then descending on the E. across, and later on the left side of a great snow couloir to the *Derrière le Clapier* glacier (½-¾ hr.), at the head of the Lombarde branch of the Avérole glen; hence it is easy to bear N.E. across this glacier to the Col de l'Autaret (Rte. B), or to go down the Avérole glen in 4 hrs. to Bessans. An even easier way is to follow the N. ridge from the Pic to the broad depression (now called the *Bocchetta de l'Arselle*) marked 3,361 m. (11,027 ft.) on the French map, whence easy slopes lead down to either the Ribon or Avérole glens.

But the most direct pass from the Rochemelon glacier to the Viù valley is the *Col de la Rochemelon*, a little N. of the peak, at the point marked 3,275 m. (10,745 ft.) on the Italian map. This is the pilgrims' pass, and there is no difficulty in the descent to the head of the Viù valley, where the track from the Col de l'Autaret (Rte. B) is joined, and followed past the chalets of Malciaussia to Usseglio (4 hrs. from the pass).



## ROUTE B.

BESSANS TO USSEGLIO AND LANZO  
BY THE COL DE L'AUTARET.

In the last Rte. we described what may be called the mountaineer's way from Bessans to the Viù valley, but the more usual route, known perhaps since Roman times, from one valley to the other is the track across the *Col de l'Autaret*, reached from Bessans through the *Avérole* glen. The path leaves the road to Bonneval a little way out of Bessans, at the chapel of *St. Etienne*, and passing along the edge of the forest enters the *Avérole* glen on crossing to the hamlet of *La Goulaz*, on the right bank of the *Avérole* torrent ( $\frac{1}{2}$  hr.) That bank is then followed past *Vincendières* to the last winter hamlet in the valley, that of *Avérole*, 2,035 m., 6,677 ft. (1 hr.), which is only 36 ft. lower than the highest village in France (*l'Ecot*, near Bonneval). It is here necessary to quit the main track (which mounts S.E. towards the *Col d'Arnas*, Rte. E. below), and to cross the stream to its left bank, in order to mount S. through the *Combe de la Lombarde*, the true continuation of the *Avérole* glen. There is a choice here between a higher track (past the oratory of *St. Antoine*) and a lower track past two huts, but the ascent up the left side of the wild and desolate glen offers no difficulties. Near its termination ( $2\frac{1}{4}$  hrs.) the path (soon ceasing to be passable for mules) crosses to the right bank of the torrent and mounts by zigzags above the right bank of the *Derrière le Clapier* glacier (which is perfectly easy) to the *Col de l'Autaret*, 3,070 m., 10,073 ft. ( $\frac{3}{4}$  hr.), gained in  $4\frac{1}{2}$ -5 hrs. from Bessans. Here there are 3 cairns, a cross, and a flagstaff, showing that it is frequented by the country people, though very rarely traversed by strangers. The chief feature in the view is the *Charbonel*,

and the chain running thence in a S.E. direction, but on the way up *Mont Blanc*, the *Bessanese*, and the *Albaron* are visible at different points. The view from the pass may be extended by mounting in less than an hour to the *Punta Autaret* (3,338 m., 10,952 ft.), on the N.E., whence it is possible to follow the ridge in an E. direction to the higher *Punta Valletta* (3,378 m., 11,083 ft.), from which it is easy either to pass the ridge on the N.E. to the *Pera Ciaval* Club hut (Rte. D) or to ascend the *Croce Rossa* (see also Rte. D. A. 1. b, and E. 1).

Some writers have maintained that it was by this pass that Hannibal crossed the Alps, but it is more certain (though not proved) that it was known and used in Roman times, as inscriptions of that date have been found at different times on the Italian side, as well as a stone altar, dedicated to *Hercules*, and now preserved in the parish church at *Usseglio*. It is most probable, however, that these are really connected with the iron mines in the *Bellacomba* (Rte. D. A. 1).

Just below the *Col* is a small lake, often frozen till late in the summer, on the uppermost shelf of the glen, and after passing a steep rock the mule path reappears. (There are said to be in this neighbourhood traces of the old paved track by which in former days letters were conveyed by mounted messengers from *Piedmont* to *Savoy*.) A fine cascade is passed on the right, and many steep pastures descended before the traveller reaches ( $1\frac{1}{2}$  hr. from the pass) the level of the *Viù* valley, where falls in the route from the *Col de la Rochemelon* (see last Rte.) Soon the green pasture basin of *Malciaussia* (1,789 m., 5,870 ft.), with many huts, is attained. It is shut in on all sides by precipitous rock walls, the *Rochemelon* being visible on the W. In this plain there are fields of rye, which in some years ripen fully at this great height, after the seed has remained for 14 months in the ground. The path keeps throughout on the left bank of the *Stura di Viù*, which

makes a fine waterfall (heard, but not visible from the path) before the traveller gains the hamlet of *Margone*, and the opening of the *Bellaomba* glen is passed on the left just before reaching the considerable plain in which are scattered the various hamlets of the commune of **Usseglio** (2 hrs. from Malciaussia). The inn is at the chief hamlet, that of *Corteviccio* (1,265 m., 4,150 ft.) A short distance off is the parish church, with the stone altar already mentioned, and a short way beyond is a large low building, called the *Fabbrica*, formerly used for the preparation of the cobalt obtained from mines in some of the neighbouring glens. Unfortunately the inhabitants have recklessly destroyed the forests which once surrounded the upper end of the valley, and fuel is now scarce. The plain of Usseglio is about 5 m. long by 1 m. broad, and is obviously the filled-up bed of an ancient lake. It is covered with fields and meadows, which contrast finely with the Alpine scenery of the background, the chief feature in which is the striking mass of the *Torre d'Ovarda* (3,075 m., 10,089 ft.), on the N. (This peak may be climbed in 5 hrs. from Usseglio by way of the *Servin* glen and the S.W. face, the view from the summit being very fine. For other ascents and passes from the Viù valley see Rtes. C and D. A.)

It is  $17\frac{1}{2}$  m. from Usseglio to Lanzo, by the carriage road. At the further end of the plain of Usseglio the road descends steeply through a narrow gorge, and later passes the chapel of the *Madonna degli Olmetti*, in a singularly picturesque situation, beside a bridge over the Stura, before reaching (5 m.) *Lemie*. The parish church of this village stands on a great rock, and commands a fine view of the head of the valley, and of the Rochemelon. Beyond Lemie the road crosses to *Forno di Lemie*, but then recrosses, and is carried along the left bank, through very beautiful scenery, to (5 m.) the large village

of **Viù** (785 m., 2,576 ft.), above the junction of the *Tornetti* glen with the main valley. Viù is a pretty village quite in the Swiss style, and has some splendid pleasure gardens, being much frequented in summer by visitors from Turin. The mountains to the S., on the slope of which, in a charming position, is the village of *Col San Giovanni* (see next Rte.), are covered with fine woods, the chestnut prevailing below, and the larch in the upper zone. From Viù the carriage road runs for 7 m. to Lanzo through beautiful scenery. Many scattered houses and hamlets are passed, and from time to time the traveller sees the snowy peak of the Rochemelon at the end of the valley, these glimpses serving to enhance the beauty of the nearer scenery. Soon after the valley bends from E. to N. the Stura is crossed by a stone bridge, and then the road mounts across a great promontory, high above the junction of the Stura di Viù with the main stream, formed by the union at Ceres of the torrents from the Val d'Ala and the Val Grande. The road descends to cross the united streams by the bridge of *Germagnano*, and immediately after joins the carriage road from these two valleys, 1 m. before attaining **Lanzo** (468 m., 1,535 ft.) This little town is very beautifully situated at the junction of the *Tesso* with the Stura di Lanzo, a short distance from the point where the latter river quits the mountains to enter the plain of Piedmont N.W. of Turin.

At Lanzo the traveller should not miss seeing (10 min. walk from the Piazza Santa Croce) the *Ponte del Roc*, a remarkable bridge which spans the Stura by a single arch. It was built in the last quarter of the fourteenth century, and its history having been forgotten, the skill of the unknown architect has received the popular compliment involved in the name of *Ponte del Diavolo*, by which it is also known. Near it there are a number of the holes called 'Marmites des Géants,' formed by the action of the

rapidly-flowing water, which whirls round stones and sand, and so wears away the rock into a hollow basin. About 1 hr. from Lanzo, and on the lofty promontory of *Monte Bastia*, is the curious *Sanctuary of St. Ignatius*. The chapel (the present one of 1727 replaces that of 1635) is built round the pointed rock which forms the summit, and this has been left in its natural condition to serve as a pedestal for the statue of the saint. A very agreeable excursion may be made from Lanzo by carriage road to *Coassolo* (3 m.), in the *Val di Tesso*, on the N., this valley being thickly clothed with chestnut, walnut, and various fruit trees. Hence there are paths to Ceres on the W., and Corio on the E., while two others over the higher range to the N. lead in 6 hrs. to Locana, in the valley of the Orco (§ 15. Rte. I). 2 m. beyond Coassolo is *Chiaves*,  $\frac{1}{2}$  hr. from the Sanctuary just described, whence Ceres or Pesinetto can be reached in 1 hr. more.

Lanzo is 20 m. from Turin by railway. As the mountains begin to open into the plain there is seen on the left the *Eremo di Lanzo*, founded in 1661, but now a private villa, whence there is a remarkable view. The line passes by *Ciriè*, *Caselle*, and *Venaria Reale* before reaching Turin. Travellers should note that the terminus of this local line is in the *Borgo Dora*, the N.E. quarter of Turin, and is some distance from the main station at the *Porta Nuova* in the W. portion of that city.

### ROUTE C.

#### VIÙ VALLEY TO THE DORA RIPARIA VALLEY.

There are a number of passes across the range separating these two valleys, which are here briefly noticed, in case a traveller should prefer to cross one

of them rather than make the round by Turin. (Those leading from the Viù valley to the Ala valley on the N. are noticed in the next Rte.)

1. *Colle della Croce di Ferro*.—A steep ascent of 2 hrs. leads from the Malciaussia huts (themselves 2 hrs. from Usseglio) to the summit of this pass (2,553 m., 8,376 ft.), which takes its name from an iron cross placed there. As mentioned in Rte. A, there is a path hence in 3 hrs. to the Cà d'Asti, this being the easiest route from the Viù valley to the Rochemelon. The descent to Mompantero, near Susa, is made in a S.W. direction past the *Trucco* chalets (? 2 hrs.)

2. *Colle della Portia Ovest*.—There is a mule path to this pass from the hamlet of *Piassetto*, at the E. end of the Usseglio plain, but pedestrians may mount more directly from the hamlet of Corteviccio across the low pass of the *Sagna del Vallonetto* (from which the ascent of the *Punta Lunella*, 2,772 m., 9,095 ft., may be made by its N.E. ridge in 5 hrs. from Usseglio, the view thence being very fine) to the Col (2,190 m., 7,185 ft.) The mule path leads down to *Condove* (7 hrs. from Usseglio), a station on the Mont Cenis railway (§ 7. Rte. A).

3. *Colle del Colombardo*.—This pass from Forno di Lemie to Condove takes about the same time as the last. On the summit (1,888 m., 6,194 ft.) is the chapel of the *Madonna degli Angeli*, while on the way up the botanist may find *Pinus uncinata*, *Sempervivum Wulfenii*, and other rare plants. The chief recommendation of this pass is that in  $1\frac{1}{2}$  hr. from it the summit of the **Monte Civrari** (2,302 m., 7,553 ft.) may be reached, and this is one of the finest points for a panoramic view in the neighbourhood of Turin. If starting from Viù for this peak (5 hrs. up) it is more direct to mount past Col San Giovanni and the Civrari lake, while it is easy to descend to Rubiana, on the route of the Colle del Lis.

4. *Colle del Lis*.—A steep ascent of  $1\frac{1}{2}$  hr. to the S. leads from Viù to



the picturesque village of *Col San Giovanni* (1,117 m., 3,665 ft.), now much frequented in summer by Italian visitors. Hence a mule path mounts due S. (leaving on the S.W. the way up the Monte Civrari, see 3. above) over the *Col del Lis* (1,310 m., 4,298 ft.) in 3 hrs. to *Rubiana*, whence in under 2 hrs. more the stations of Condove or of Avigliana may be reached.

5. *Colle della Portia Est* and *Colle della Lunella*.—Either of these passes (1,324 m., 4,344 ft., and 1,320 m., 4,331 ft., respectively) leads from Col San Giovanni in about 4 hrs. to the *Valle della Torre*, through which either the *Alpignano* (M. Cenis line) or the *Venaria Reale* (Lanzo line) station is reached after a rather long walk.

## ROUTE D.

### ALA VALLEY TO THE VIÙ VALLEY AND THE VAL GRANDE.

The Ala Valley (described in detail in the next Rte.) is the central one of the three Valleys of Lanzo, so that it seems most convenient to group in one Rte. the passes from it to its two neighbours on the S. and the N. : the passes from the Viù valley towards the S. were noticed in the last Rte., while those from the Val Grande towards the N. will be found in Rte. H, below. In each case the order followed is from the higher passes on the W. to the lower passes on the E.

#### A. Ala Valley to the Viù Valley.

1. *Collarin d'Arnas*.—This way passes along the E. base of the frontier ridge. Starting from Balme, the traveller follows the track to the Col d'Arnas (see next Rte.) as far as the Crot del Ciaussiné Club hut (3 hrs.), and for some distance beyond. The Collarin (2,851 m., 9,354 ft.) is reached by easy broken

rocks and snow in about 1 hr. from the hut, and it is by this route that a traveller coming from Usseglio must gain the Col d'Arnas. There is an unexpectedly fine view hence of Monte Rosa and the Grand Paradis, as well as of the nearer Bessanese, Ciamarella and Croce Rossa. 10 min. run down snow slopes suffices for the descent to the great **Lago della Rossa**, which is almost always frozen, and lies immediately under the fine peak of the Croce Rossa. Hence there are two ways of descending to Usseglio.

(a) The shortest and most direct is to bear E. over a precipitous rocky barrier to the hut on the upland plain at the head of the *Bellacomba* valley ( $\frac{1}{2}$  hr.), a wild glen (where an iron mine was formerly worked, with which it is far more probable that the inscriptions found here and the stone altar now preserved at Usseglio should be connected than with the existence of a pass at that early period, as some writers have conjectured).

[Here the short cut from Mussa over the *Passo Mongioire* (2,812 m., 9,226 ft.) falls in.]

That valley is then followed over scanty pastures, down rocky barriers, and by a steep stony track, but amidst scenery becoming more and more picturesque at every step, to the Corteviccio hamlet, on the plain of Usseglio (about 3 hrs. from the lake, or 7 hrs. from Balme).

(b) The longer route leads from the lake due S. over the *Colle Altare* (2,910 m., 9,548 ft.) to the **Pera Ciaval Club** hut (2,600 m., 8,531 ft.), on the *Sabiunin* plain ( $1\frac{1}{2}$  hr.).

[Hence the *Colle della Valletta* (3,145 m., 10,319 ft.), on the N.W., can be reached in  $1\frac{1}{2}$  hr., and the summit of the *Croce Rossa* (3,567 m., 11,703 ft.) in 1 hr. more; but that peak and its neighbour, the *Punta d'Arnas*, are more conveniently described in connection with the Col d'Arnas in the next Rte.]

From the Club hut (4 hrs. up from Usseglio) it is shortest to descend to

the Bellacomba glen, as above, but an active walker may from the hut continue in a S. direction over the *Colle Soulé* (3,073 m., 10,083 ft.) to the Col de l'Autaret track, below the lake of that name (Rte. B).

2. *Colle Paschiet*.—This is a much shorter route than the last, 5 hrs. only being required from Balme to Lemie. On the way up from Balme to the pass (2,435 m., 7,989 ft.) three picturesque lakes, formed by a berg-fall, are passed. From the Ala side of the pass the *Torre d'Ovarda* (3,075 m., 10,089 ft.) may be climbed in 7 hrs. from Balme by its N.E. face.

3. *Colle dei Tre Lajet*.—This pass (which takes its name from several lakes near the summit), 2,222 m., 7,290 ft., is due S. of Ala, and leads thence in 6-7 hrs. to either Lemie or Viù, by bearing either S.W. or S.E. through the *Tornetti* glen. To the E. of this pass is the lower and easier *Colle di Pian Fumo*, 2,067 m., 6,782 ft. (from Ala to Viù direct in 6 hrs.), on the steep and menacing serpentine rocks E. of which the botanist may find *Cerastium lineare*, *Allium pedemontanum*, *Carex hispida*, and other very rare plants. It is possible also to reach the latter pass from near Ceres through a short and steep glen, up the left side of which there is a faintly marked path, while the hamlet of *Tornetti*, where the tracks from both passes join, may be gained from Mezenile or Pessinetto by way of the *Truc della Dieta* (1,562 m., 5,125 ft.)

4. *Colle della Ciarmetta*.—A somewhat circuitous mule path mounts from Mezenile past several hamlets to the summit of this pass (1,304 m., 4,278 ft.), which is a little E. of the *Truc della Dieta*, and is crowned by a chapel. It commands a fine view on all sides. A steep path descends the bare mountain slope direct to Viù (3 hrs. from Mezenile), but there is another, longer and easier, which winds down through a fine forest.

### *B. Ala Valley to Val Grande.*

1. *Ghiket di Sea*.—This pass crosses the ridge between the two valleys about midway between the Ciamarella on the W. and the Uja di Mondrone on the E. The Ala valley is mounted to the end of the pasture plain of *Mussa*, whence the track mounts N.E. up the *Ciamarella* glen to the pass, 2,735 m., 8,973 ft. ( $3\frac{1}{2}$ -4 hrs.), being joined on the way by a short cut from *Mussa* past the *Rossa* huts. The term 'Ghiket' is akin to the French 'Guichet' and the English 'wicket.' The faintly marked track on the other side first bears down an easy couloir, then bends sharply to the E., along a natural ledge, and descends by a great slope of débris to the Sea glen, the Sea chalets being reached in  $2\frac{1}{2}$  hrs. from the pass. They are about  $1\frac{1}{2}$  hr. above Forno, at the head of the Val Grande (Rte. G).

2. *Colle dell'Ometto* and *Colle di Trione*.—These two passes lead in about 6 hrs. from Mondrone or Balme to Forno and Groscavallo respectively. The former, 2,600 m., 8,531 ft. (also called *Ghiket d'Ala*) is at the N. foot of the *Uja di Mondrone* (2,964 m., 9,725 ft.), a striking rock peak (accessible hence by its N. ridge in 7 hrs. from Balme or Forno), and leads over to the Sea chalets; the Ciamarella and Bessanese are prominent features in the view, which also includes two villages in the Val d'Ala. The latter pass (2,450 m., 8,038 ft.) leads nearly due N. direct to Groscavallo.

3. *Colle dei Croset* and *Colle d'Attia*.—Both these passes start up the slopes N. of Ala. The foot path over the former (2,370 m., 7,776 ft.) runs due N., and gains Bonzo in 6 hrs. from Ala, while the mule path over the latter (2,078 m., 6,818 ft.) leads in a N.E. direction and over a second low pass, *Colle di Crosiasse* (1,922 m., 6,306 ft.),  $\frac{1}{4}$  hr. distant, to Chialamberto, which is 4 hrs. from Ala by this route.

## ROUTE E.

BESSANS TO BALME AND LANZO BY  
THE COLS D'ARNAS AND DU COL-  
LERIN.

The *Avérole* glen communicates not only with the Viù Valley by the Col de l'Autaret (Rte. B), but also with that of Ala, whither lead two easy snow passes, each of which may be combined with the ascent of a fine peak, without any fear of making the day too long.

1. *By the Col d'Arnas* (7¼ hrs.)—In some respects this is the better pass of the two. From the hamlet of *Avérole*, 1½ hr. from Bessans (Rte. B), the track above the right bank of the stream is followed past the chapel of *N. D. de la Délivrance* slightly S.E. to the left bank of the *Arnas* glacier (1¾ hr.), over the gently inclined upper portion of which the Col (3,014 m., 9,889 ft.) is gained without the slightest difficulty in 1½ hr. more.

By bearing to the S.E. from the chapel just mentioned it is easy to gain in 2 hrs. from *Avérole* the *Valletta* glacier. Hence the twin peaks of the *Croce Rossa* (3,567 m., 11,703 ft.) and the *Punta d'Arnas* (3,540 m., 11,615 ft.) can easily be ascended. The latter may be attained in 2¼ hrs. by its shaly N.W. ridge, but, if it is wished to combine both summits in the same expedition, it is better to cross this ridge at a lower point, where it is nearly level, and then to work round (1½ hr.) to the gap between the two peaks, which falls sheerly on the other side towards the *Lago della Rossa*. From the gap the P. d'Arnas (to the N.) can be climbed in 50 min. by the easy broken rocks of its S. ridge, or the *Croce Rossa* (to the S.) in about 1 hr. by the N. face and ridge. It is better to take the latter peak first if it is intended to return to the Col d'Arnas—2 hrs. from the summit of the P. d'Arnas—or to the *Avérole*

glen, but from either it is easy to descend over the *Colle della Valletta* to the *Pera Ciaval* Club hut in 1½–2 hrs. (see Rte. D. A. 1.) It should be noted that the *Punta d'Arnas* is the *Ouille d'Arbéron* of the French map, which gives the former name to a minor summit just N. of the Col d'Arnas, and does not name the *Croce Rossa*, to which a height of 3,564 m. (11,693 ft.) is attributed.

Some way to the N.W. of the Col d'Arnas is the splendid rocky peak of the *Bessanese* (*Grandes Pareis* of the French map), 3,632 m., 11,917 ft., the *Matterhorn* of the district. Its ascent is not, however, very formidable. A party attacking it from the French side should leave the *Arnas* glacier to the S., in order to mount to a small glacier just S. of the peak. (If coming from the Col d'Arnas it is easy to clamber, at its E. end, up the lofty barrier of rock which separates the two glaciers.) In this way the rocky S. ridge is gained (4 hrs. from *Avérole*; about the same point is gained by those coming up from the *Crot del Ciaussiné* Club hut, on the Italian side) at the very foot of the final peak. Hence easy broken rocks and short snow slopes lead up in 1 hr. to the great cairn on the first and lower peak; the higher and central summit is attained in 25 min. or less by an awkward traverse on the W. side, and then by the ridge N. or S. of it. The view from the top is extremely fine, particularly down the precipices which seem to fall vertically both E. and W. The lower peak was first gained in 1857 by *Signor Tonini*, a Piedmontese surveyor who in 1860 lost his life on the *Agnel* glacier, in the *Ambin* group, but the highest point (50–65 ft. loftier) was not attained till 1873, when *Signor M. Baretta* added it to his many other conquests. In 1889 *Signor G. Rey* effected a new route up the N. ridge, and this is recommended to rock-climbers. It is best to start from the *Crot del Ciaussiné* Club hut (see below), and



thence, by a prominent couloir running up from the Bessanese glacier, to gain the N. ridge just at the base of the final peak ( $2\frac{1}{2}$  hrs.), whence it is an interesting climb of  $2\frac{3}{4}$  hrs. on the W. side of the needle-crowned ridge to the N. summit, the central peak being reached in  $\frac{1}{4}$  hr. more by the E. slope of the ridge.]

The Col d'Arnas is a well-marked and narrow opening, whence a steep gully and a bit of glacier lead down in  $\frac{1}{2}$  hr. to the **Crot del Ciaussiné Club hut**, the way to the Collarin d'Arnas (Rte. D. A. 1) being seen on the right.

[This Club hut, also called *Rifugio Gastaldi* (2,649 m., 8,691 ft.), is in a hollow or basin, and is conveniently placed for the ascents of the Bessanese ( $4\frac{1}{2}$ – $5\frac{1}{2}$  hrs.) by the S. or N. arêtes, of the Ciamarella (4 hrs. : see below), of the Albaron ( $3\frac{1}{2}$  hrs. : see below), and of the Croce Rossa and Punta d'Arnas ( $3\frac{1}{2}$ – $4\frac{1}{2}$  hrs. : see above).]

It takes about 2 hrs. ( $3$ – $3\frac{1}{2}$  hrs. suffice for the ascent) to go from the Club hut to Balme. A slight ascent, and then two débris gullies lead down on the N. to the bare pastures of *Naressa*, across which a new path guides the traveller down the right-hand edge of the deep cleft of the *Canale delle Capre* to the level of the pasture plain or basin of *Mussa*. At its W. end is the great boulder known as the *Rocca Venoni*, which now shelters a hut (1 hr.), and then follows a pleasant walk over the green plain. After passing a small chapel the path descends steeply on the S. side of a narrow gorge, till some meadows are gained, and a stone bridge leads over the Stura to *Balme* (1 hr.), the highest village in the Ala valley.

2. *By the Col du Collerin* (8 hrs.)—The way to this pass mounts steeply towards the N.N.E. soon after leaving Avérole, and leads over grass slopes, stones, and moraine to the N. end of the *Entre Deux Risses* glacier, over which the pass (3,202 m., 10,506 ft.) is gained in 4 hrs. from Avérole, no

difficulty whatever having been encountered.

[It is perfectly easy for a party coming from the Albaron (3,662 m., 12,015 ft. : see next Rte.) either to descend from its S.W. flank and reach this pass in 2 hrs. by an easy and nearly level glacier, or to follow from the summit of the peak the easy snow ridge running S.E. to the Ouillarse (3,491 m., 11,454 ft.), and so to gain the upper part of the *Collerin* or *Pian Ghias* glacier at the foot of the couloir on the Italian side of the pass.]

The view from the pass includes the neighbouring peaks, and even the Dent Parrachée, and the three Aiguilles d'Arves. The descent on the Italian side lies down a short and broad, but rather steep snow couloir (which gives its name to the pass, as 'collerin,' like 'colour' and 'colouret,' in other parts of the Italian Alps, is the patois form of the term 'couloir'). The couloir takes only 10 min., and then the nearly level glacier is descended in about 40 min. It is quitted on the right bank, the route from the Col d'Arnas being soon joined on the *Naressa* pastures, and followed to *Balme*, reached in  $2\frac{1}{2}$  hrs. from the pass.

[By bearing to the N.E. from about the middle of the Collerin glacier it is easy to ascend a rocky step in  $\frac{3}{4}$  hr. to the Ciamarella glacier, which lies on an upper shelf. Hence  $1\frac{1}{4}$  hr. suffices to climb the schist slopes of the S.W. flank of the **Ciamarella** (3,676 m., 12,061 ft.) to the W. ridge, by which the summit, a nearly level-topped ridge, resembling a tent in form, and recalling the Mönch from some points of view, is attained. It has been reached in  $5\frac{1}{4}$  hrs.' quick walking from Balme direct, but 4 hrs. are usually counted from the Crot del Ciaussiné Club hut. The peak rises a short distance E. of the frontier ridge, so that it is wholly in Italy. It was first ascended in 1857 by Signor Tonini, and then in 1866 by Count Paul de St. Robert, and is now a very

favourite climb with Italian mountaineers, though as yet but few foreign mountaineers have visited it. Yet the panorama may be reckoned as among the most superb in the Alps, extending from beyond the Bernina group to the Maritime Alps, while the spectator seems to dominate the plains of Piedmont. A number of other routes have been forced up the Ciamarella. But it may be sufficient to mention here only two of these, both useful for those approaching the peak from France. One descends the W. ridge to its junction with the main frontier ridge at the rocky peak of the *Piccola Ciamarella*, and rounding this on the S., gains the *Colle della Ciamarella* in 50 min. from the higher peak; thence steep slopes of ice or snow and séracs lead down to the Evettes glacier ( $\frac{3}{4}$  hr.), on which the Col de Sea route (Rte. G) is joined, and Bonneval reached, under favourable circumstances, in 4 hrs. from the summit of the Ciamarella. The other quits the W. ridge before reaching the E. foot of the *Piccola Ciamarella*, and descends steep ice or snow slopes, with a patch of rocks in the middle, to the *Colle Tonini*, a gap only separated from the Col de Sea (easily gained thence by a short descent) by the rocky *Punta Tonini* (3,343 m., 10,968 ft.) An active party making an early start may go from the Ciamarella to the Albaron in 3-4 hrs. by way of the Ciamarella glacier, the rocky ridge on its W., the *Selle d'Albaron*—see below—and the S.E. ridge of the Albaron, wrongly called *Pointe de Chalanson* on the French map.

As the topography of the frontier ridge between the Col du Collerin and the *Piccola Ciamarella* is badly given on the maps, and there is great confusion as to the names, it may be useful here to give a list of the principal peaks and passes on it.

(i.) *Punta Collerin* (3,484 m. French map, 3,442 m. Italian map).

(ii.) *Punta dell' Ouillarse* (3,491 m., 11,454 ft., French map; the

Mont Collerin, 3,462 m., 11,359 ft., of the Italian map).—This summit marks the junction of the ridge running S.E. from the Albaron with the main or frontier ridge. It is crowned by a huge cairn, built round a pole. It can be reached in 35 min. from the Albaron along the snowy S.E. arête of the latter. Just N.W. of it is the snowy *Selle d'Albaron*, a point on the S.E. ridge of the Albaron, whence it is easy to descend in a S.W. direction direct to Avérole (2 hrs.) without making a détour over the summit of the Albaron. The descent from the *Selle* to the Evettes glacier is more difficult, and takes  $1\frac{1}{2}$ -2 hrs. (see next Rte. in the notice of the Albaron.)

(iii.) *Col de Chalanson* (3,327 m., 10,916 ft., Italian map).—This is a broad, snowy depression between the Ouillarse and the Mont Chalanson. It is reached by easy snow slopes from the Collerin glacier, but the direct descent to the Evettes glacier down a very steep rock wall has not yet been effected, and it is necessary to bear N.W. along the glacier shelf on the N.E. face of the Albaron. It is perfectly easy to mount from this depression to the *Selle d'Albaron*, and this is the route taken by a party going from the Collerin glacier to the Albaron, or to Avérole direct.

(iv.) *Mont Chalanson*.—This fine snowy point is the loftiest summit on the frontier ridge between the Bessanese and the E. Levanna, and its true height is not far from M. Rabot's estimate of 3,530 m. (11,582 ft.) It rises at about the spot where stands the name 'Mt. Collerin' on the French map, but is not indicated on the Italian map, though it is at the junction of the rocky spur separating the Collerin and Ciamarella glaciers with the main ridge. It is easily climbed by its snowy W. ridge, which may, by easy snow slopes from the S., and by steep snow slopes from the N., be also gained at a point about 20 min. from

the summit. Some writers seem to call the point at which this ridge is thus struck the 'Col de Chalanson,' but though, no doubt, there is a slight depression there between the main peak and a snowy hump on the W., it seems more suitable to reserve that name for the well-marked gap farther W.

(v.) *Colle della Ciamarella* (3,397 m., 11,146 ft., Italian map).—This pass is reached by rocks and a snow slope in 20 min. from the upper part of the Ciamarella glacier; the descent is made in  $\frac{3}{4}$  hr. to the Evettes glacier by steep snow or ice slopes and some séracs.

(vi.) *Piccola Ciamarella* (3,420 m., 11,221 ft., Italian map, 3,505 m., 11,500 ft., French map).—This rocky point is as it were the pendant of the Ouillarse, since from it runs to the E. the great spur crowned by the Ciamarella itself. It can be climbed from the E. or W.—the latter direction is the best. ]

**Balme** (1,458 m., 4,784 ft.) is undoubtedly the best headquarters for mountaineers in any of the three Valleys of Lanzo, while it is picturesquely situated, the dark rocky mass of the Bessanese blocking the end of the valley. Besides the peaks and passes described in the last and the present Rtes. there are two summits easily reached from Balme. The *Torre d'Ovarda* (3,075 m., 10,089 ft.), which towers up on the S., is accessible in 7 hrs. from the N.E., and the *Uja di Mondrone* (2,964 m., 9,725 ft.), on the N., is reached in rather less time from the S., W., or N.

Balme is 17 m. by carriage road from Lanzo, always on or above the left bank of the Stura. A gorge is traversed before reaching (2 m.) the poor village of *Mondrone*, over which towers on the N.W. the rugged *Uja di Mondrone*, so that the village is much exposed to falls from its mighty neighbour. Near Mondrone is a fine

waterfall, called the **Gorgia di Mondrone**. The Stura first springs over a ledge, and falls 17 m. (56 ft.) into a basin scooped out in the rock; escaping from this through a narrow cleft, the stream rushes at one bound into a dark chasm, making a leap of 65 m. (213 ft.) between perpendicular walls of rock, 154 m. (505 ft.) in height, but only 10 m. (33 ft.) apart. A bridge has been thrown across the stream in this cleft, so as to allow the traveller to admire this striking work of Nature. Walnut trees appear below Mondrone; a small chapel, built on the top of a huge boulder, apparently fallen from the mountain-side above, is passed, and then the prettily-situated chief hamlet of the commune of *Ala* (4 m.) is attained. The road descends steeply after the chapel of *Saulet*, and runs for several miles through a rocky defile, with but few and occasional signs of human activity. Looking back, fine views are gained of the Bessanese and of the *Uja di Mondrone*. (At the base of the steep descent a path leads down in a few minutes to the *Ponte delle Scale*, a bridge of a single arch, thrown across the Stura in a singularly picturesque situation.) Several hamlets are passed, while opposite is seen that of *Almese*, on which the sun does not shine for  $3\frac{1}{2}$  months in the winter, owing to its N. exposure. 9 m. from Balme is the large village of *Ceres*, on a promontory above the junction of the Stura di Ala and the Stura di Val Grande. The neighbourhood of Ceres abounds in beautiful scenery. To the N., 2 hrs. away, is the *Sanctuary of Santa Cristina*, perched at a height of 1,340 m. (4,397 ft.), on an extremely steep rock, and commanding a very fine view. It is much visited by pilgrims on July 24 each year. The people of this region earn their living chiefly as nailers, and from an early age the children are brought up to that trade. The road, on quitting Ceres, crosses the Stura di Val Grande shortly before it unites with the *Ala* branch,



joins the road from the Val Grande (Rte. G), and then runs along the left bank of the united streams past *Pessinnetto*. Just opposite is *Mezzenile*, a commune made up of, it is said, 43 hamlets, some very distant from each other. (From *Mezzenile* or *Pessinnetto* an excursion may be made in  $1\frac{1}{2}$  hr. to the curious and extensive *Grotto of Pagnet*, for which a guide is necessary, as it is very easy to go astray in it.) Beyond *Pessinnetto* the road continues along the left bank of the Stura, and joins that from the Viù Valley (Rte. B) just as this has crossed the bridge of Germagnano, 1 m. from Lanzo. The Ala Valley is the narrowest, wildest, and most Alpine in character of the three included in this Section.

#### ROUTE F.

##### ASCENTS FROM BESSANS AND BONNEVAL.

At the head of the valley of the Arc are the two villages of Bessans and Bonneval, which, as headquarters for mountaineers, form a pendant in this valley to those of Tignes and Val d'Isère in the upper valley of the Isère. They were briefly mentioned in § 12. Rte. B. when noticing the way over the Col d'Iseran, but it may be convenient for travellers to group together in this Rte. some notes of the ascents that can be made from either, or on the way from one to the other. It must be premised that at a pinch, and with very few exceptions, any of these climbs may be taken from either village, though one or other hamlet may be more convenient as a starting point.

1. *Ascents from Bessans*.—**Bessans** is a considerable and rather wealthy village, built at a height of 1,742 m. (5,715 ft.), on the left bank of the Arc, in a grassy plain at the N.W. foot of the Charbonel. The inhabitants are

closely connected in commercial matters with Italy, and Italian is generally understood here. In the Middle Ages it depended on the great Benedictine monastery of St. Michel de la Cluse, near Turin, as did the far better known Chamonix. Many of the houses here are adorned with frescoes outside, as well as the porch of the parish church, which stands on a mound above the village. Close to the church is the ruined chapel of *St. Antony*, on the walls of which is a series of most curious and interesting frescoes (unluckily rapidly falling to pieces) of the sixteenth century, representing the life of our Lord; some are still well preserved, and deserve not merely a visit from a passing traveller, but a better fate than that which apparently awaits them at the hands of their owners. Bessans is famous for its blue cheeses, but the inn is very inferior to the new Hôtel at Bonneval. For all historical details as to Bessans and Bonneval reference should be made to M. Henri Ferrand's excellent 'Itinéraire Descriptif, Historique, et Archéologique de la Maurienne et de la Tarentaise' (Grenoble, 1879).

The principal ascent to be made from Bessans is that of the **Pointe de Charbonel** (3,760 m., 12,336 ft.), the monarch of the Central Graians. Owing to its great height, and isolated position at the end of a long spur projecting N.W. from the frontier ridge, the panorama from the summit is most magnificent, while the ascent offers no difficulties at all to practised mountaineers. It is best made in 5-6 hrs. by way of the Combe d'Avérole, the glacier on the N.W. of the peak, and the N. arête. The N.W. ridge may be reached by a long and stony ascent (or at the end the S.W. spur ascended) from the Pierre Grosse chalets, in the Ribon glen, on the S.W. side of the peak, while the route from Italy along the S.E. ridge is even longer and more fatiguing. The ascents of the *Pointe*

*de Ronce*, 3,618 m., 11,871 ft. (6 hrs.) and of the *Rochemelon*, 3,537 m., 11,605 ft. (6 hrs.), have been described in Rte. A. above, those of the *Croce Rossa* (3,567 m., 11,703 ft.), of the *Punta d'Arnas* (3,540 m., 11,615 ft.), and of the *Bessanese* (3,632 m., 11,917 ft.), each taking about 6 hrs., have been noticed in Rte. E, and those of the peaks near the Méan Martin glacier, on the N., in § 12. Rte. K. 2.

2. *From Bessans to Bonneval.*—Bessans may be reached from Lanslebourg by way of the *Grand Roc Noir*, in about 9 hrs. (§ 12. Rte. B), and similarly Bonneval may be reached from Bessans by one or more high-level routes. The finest is, perhaps, that over the *Albaron*, 3,662 m., 12,015 ft. (wrongly called *Pointe de Chalanson* by the French map). This beautiful snow peak is accessible from Bessans without the slightest difficulty in 5–5½ hrs. by way of the *Combe d'Avérole*, the *Lau* chalets, the *Grand Fond* glacier, and the S.W. ridge or face. This summit is perhaps the belvédère of the upper valley of the Arc, and should become the *Cima di Jazzi* of this region. It is easy either to descend from the S.W. ridge, and then gain in 2 hrs. from the peak the *Col du Collerin* over a level glacier, or to walk along the S.E. ridge past the *Selle d'Albaron* down to the *Col de Chalanson* (see last Rte.), in about 40 m. Thence it is easy to go down to *Balme* or the *Crot del Ciaussiné* Club hut by the *Collerin* glacier, or to climb the *Ciamarella*, 3,676 m., 12,061 ft. (3–4 hrs. from the *Albaron*.) A party bound for Bonneval should from that broad snowy *Col* avoid the, as yet unaffected, direct descent by a very steep rock wall to the *Evettes* glacier, and bear N.W. by the great glacier arm, which stretches like a shelf along the N.E. face of the *Albaron*; the one point at which a descent could be forced from this shelf to the *Evettes* glacier is overhanging by so dangerous a fragment of

ice that it is more prudent to continue along this glacier for its whole length, some very steep rocks at its N. end finally allowing access to the *Evettes* glacier (2 hrs. from the *Col*). Hence the *Col des Evettes* (Rte. G) is gained in  $\frac{3}{4}$  hr., and Bonneval in 1½ hr. more by the *Col de Sea* route. The descent by the *Col du Greffier* (3,112 m., 10,210 ft., French map), and a steep snow couloir to the *Vallozet* glacier, is an hour shorter.

Another pleasant way from Bessans to Bonneval is to mount by the *Cueigne* chalets and *Le Vallon* to the fine view-point of the *Pointe de Méan Martin*, 3,337 m., 10,949 ft. (5 hrs.), whence Bonneval may be gained in 2–2½ hrs. either by the *Col des Roches*, on the N., or by returning to the chalets at the S.E. end of *Le Vallon*, and then following the path over the pastures above the precipices overhanging the *Arc* valley.

3. *From Bonneval.*—**Bonneval** (1,835 m., 6,021 ft.) is a small mountain village in a rather dreary position, but now boasts the excellent *Chalet Hôtel*, built by the Lyons section of the French Alpine Club. The *Pointe de Méan Martin* (3,337 m., 10,949 ft.) may be ascended hence direct by the *Col des Roches* in 3½ hrs., while the excursions up the *Pelaou Blanc*, 3,136 m., 10,289 ft. (4¼ hrs.), the *Mont Iseran*, 3,241 m., 10,634 ft. (4½ hrs.), and the *Aiguille Pers*, 3,451 m., 11,323 ft. (4¼ hrs.), have been noticed in § 12. Rte. B, in connection with the passage of the *Col d'Iseran*. A shorter climb than any of those just mentioned is the *Pointe des Arses* (3,203 m., 10,509 ft.), just N. of Bonneval, and accessible thence with ease in 3½ hrs. by way of the W. or S. faces. Perhaps the chief belvédère of Bonneval on the N. side of the valley is the *Grande Aiguille Rousse* (3,482 m., 11,424 ft.), which can be climbed direct in about 5 hrs. from the S.W. (For a fuller description of this point, and of the routes up it from the N.E. and N., see Rte. K. below.)

But the chief ascents to be made from Bonneval are those on the S. side of the valley. The routes up the *Albaron* (3,662 m., 12,015 ft.) and the *Ciamarella* (3,676 m., 12,061 ft.) have been briefly noticed above and in Rte. E respectively. The main attraction at Bonneval to the mountaineer is the three-peaked *Levanna*, any of the points of which can be most easily reached from the French side (for the Italian side see Rte. G. below, and § 15. Rte. I). The second highest point is the *Western Levanna* (3,607 m., 11,835 ft.), climbed in 1860 by the late Mr. J. J. Cowell. It may be attained by even the least practised climber in about 5 hrs. from Bonneval by way of the *Lac Blanc* and the glacier on the W. of the peak; there is now a hut near the summit, built by the Italian surveyors in 1881. The highest point is formed by a huge slab, resting upon a heap of smaller rocks, and projecting over the edge of the precipice on the Italian side. The panorama from the summit is very fine, and this very easy ascent deserves to be frequently made. It may well be combined with the passage of the *Col du Carro* (Rte. H), just as the two other peaks are best taken on the way over the *Col de Girard* (Rte. G). The *Central Levanna* (3,640 m., 11,943 ft.) is the loftiest of the three points. It may be reached in 6 hrs. from Bonneval by means of a rock climb up the S.W. face from the *Glacier de la Source de l'Arc*; the top is composed of two rock knobs, the eastern of which is perhaps slightly higher. The *Central Levanna* was first ascended in 1875 by Signori Vaccarone and Gramaglia. The *Eastern Levanna* (3,564 m., 11,693 ft.), though the lowest of the three, commands the best panorama, as it stands like a sentinel looking out over the Piedmontese plains, which are very well seen thence. It may be reached in 5½ hrs. from Bonneval by way of the above-mentioned glacier and the N.W. ridge or W.

face, while the descent may be made in 1½ hr. by the very steep rocks of the E. face to the *Levanna* glacier, at its S.E. foot. This summit was reached in 1874 by Lord Wentworth (now Earl of Lovelace), who found a cairn on the top.

Few travellers, if they be not specialists, will care to visit any of the numerous points on the frontier ridge between the *Col de Girard* and the *Col de Sea*. It may suffice here to refer generally to Signor Vaccarone's two articles, mentioned in the Introduction to this Section, and to give the following brief particulars of the four chief summits on this ridge. The *Roc du Mulinet*, or *Cima Martellot*, 3,469 m., 11,382 ft., French map (the Italian map makes it 3,437 m., but it is certainly higher than the *Punta Mezzenile*), is accessible in 4½-5 hrs. from Bonneval by the *Mulinet* glacier and the S. ridge. Next in order towards the S. comes the *Punta Mezzenile* (3,458 m., 11,346 ft., French map, 3,446 m., 11,306 ft., Italian map), 5 hrs. from Bonneval by way of the *Grand Méan* glacier, and the W. flank, in which a weak point is found by which the S. ridge is attained. The *Punta Francesetti* (3,441 m., 11,290 ft.) is on the French side a great snow dome, easily gained in 4½ hrs. from Bonneval by the *Grand Méan* glacier and the W. face or the S. ridge. Finally there is the *Punta Bonneval*, 3,385 m., 11,106 ft. (Italian map; the figures 3,858 m. on the French map and 3,451 m. on the Italian map are bad misprints), best reached from Bonneval in 5 hrs. by the *Evettes* glacier and a notch in the S.W. ridge; a rather longer way is by the *Grand Méan* glacier and a notch in the E. ridge; from either notch it is perfectly easy to descend by one or other of two small glaciers to the *Sea chalets*, on the route of the *Col* of that name (see next Rte.)



## ROUTE G.

BONNEVAL TO FORNO AND LANZO BY  
THE COLS DE SEA AND DE GIRARD.

At Forno two glacier streams unite to form the Val Grande branch of the Stura, descending respectively from the S.W. through the *Sea* glen, and from the N.W. through that of *Gura*. Each of these glens runs down from the frontier ridge, so that there are two main routes (not counting the minor passes over the range between them) from Bonneval to Forno. The scenery of the Col de Sea is the finer, but the Col de Girard has the advantage that it can easily be combined with the ascent of one of the peaks of the Levanna. Both passes are described in Count Louis Mezzenile's 1823 book, and traces of an old track are seen near the top of the Col de Girard.

1. *By the Col de Sea* (8 hrs.)—The mule path across the Arc and then along the left bank of that river is followed from Bonneval to a fine waterfall, nearly opposite the hamlet of *L'Ecot*, on the other bank. This is not fed by the main stream flowing from the *Evettes* glacier (which is more to the E.), but by one coming from the small lake (sometimes dried up) at the N.W. end of that glacier. A rough track leads up from the main path, not far from the right bank of this stream, to the depression called *Col des Evettes*, between the *Ouille du Midi* and the *Roc de Parei* (2-2½ hrs.) A short descent leads to the lake, and the moraine on the left bank of the *Evettes* glacier is then followed to its upper level portion—a great shut-in basin. 'After taking to the glacier we crossed it diagonally, and then ascended the tributary from the Col de Sea, keeping near its right bank to turn some crevasses. The last part is up a rather steep snow-slope, at the bottom of which is a

bergschrand. From the summit of the pass, reached in about 3¾ hrs. from Bonneval, the *Ciamarella* and *Albaron* are the most conspicuous peaks.' (For the ascent of these two peaks, and of the *Chalanson*, from this direction, see Rtes. E and F.) The height of the pass is 3,083 m. (10,115 ft.), and there is a great cairn on its shaly crest. 'From the top a short slope of broken rock, with some traces of a path, leads down to the *Sea* glacier. The upper portion of this is easy, but after 20 min. the descent becomes somewhat difficult. We took to the moraine on the left bank to avoid the upper icefall; after 10 min. we returned to the ice, and left it again after 20 min. more for the rocks on the left bank, to clear the lower icefall, returning once again to the ice after ¼ hr. The final descent was by a steep snow slope. Below the glacier we descended rough stone slopes and rocks, scrambled down by a small cascade, crossed more stony slopes, and ascending coarse turf on the left bank of the torrent came to an empty chalet. The track here ascended slightly till we came out on a sort of bluff; after a little searching a sheep track was found to lead by some steep rocks to the level of the valley, and to the *Sea* chalets.' (T. G. B., 1864.) (Mr. Nichols, in 1866, hit on the true course on the rocks above the end of the glacier, by noticing some stones built up into a step or wall on the N. side of the glacier near its foot.) The *Piatou* and *Gias nuovo* huts are passed between leaving the glacier (1¾ hr. from the pass) and the *Sea* chalets, 1,854 m., 6,083 ft. (1 hr.), in a green basin. A stony path (said to be now a mule path) leads from the *Sea* chalets at first along the right bank of the torrent, then along the left bank, through very fine scenery and a savage gorge, to Forno in 1½ hr.

2. *By the Col de Girard* (7½ hrs.)—The same track as for the Col de Sea is followed from Bonneval, but should not be quitted, as for that Col. The

mule path continues along the left bank of the Arc till it crosses (1 hr.) by a bridge just under the poor hamlet of *L'Écot*. The path then runs along the pasture valley to the chalets of *Duis* ( $\frac{3}{4}$  hr.), where the Arc is crossed once more, and grassy slopes, stones, and moraine are mounted in an E. direction to the right edge of the *Source de l'Arc* glacier ( $1\frac{1}{2}$  hr.).  $1\frac{1}{2}$  hr. or less suffices to traverse this nearly level glacier to the pass (3,044 m., 9,987 ft.), which is the left-hand one of two notches divided by a rocky tooth. Besides the view of the Levanna and the Mont Pourri, there is a fine prospect over the Val Grande and the Piedmontese plains as far as Turin itself.

¶ From the Col, or on the way to it, it is easy to climb in  $1\frac{1}{2}$ -2 hrs. either the *Central Levanna* (3,640 m., 11,943 ft.) by its S.W. face, or the *Eastern Levanna* (3,564 m., 11,693 ft.) by its N.W. ridge or W. face. ¶

A little to the N.E. of the Col is a cairn (near which there are traces of an old path which is believed to have crossed this pass in olden days), whence the descent can be made by a rocky ridge, on the N.E. of the steep snow gully or slope called the 'Talancia,' which leads direct from the lowest depression. This gully is the shortest way when there is no ice, or the snow is not too hard, in which case the rocks can be used. At the foot of the 'Talancia' it is necessary to keep along the left bank of a ravine, to follow a course parallel to the main ridge, and then to bear to the left over a series of rock-strewn knolls to the *Gran Pian* and *Gias Milon* huts. Below the latter is a small grassy plain, on which the path coming on the right from the **Gura Club hut** joins the direct route from the pass.

¶ This hut (2,230 m., 7,316 ft.) is near the *Bramafan* torrent, and is useful for parties bound to the Col, to the E. Levanna, or to any of the peaks and passes between the Punta Francesetti and the Col de Girard. To gain it from the Col the traveller

must bend to the right from above the Grand Pian huts, and cross the torrent from the *Martellot* glacier. The hut may be gained in 2 hrs. from Forno direct. ¶

The track crosses to the right bank of the *Gura* stream, and descends along it till close to Forno it passes to the other bank, Forno being reached in  $2\frac{1}{2}$ -3 hrs. from the pass. Shortly before attaining Forno the *Lose* torrent, from the *Levanna* glacier, on the N.W., joins the main stream, and by that glacier and glen it is possible to descend from the E. Levanna down its E. face to Forno direct in  $4\frac{1}{4}$  hrs.

A party mounting from Forno to the Col de Girard should be careful to take first the *left*-hand one of the two glens at the junction of the *Lose* torrent, and later, on the little plain, to take the *right*-hand path, if bound for the Col and not the Club hut.

**Forno** (often called Forno-Alpi-Graie, to distinguish it from other places of the same or similar names), 1,226 m., 4,022 ft., is a little village prettily situated amidst green fields, but containing, perhaps, the very worst inn in the Alps. The head of the Val Grande seen hence is an amphitheatre, surrounded by very steep crags, streaked with snow, and seemingly inaccessible. The *Gura glen*, to the N.W., is well seen, but the far longer and important, though narrow one of *Sea*, on the S.W., remains hidden. At the entrance of the *Sea glen*, and  $\frac{1}{2}$  hr. from Forno, is the *Sanctuary of the Madonna del Forno* (1,332 m., 4,370 ft.) It commands a noble view of the wall of rock and glacier which encloses the head of the valley, and is placed in the midst of a grove of fine beech, sycamore, and ash trees, spared by the woodcutter's axe, which has otherwise so devastated the valley.

The upper part of the Val Grande has frequently suffered from formidable landslips, similar in their nature and cause to that of the Rossberg in Switzerland in 1806. There was a terrible fall of this kind from a cliff

N. of Forno in 1640, and there is still danger of such falls after prolonged rain. A frightful fall took place in the Val Grande on June 2, 1789, and is described in the 'Mémoires' of the Academy of Sciences of Turin by Count Amadée de Ponsillon; a full abstract of this paper is given in Count Louis Mezenile's 1823 book.

Forno is  $17\frac{1}{2}$  m. by carriage road from Lanzo, the road running along the left bank of the Stura. 2 m. below Forno is *Groscavallo*, the chief village of the Val Grande. The high snowy range enclosing the valley is very well seen hence, and contrasts finely with the green pastures of the foreground. Walnut trees grow here, and extend even as far as Forno. At *Bonzo*,  $2\frac{1}{2}$  m. lower down, the mountains open out, but the snowy summits are still seen for a little while after passing *Chialamberto*,  $6\frac{1}{2}$  m. from Forno. Between Groscavallo and Ceres the valley descends very gently between richly-wooded slopes. Many scattered hamlets are passed, and others are seen half concealed amidst the rich vegetation. Just below Chialamberto is a magnificent group of chestnuts, which forms part of the commune of *Vonzo*, a village perched high up on the left on the mountain slope, whereon two earth pillars, capped by great stones, are visible. *Cantoira*, 1 m. below Chialamberto, is beneath the curious Sanctuary of Santa Cristina (described in Rte. E), and then the road passes opposite Ceres, joining that from the Val d'Ala (Rte. E) just as the latter has made a steep descent from Ceres, and traversed the Stura di Val Grande by the bridge of *Meschie*, about 10 m. from Forno and  $7\frac{1}{2}$  m. from Lanzo.

Although, for practical reasons, it has been found convenient in these pages to describe the Stura di Val Grande as uniting with the two other branches of that river, it should be borne in mind that the Val Grande branch is usually reckoned as the main stream, into which flow those from the Ala and Viù valleys.

## ROUTE H.

### VAL GRANDE TO THE ORCO VALLEY.

In order to complete the account of the Val Grande given in the last Rte. it seems most convenient to insert here a short notice of the principal passes which lead thence over to the Orco Valley (§ 15. Rte. I), as in Rte. D. above, we described those giving access to the Val d'Ala on the S.

1. *Colle della Piccola*.—This is the westernmost of the passes over the range separating the two valleys. It leads over in 7 hrs. from Forno to Ceresole, and there would seem to be a mule path for the greater part, if not the whole, of the way. The track mounts over the pastures due N. of Forno, and then bears N.W. to the Col (2,705 m., 8,875 ft.) (It can be reached in 3 hrs. from the Gura Club hut by way of the *Col de Fea*, across the ridge between the Gura and Lose glens: see last Rte.) The descent is made in a slightly N.E. direction by the *Dres* glen and lake.

2. *Colle della Crocetta*.—This pass leads in 7–8 hrs. from Groscavallo to Ceresole, and is traversed throughout by a mule path. The track from Groscavallo runs up the right bank of the *Vercellina* glen, the last bit of the ascent being made in a N.W. direction along ledges which produce *Senecio uniflorus* and other rare plants. The pass (2,636 m., 8,649 ft.) is a narrow opening in a shattered ridge, and is marked by a solid and unusually massive pillar, wherein a small iron cross is fixed. There is a fine view thence of the ranges of the Levanna and of the Grand Paradis. The descent on the other side turns N.W. at the *Piano dei Morti*, and later passes through a larch wood. There is a short cut from the foot of the final slope direct to this wood.

3. *Colle d'Unghiasse*.—This pass



(2,697 m., 8,849 ft.) affords a direct route from Bonzo to Noasca (8 hrs.), but is here noticed, as on the way the ascent of the splendid view-point of the *Ballagarda* (2,939 m., 9,643 ft.), to its N.W., may be made, and Ceresole reached over the ridge to the W.

4. *Colle della Coppa*.—By this pass (2,567 m., 8,422 ft.) a traveller may go in 8 hrs. from Chialamberto to the Orco valley some way below Noasca. On the way there is passed on the E. the *Colle della Forca* (2,458 m., 8,064 ft.), by which Locana may be gained direct in 7 hrs. from Chialamberto through the *Cambrelle* glen.

5. *Colli del Boiret, della Paglia, and di Praforito*.—These three easy passes give access to the *Cambrelle* glen, just mentioned, and so to Locana in 6-7 hrs. (the two former from Chialamberto, the latter from Cantoira.) The *Boiret* (2,317 m., 7,602 ft.) is traversed by a mule path, and is extremely easy, but it is an hour longer than the more frequented foot track over the *Paglia* (2,149 m., 7,051 ft.), whence too the belvédère of the *Uja Bellavarda* (2,345 m., 7,694 ft.), on the S., is easily reached in  $\frac{1}{2}$  hr. The *Praforito* (2,100 m., 6,890 ft.) is also much frequented by the country folk, and in the early summer the flora on the N. slope is very remarkable.

Rather to the E. of the last-named pass is the *Colle di Pierascritta* (2,082 m., 6,831 ft.), also leading, in 7 hrs., from Cantoira to Locana; it bears no name on the Italian map, which gives its proper name to a pass to the E. that really leads from the Tesso valley (Rte. B) to Locana, and is properly called *Colle di Pian Chironio* (2,155 m., 7,071 ft.)

## ROUTE I.

## BONNEVAL TO CERESOLE BY THE COL DU CARRO.

Looked at from the Italian side, the Levanna presents a salient angle, projecting to the E. from the main chain of the Alps, somewhat in the same manner as Monte Viso. The head of the valley of the Arc drains the Savoyard side of this range, N.W. of which, at the very head of that valley, is a wide and well-marked depression, limited to the W. by the mass of the Aiguille Rousse, to be described in the next Rte. This forms the *Col du Carro* ( $7\frac{1}{2}$ -8 hrs.), an easy glacier pass, and one very convenient to the mountaineer bound from the Arc valley to the Grand Paradis group. It really leads over to the very head of the Orco valley, but it must be remembered that the older geographers did not grasp the true character of the upper Arc valley, as the Stura was believed to flow direct from the Iseran group.

After crossing the bridge at Bonneval to the left bank of the Arc the mule path (as indicated in Rte. G) runs along that bank for some distance. Opposite is one of the most striking scenes of ruin to be seen in the Alps. A tract covered with huge broken rocks, called the *Clapier de Fodan*, marks the site of a bergfall which is believed to have overwhelmed the original village of Bonneval. It is said that bits of rude masonry may still be traced beneath some of the blocks. In about 1 hr. from Bonneval the Arc is recrossed to its right bank. The bridge stands just below the poor hamlet of L'Ecot (2,046 m., 6,713 ft.), the highest village, inhabited all the year round, not only in the Maurienne or in Savoy, but in the whole of France. Yet a little rye is grown here. The village is built among stranded boulders and

magnificent domes of ice-worn rocks. The path continues by the side of the Arc to the chalets of *Duis*, 2,161 m., 7,090 ft. ( $\frac{3}{4}$  hr.), in a hollow where the routes to the Col de Girard (Rte. G) and to the Col du Bouquetin (Rte. K) branch off to the E. and N. respectively. The track towards the Col du Carro mounts N. up grassy slopes, whence a view is gained of the *Source of the Arc*, on the E., to the *Léchans* huts (20 min.), where the Col du Bouquetin route branches off. Thence a slightly N.E. direction must be kept over glacier-polished rocks and snow slopes to the summit of the Col, 3,140 m., 10,302 ft. (2 hrs. from Léchans, or about 4 hrs. from Bonneval.) The pass is a long rounded ridge, whence there is a striking, if limited, view of the neighbouring peaks, improved by ascending to a point about 200 ft. above the Col, or still more by pushing on in 2 hrs. to the summit of the *Western Levanna* (3,607 m., 11,835 ft.), which is best taken direct from Bonneval, a traverse across snow and rocks leading from its foot to the Col.

Snow or ice slopes (according to the season) of somewhat alarming steepness descend on the Italian side. But by the aid of some steps and a ridge of rocks the descent to the more level bit of the *Carro* glacier may be effected in  $\frac{1}{4}$  hr. or so, and the glacier quitted on its right bank in  $\frac{1}{4}$  hr. more.

[If, however, it is desired to traverse round to the Col de la Galise or to the Col de Nivolet, the traveller should make for the moraine on the left bank of the Carro glacier, and then work round by snow, rocks, and grass in a N. direction to the *Rocce* huts and lake ( $\frac{3}{4}$  hr.), at the foot of the N.E. spur of the Cime d'Oin. Thence a stony path leads round a corner to the fine *Cerrù* lake ( $\frac{3}{4}$  hr.) Here the way to the Galise turns due W. (§ 14. Rte. B), but for the Nivolet a further traverse past the outlet of the considerable *Agnel* lake is required in order to gain (50 min.) the

mule path about 40 min. below that pass.]

A party bound for Ceresole must, after quitting the Carro glacier on its right bank, traverse round to the right nearly at a level over stones and across a great broad gully to the highest pastures, the *Cernera* huts on which are attained in  $\frac{1}{2}$  hr. from the glacier. Thence a path leads down to the level of the Orco valley ( $\frac{1}{2}$  hr.), 20 min. above the village of *Chiapili di sopra*, where the Col de Nivolet mule path (§ 15. Rte. I) is joined, the inns at Ceresole being reached in 2 hrs. more ( $3\frac{1}{2}$ -4 hrs. from the Col).

The Col du Carro is particularly useful for parties obliged to make a forced march. It may therefore be convenient to note that the present writer (W. A. B. C.) has covered the distance from Bonneval to Dégioz, in Val Savaranche, by the Carro and the Nivolet in just over 12 hrs.' walking, and has reached Lanslebourg from Ceresole by the Carro in  $11\frac{1}{2}$  hrs., the journey from Ceresole to Bonneval taking just under 8 hrs.' walking.

## ROUTE K.

### BONNEVAL TO VAL D'ISÈRE BY THE COL DU BOUQUETIN.

In the Introduction to this Chapter, as well as in the 'History of the Mont Iseran' (§ 12. Rte. B), attention was drawn to the very important topographical importance of the mountain group which rises between the Col d'Iseran, the Col du Carro, and the Col de la Galise. In § 12. Rte. B. the W. half of this mass was described, and an account given of the lofty impostor which was long believed to crown it. In the present Rte. it is intended to describe the E. half of the group, as well as the summit in which the whole group actually culminates. This is the *Grande*

**Aiguille Rousse** (3,482 m., 11,424 ft.), rising near its E. extremity, and first climbed in 1878 by M. E. Rochat. But it is to M. Henri Ferrand that we owe the first exploration (in 1877) of this part of the group, and for further details than space allows us to give here reference should be made to his classical paper 'La Cîme d'Oin,' originally published in the 15th vol. (1888) of the 'Annuaire du Club Alpin Français,' and reprinted in his book 'La Frontière Franco-Italienne' (1894), which has been already mentioned several times in these pages. The E. bit of this group may be said to extend from the *Col du Montet*, E. (not W., as shown on the French map) of the *Roche Noire*, to the *Col du Bouquetin*, just W. of the snow hump (3,310 m., 10,860 ft.) which marks the actual point of junction of the great mountain mass between the Maurienne and the Tarentaise with the watershed ridge running from the *Col du Carro* to the *Col de la Galise*. On the S. side of this group there are only patches of snow, but no glacier. On its N. slope, however, there is a considerable glacier, which covers the whole of that slope, is divided at its upper end into two bays by the N. spur of the *Grande Aiguille Rousse*, and, while sending its principal stream in a N.W. direction towards the Isère valley, whence the Isère issues from it, continues along the W. slope of the watershed till it joins the *Galise glacier*. The French map gives the name of *Glacier du Col de la Vache* to this extensive glacier, but it is also known by the far more appropriate name of *Glacier des Sources de l'Isère*, which will be adopted in these pages.

There are at least three points at which this group may be crossed from N. to S. Furthest to the W. is the *Col du Montet*, by which 3 hrs. or so are required from the chalets of Duis (1 $\frac{3}{4}$  hr. from Bonneval) to the *Col de la Galise*; the *Roche Noire*, 3,301 m., 10,831 ft., on the W., may be climbed in 20 min. from the *Col*;

and next comes the direct passage over the *Petite Aiguille Rousse*, 3,434 m., 11,267 ft. (best gained along the ridge in 20 min. from the *Grande Aiguille*), the descent in both cases lying for the first portion down the W. bay of the great glacier already mentioned.

The third manner of crossing the group is topographically the most important, and by far the most interesting—the *Col du Bouquetin* (7 $\frac{1}{2}$  hrs.). This pass is reached without any difficulty from the Duis chalets in 2 $\frac{3}{4}$  hrs. by grass, stones, the gap between the *Grande Aiguille Rousse* and the *Aiguille de Gontière*, and a conspicuous snow couloir. Its height is about 3,300 m. (10,827 ft.) To the E. there is the snowy hump (3,310 m., 10,860 ft.), only a few feet higher than the *Col*, which marks the point of junction of the group with the watershed, but to the W. rises the monarch of the entire group between the *Cols d'Iseran*, de la *Galise*, and de *Bouquetin*—the *Grande Aiguille Rousse* (3,482 m., 11,424 ft.). No one crossing the pass on a fine day should omit to climb this summit, easily gained in  $\frac{3}{4}$  hr. by the N.E. ridge; it may also be attained in 5 hrs. by its S.W. slope from Bonneval direct, or in 1 hr. by climbing up the entire length of its N. ridge. The view from the top is most extensive, and this point, as yet but little known, ranks as one of the finest belvédères in the Central Graian chain.

Hence the frontier ridge as far as the *Col de la Galise* may be well studied. It consists of an easy rock and snow ridge which alternately descends to form depressions or passes, and rises to form small peaks, there being 312 m. (1,024 ft.) fall from the snowy hump to the *Col de la Galise*. The first depression is the *Col d'Oin* (3,230 m., 10,598 ft.), whence an easy glacier (around the rocky point, wholly in Italy, which the Italian maps name *Cima d'Oin*, 3,184 m., 10,447 ft.) leads down in rather over 1 hr. to the route of the



Col du Carro (Rte. I), below the Carro glacier. The ridge then rises in a blunt, shaly summit, the true *Cîme d'Oin* (3,277 m., 10,752 ft.), though called *Cîme de la Vache* by both maps; it is easily attained in  $\frac{1}{2}$  hr. either from the N. or the S.W. Next comes a slight and unnamed depression, beyond which is the true *Cîme de la Vache* (3,189 m., 10,463 ft.), the *Col de la Vache*, and the *Col de la Louza* (both variations of the Col de la Galise: see § 14. Rte. B), and the rocky humps of the *Pointes du Grand Cocor* (3,019 m., 9,905 ft.), immediately below which on the N. is the Col de la Galise.

As the direct descent from the Col du Bouquetin is a steep snow slope it is more convenient to follow the snowy frontier ridge for a short way before descending on to the perfectly easy E. bay of the *Glacier des Sources de l'Isère*. It is a short hour from the Col along the W. side of the frontier ridge to the Col de la Galise. But it is better for a party bound to Val d'Isère to bear slightly to the N.W. on the descent, so as to gain the moraine on the right bank of the great tongue of ice sent by that glacier towards the Isère valley (40 min.), down which and grass slopes, past the *Sources of the Isère*, the Galise route is joined in the Prarion basin of the upper Isère valley ( $\frac{3}{4}$  hr.), above the great gorge of *Malpasset*, about  $1\frac{1}{2}$  hr. from Val d'Isère.

Travellers bound from Bonneval to the Col de Nivolet may vary the way described in Rte. I over the Col du Carro by taking the Bouquetin and Vache passes to the Cerrù lake: this route allows of the ascent of the Grande Aiguille Rousse, but is decidedly longer than that by the Carro.

## SECTION 14.

SASSIÈRE DISTRICT.  
(CENTRAL GRAIANS. II.)

THE main ridge of the Graian Alps runs from the Col du Carro in a slightly N.W. direction, and takes a due W. direction between the Pointe de la Galise and the Tsanteleina, N. of which it extends due N. to the Pass of the Little St. Bernard. The highest independent summits on it are the neighbouring peaks of the *Aiguille de la Grande Sassièr* (3,756 m., 12,323 ft.) and the *Tsanteleina* (3,606 m., 11,831 ft.), the other points on the divide being considerably lower. On the W. the slope towards the Isère valley is broken by a few short glens only, that of La Sassièr de Ste. Foy, opening nearly due E. of the village of Ste. Foy, being by far the most extensive and fertile. The topography of the E. slope of this portion of the Central Graians is, however, much more complicated, for two narrow, though lengthy, valleys descend from it towards the valley of the Dora Baltea. Both run roughly N. and S., and are parallel to the Val Savaranche on the E., which divides them from the Eastern Graians. The more easterly of these two valleys is the *Val de Rhêmes*, which, turning at the last rather to the N.E., joins the Val Savaranche just before their united streams are poured into the Dora Baltea at Villeneuve. The more westerly is the *Val Grisanche*, which is also bent aside from its direct course as it approaches the valley of the Dora Baltea, which it joins at Liverogne, a little higher up that valley than Villeneuve. These two valleys are separated by a long and lofty ridge, which originates at the *Pointe de la Traversièr* (3,341 m., 10,961 ft.) and attains the height of 3,608 m. (11,838 ft.) in the splendid rock







peak of the *Bec de l'Invergnan*, N. and S. of which easy passes give access from one valley to the other. The E. boundary of the Val de Rhêmes is the ridge starting from the *Pointe de la Galise*, and culminating in the *Cima dell' Auille* (3,446 m., 11,306 ft.), which is most conveniently described in the next Section, Rte. I. Far more important than the last-named ridge is that which separates the Val Grisanche from the road across the Little St. Bernard. Indeed, it mainly consists of the great glacier-clad mass of the *Rutor* (highest point 3,486 m., 11,438 ft.), which, by comparison with the peaked forms of the neighbouring Alps, may be called a plateau. This extensive mass is visible from Aosta itself, but is best approached from the Val Grisanche, Ste. Foy, in the Isère valley, or La Thuille, on the Little St. Bernard road, its main outlet being through a glen descending direct to the latter village. W. of the Rutor group is a short but tangled ridge, across which lead many passes, but they are very little known as yet, and this region, like the group just N.W. of the Little St. Bernard road, is all but unknown to travellers—a surprising fact in these days when the Alps are (most erroneously) supposed to have been so thoroughly examined and explored that nothing new remains to be done therein.

Val d'Isère and Ste. Foy are the best headquarters on the French side; on the Italian slope there is the little mountain inn at Fornet, at the head of the Val Grisanche, and the Club hut at the N. end of the Rutor group, but the Val de Rhêmes, one of the most striking valleys in the Western Alps, can supply only the roughest accommodation.

Besides Joanne, Signori Vaccarone and Bobba's 'Guida,' and M. Ferrand's book, all mentioned in the Introduction to this Chapter, two articles by Signor Bobba may be specially mentioned, as they are in

the strictest and best sense monographs: they deal with the Val de Rhêmes and Val Grisanche, and the ridges which enclose them, and appeared in the 'Bollettino' of the Italian Alpine Club for 1889 and 1890 respectively.

## ROUTE A.

### EXCURSIONS AND ASCENTS FROM VAL D'ISÈRE.

It was pointed out in § 12. Rte. B, that the village of Val d'Isère is now the best headquarters for a mountaineer in the upper valley of the Isère. Hence it seems convenient to gather into one Rte. some information, otherwise scattered through several, as to the chief climbs to be made from this centre.

**Val d'Isère**, 1,849 m., 6,066 ft. (formerly called La Val de Tignes), is the highest church-village in the Isère valley, though there are a few hamlets higher up that valley. It stands in the midst of a small plain or basin, which is unexpectedly fertile, as the height is here so considerable, and at the meeting point of the broad *Calabourdane* glen on the S. with the main valley. The slopes W. of the village are covered with forests, but the mountain spurs on either side rise so steeply as to hide most of the neighbouring peaks from the village itself. The *Pointe de la Galise*, far to the E., with the *Pointe de Bazel* (3,446 m., 11,306 ft.) and the *Cîme de Quart Dessus* (3,474 m., 11,398 ft.), both on the N.E., are the only snowy summits visible, but the *Mont Iseran*, on the S.E., and the lower point of the *Rochers de Franchet*, on the N.W., also command the village. The striking *Dôme de Val d'Isère* is seen by going a short distance on the road towards Tignes, while the *Tsante-*

# VI. THE GRAIAN ALPS

The Levens and Grand Paradis Districts.



SCALE, 1 : 250,000, 4 ENGLISH MILES TO 1 INCH (NEARLY)

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*leina*, the principal peak in these parts, comes into sight at Fornet,  $\frac{1}{2}$  hr.'s walk up the valley.

**1. Excursions.**—Perhaps the prettiest excursion near Val d'Isère, round which the scenery is otherwise strictly Alpine, is to the splendid pastures of the **Grand Pra**, on the N.W. of the village. A path leads through the fine forest from the hamlet of *Le Crey* up the *Combe de la Thouvière* to a stone hut at the point where it splits into two arms ( $1\frac{1}{4}$  hr.). By following the path to the N.W. the grassy *Pas de la Thouvière* is gained in  $\frac{1}{2}$  hr., and  $\frac{1}{4}$  hr. more suffices to descend to the borders of the beautifully situated Lac de Tignes; the return to Val d'Isère may be made *viâ* Tignes. But an even more lovely walk than this excursion is to keep S. from the stone hut over gently inclined pastures which above form a sort of grassy plateau ( $\frac{3}{4}$  hr.) It is easy to mount W. in  $\frac{1}{2}$  hr. to the *Col de Fresse*, opposite the Grande Motte and near the Col de la Laisse, whence in  $2\frac{1}{2}$  hrs. the highest or S. point of the *Rochers de Génepy* (3,157 m., 10,358 ft.) may be reached by the easy ridge in  $2\frac{1}{2}$  hrs., and the return to Val d'Isère made in as much more by way of the Charvet glen, on the E. But a traveller who does not desire to make so long an excursion should content himself with mounting in 1 hr. or so from the grassy plateau (which may be called the *Col du Grand Pra*) to the summit of the *Rochers de Bellavarde* (2,833 m., 9,295 ft.), on the E., whence there is a fine view. The direct route from the Col to Val d'Isère ( $1\frac{1}{2}$  hr.) is by the *Santon* glen, but should time permit the traveller would do well to push on from the Col to the S., always over pastures at the head of that glen, to the ridge (*Col du Charvet*) between the lower *Rocher de Génepy* and the *Roc du Charvet*, 2,860 m., 9,384 ft. (either easily accessible hence), and join the track from the Col de la Rocheure (§ 12. Rte. K. 2) in the *Charvet* glen.

N.E. of Val d'Isère there is another comparatively low group, which deserves a visit from travellers who do not propose to ascend one of the higher peaks in the neighbourhood. This may be called the *Bailletta* group from its culminating point. The pleasantest way of exploring it from Val d'Isère is to make the round by the *Cols du Dôme* and *de la Bailletta*. To gain the former a steep and stony ascent must be made from near Le Crey in a N.E. direction, by which a great cairn, with a pole, above the lower slopes, is attained in under 2 hrs. from the village. Hence, by bearing far to the N.W., the lower or W. summit (2,818 m., 9,246 ft.) of the *Rochers de Franchet*, the grand rock tooth which dominates the basin of Tignes, may be reached in  $1\frac{1}{2}$  hr. But to gain the *Col du Dôme* (2,800 m., 9,187 ft.) a good  $\frac{1}{2}$  hr.'s ascent from the cairn towards the N. is required, and thence the higher or E. summit (2,878 m., 9,443 ft.) of the *Rochers de Franchet* can be reached without difficulty by its N.E. slopes.

【On the way between the cairn and the Col a great gully, filled with rolling stones, is seen on the right. This gives access (1 hr. from the cairn) to the rocky depression—*Col du Front*—between the *Pointe du Front* (2,964 m., 9,725 ft.) and the **Dôme de Val d'Isère** (3,033 m., 9,951 ft.) The last-named peak, which from afar resembles a paper knife set on end, may from this point be ascended in under 1 hr. by way of the S.W. ridge. The climb offers no difficulties, despite appearances, and the excursion up this bold little tooth is strongly recommended to any climber having an off day at Val d'Isère. The return to that village from the Col du Front, the E. slope of which is rather stony, may be effected in  $1\frac{1}{4}$  hr.】

From the Col du Dôme the traveller has only to mount leisurely for  $\frac{1}{2}$  hr. over gentle stone slopes in order to attain the **Pointe de**

**Picheru** (2,957 m., 9,702 ft.), one of the most splendid belvédères in the district. The view includes all the surrounding peaks, the Dôme towering up very finely, and extends to the Charbonel, the Ciamarella, and Belledonne, near Grenoble. (It is easy to descend hence in 1 hr. in a S.W. direction to the hamlet of Franchet, which is  $\frac{1}{4}$  hr. from the high road between Tignes and Val d'Isère.) The proper descent from the Col du Dôme leads in  $\frac{1}{2}$  hr. to the Sassièrè lake, on the Col de la Goletta route (Rte. C. below). But it is worth while to prolong the excursion by keeping high up along the slopes to the S., in order to gain the *Col de la Bailletta*, 2,855 m., 9,367 ft. (1 hr.) The *Pointe de la Bailletta*, 3,060 m., 10,040 ft., just to the W., may be reached hence in  $\frac{1}{2}$  hr., or more directly (for a party coming from the Col du Dôme) by way of its N.W. spur ( $\frac{3}{4}$  hr.) The view from the summit is fine, but is excelled by that from the Picheru, as the Bailletta is too close under the great mass of the Tsanteleina. From the Col de la Bailletta a very rough and steep descent leads down in about 1 hr. to the hamlet of Fornet,  $\frac{1}{2}$  hr. above Val d'Isère. The entire round from Val d'Isère and back by these two passes can, therefore, be made in 5 hrs., so that there is plenty of time to climb one or other of the peaks mentioned in the course of an easy half-day's excursion. Travellers are warned against crossing either pass as a short cut to the Col de la Goletta route, the true short cut from Val d'Isère being past Franchet (see Rte. C. below).

2. **Ascents.**—No mountaineer who finds himself at Val d'Isère in fine weather should neglect to climb the fine peak of the **Tsanteleina** (3,606 m., 11,831 ft.), N.E. of, but invisible from, that village. The Alpine history of this summit is somewhat intricate and singular, and in these pages but a brief sketch of it can be

given, those desiring fuller details being referred to M. Henri Ferrand's classical articles in the 16th and 17th vols. of the 'Annuaire du Club Alpin Français' (reprinted in his oft-mentioned book). The Sardinian map confuses the Tsanteleina with the lower Granta Parei, to the N., both being seen from quite close to N. D. de Rhêmes, though the latter nearly hides the former. The early explorers of the district, starting from the Rhêmes valley, naturally climbed the lower peak, under the impression that it was the higher, and Mr. Nichols in vol. ii. of the 'Alpine Journal' has narrated the story of the explorations (1863-5) of his party. Finally, the Tsanteleina was first climbed in 1865 by Messrs. Nichols, Blanford, and Rowsell in 6 hrs. from the chalets near the Sassièrè lake, by way of the glacier on its S.W. slope. Unluckily the local name of the peak (from 'tsanté,' or 'santé,' a word meaning in the patois of Val d'Isère and the Val de Rhêmes a gently inclined slope, as opposed to a great wall, 'granta parei') was misunderstood as being 'Ste. Hélène,' while the French map to this day calls this summit 'Pointe de Bazel,' its true name appearing only on the Italian map. In 1878 Mr. Coolidge, when making the second ascent, discovered a much easier route, by which the summit was gained by the N. slope in  $1\frac{1}{4}$  hr. from the Col de la Tsanteleina. But it was only in 1890 that M. Henri Ferrand succeeded in effecting the ascent by what is by far the best route, especially from Val d'Isère—namely, from the S. (4 $\frac{1}{2}$ -5 hrs. suffice for good walkers.) The way towards the Col de la Bailletta is followed from Fornet, but it is necessary to gradually bear N.E. to the rude cattle pens on the Alp of *Quart* (2 hrs.) The same direction is followed to the glacier of that name, the upper portion of which is attained by means of the E. extremity of the band of rocks which separates it from the lower portion ( $1\frac{1}{2}$  hr.) Gentle snow

slopes lead up hence in  $\frac{3}{4}$  hr. to the depression at the S. foot of the final peak, the snow slopes gradually steepening till in  $\frac{1}{2}$  hr. more the summit is attained. This is composed of a ridge of some length, the E. end of which is the loftier. The panorama from this point is one of the most splendid in the entire chain of the Graians. It is a pleasant variation to descend on the N. to the Col de la Tsanteleina, whence either Val d'Isère or Notre Dame de Rhêmes can be reached by either the Col de la Goletta or the Col de Rhêmes, or else Val Grisanche by the former pass and the Col de Bassac Déré. In 1893 Herren Blodig and Purtscheller went in 4 hrs. from the top of the Tsanteleina to that of the Sassière by way of the S.E. arête of the latter summit—a remarkable 'tour de force.'

The *Aiguille de la Grande Sassière* (3,756 m., 12,323 ft.) may be ascended from Val d'Isère, though Tignes is the better starting point. From Val d'Isère the path between Tignes and the Sales chalets may be reached in  $1\frac{1}{4}$  hr. by way of Franchet (see Rte. C. b. below), and thence the ordinary route followed to the summit, or else the S.E. arête from the Col de la Goletta.

Many of the other ascents which may be made from Val d'Isère are described elsewhere—the *Grande Motte* (3,663 m., 12,018 ft.), 5–6 hrs. *viâ* the Col de Fresse, as also the *Pointe de la Sana* (3,450 m., 11,319 ft.), 5 hrs. *viâ* the Col de la Rocheure, in § 12. Rte. K; the *Signal du Mont Iseran* (3,241 m., 10,634 ft.), 4 hrs., and the *Pelaou Blanc* (3,136 m., 10,289 ft.), 4 hrs., in § 12. Rte. B; the *Grande Aiguille Rousse* (3,482 m., 11,424 ft.),  $5\frac{3}{4}$  hrs., in § 13. Rte. K; the *Pointe de la Galise* (3,345 m., 10,975 ft.),  $4\frac{3}{4}$  hrs., in Rte. B. below, and the peaks in the ridge between that summit and the Tsanteleina in Rte. C. below, wherein too mention is made of the *Grande Sassière* (3,756 m., 12,323

ft.) and of the *Granta Parei* (3,473 m., 11,395 ft.) Of the ascents here merely referred to the Grande Motte, the Grande Sassière, the Galise, the Grande Aiguille Rousse, and the Sana are particularly recommended.

#### ROUTE B.

##### VAL D'ISÈRE TO CERESOLE BY THE COL DE LA GALISE.

In the entire chain of the Alps between the Mediterranean and the Great St. Bernard there are *very* few glacier passes which are *certainly* known to have been traversed earlier than the Galise. It is frequently mentioned on maps and by writers of the sixteenth, seventeenth, and eighteenth centuries; it was visited between 1825 and 1836 by Mr. Brockedon, and crossed in 1843 by Mr. Malkin, while it is at the present day often traversed by the country folk with flocks of sheep. The ancient forms of its name are 'Gales' and 'Cales,' 'Galet' and 'Galest.' Even now it is to some extent a smugglers' pass, and offers no difficulties of any kind to a moderately experienced mountaineer, while it affords a very direct route from the head of the valley of the Isère to that of the Orco ( $7\frac{1}{4}$ – $7\frac{3}{4}$  hrs.)

The Iseran char road is followed from Val d'Isère as far as the last hamlet, that of *Fornet* ( $\frac{1}{2}$  hr.), whence a mule track along the right bank of the Isère leads past the chalets of *St. Charles*, and through the striking though gloomy gorge of *Malpasset* (the path here crumbles away much) to the green pasture basin of *Prarion* (2 hrs. from Val d'Isère), one of the shepherds' huts in which is now (in part) a Club hut. Hence the Sources of the Isère are well seen, and here our way parts from that over the Col du Bouquetin to Bonneval (§ 13.



Rte. K). A well-marked path runs hence in a N.E. direction up the right bank of the *Niclet* torrent. The traveller may either continue up this ravine and by moraine gain the nearly level *Galise* glacier, which is traversed to the Col, or may bear to the S.E. across the torrent to another track which mounts the grassy and rocky barrier to the S. of that glacier, and gives access to the Col after a few minutes only on the ice. In either case  $1\frac{3}{4}$ –2 hrs. suffice to go from the Club hut to the Col (2,998 m., 9,836 ft.), a narrow opening marked by two wooden crosses, one on each side of the frontier. The view from the pass itself is limited to the mass of the Levanna, though the *Paradis* group soon comes into sight.

[No traveller who passes here in fine weather should neglect to make the ascent of the **Pointe de la Galise** (3,345 m., 10,975 ft.), just to the N. of the Col, as it commands a most marvellous panorama, while it is the 'Mont Iseran' of several old maps (see § 12. Rte. B). The ascent is very easily made in about 1 hr. by descending the *Galise* glacier for a short distance to the foot of a well-marked snow gully by which the schistose rocky wall bounding that glacier to the N. is scaled, and so the uppermost rim of the great *Rhêmes* Glacier is gained; thence an easy walk to the E. up very gentle snow slopes leads to the mound which forms the summit. As this point rises at the junction of three important ridges, surpasses in height all its near neighbours, and juts out towards Italy, it occupies a most favourable position, and the panorama from it is destined to become one of the most celebrated in the Alps, the peak being so easily accessible. Suffice it to say that the eye ranges from the Meije to the *Diablerets*, while both Val d'Isère and Ceresole are visible, as well as the *Soches* chalets, at the head of the Val de Rhêmes. It is easy to follow the snowy ridge to the N.E., and by

the *Basei* glacier to descend to the Nivolet plain (§ 15. Rte. I). A far finer route, however, is to descend the W. ridge for a short way, and then to strike boldly in a slightly N.W. direction down the Lavessey branch of the great *Rhêmes* Glacier, the moraine at the foot of which may be reached in about 1 hr. from the summit, and so the route of the Col de Rhêmes (see next Rte. a) from Val d'Isère to Notre Dame de Rhêmes, the latter village being  $2\frac{1}{2}$  hrs. from the moraine.

By steering nearly due S. from the Col along the W. slope of the frontier ridge it is easy to gain ( $1\frac{1}{2}$  hr.) the Col du Bouquetin (§ 13. Rte. K). On the way the openings of the *Cols de la Louza* and *de la Vache* are passed, both variations of the *Galise*, by which one or both the *Colourets* may be avoided. But these obstacles are really not at all serious.]

Some steep and crumbling rocks lead down from the Col de la Galise in a few minutes to the *Grand Colouret*, a débris-filled couloir (whence its name), through which, or by means of the rocks on its N. edge, the little plain of *Ballotta* is attained in  $\frac{1}{2}$  hr. from the Col. (A party taking the Col from Italy should mount by the left-hand one of the two arms of the *Grand Colouret*, and just below the Col traverse to that on the right, the latter itself being rather steep, though its N. edge is quite practicable.) Below this plain the earth-filled *Petit Colouret*, in which there is a path (while the gully itself—the difficulty of which has been, like that of the *Grand Colouret*, enormously exaggerated—may be turned by the slopes on either side, that to the N. being the best), leads down in  $\frac{1}{2}$  hr. more to the fine *Cerrù* lake, which has been conspicuous ever since leaving the Col.

[From the little chapel above this lake the mule path over the Col de Nivolet—§ 15. Rte. I—may be gained, 40 min. below the Col, by a traverse to the N. in 50 min., while by

another to the S. it is possible in  $1\frac{1}{2}$  hr. from the lake to reach the foot of the last ascent to the Col du Carro, § 13. Route I.]

From the huts near the lake a mule path winds down to the level of the Orco valley, where that coming from the Col de Nivolet is joined, and followed past *Chiapili di sopra* to Ceresole, gained in  $2\frac{1}{2}$ -3 hrs. from the lake.

### ROUTE C.

#### VAL D'ISÈRE TO VILLENEUVE BY THE VAL DE RHÈMES.

There are no fewer than five practicable passes across the snow-clad range which separates the Isère and Rhêmes valleys, but the topography of that range is so singular that some account of it must be given in order to enable travellers to select the route they prefer. The strangeness of the position is shown by the unexpected fact that the principal glacier on the French side does not correspond with the principal glacier on the Italian slope, save by a sort of side pass (the Col de la Tsanteleina), which traverses the divide from W. to E., instead of from S. to N., as the relative positions of the two valleys would lead one to imagine. Hence we find that three small glaciers on the French side communicate by easy snow passes with one enormous glacier on the Italian side, while the main French glacier flows from the same névé as the smallest of those on the Italian slope, yet receives a branch coming directly from the snowy depression (Col de la Tsanteleina) whence descends on the other side one of the main branches of the enormous glacier on the Italian side. For this reason, and in order to clear up the great confusion of names which has arisen from the

contradictory statements of maps and writers, it may be convenient to present here in a tabular form a list of the chief peaks and passes between the Pointe de la Galise and the Grande Sassière, all, save no. 11, being on the watershed.

1. *Col de Bassagne* (3,160 m., 10,368 ft.). From the *Bassagne* Glacier to the *Lavassey* branch of the Rhêmes Glacier.

2. *Roc de Bassagne* (3,224 m., 10,578 ft.)

3. *Col de Calabre* (3,081 m., 10,109 ft.). From the *Calabre* Glacier to the *Fonte* branch of the Rhêmes Glacier.

4. *Pointe de Calabre* (3,276 m., 10,749 ft.). Called *Roc del Fonte* on the Italian map.

5. *Col de Rhêmes* (3,101 m., 10,174 ft.). From the *Bazel* Glacier to the *Centelina* branch of the Rhêmes Glacier.

6. *Pointe de Bazel* (3,446 m., 11,306 ft.). Called *Punta Calabre* by the Italian map.

7. *Cîme de Quart Dessus* (3,474 m., 11,398 ft.)

8. *Tsanteleina* (3,606 m., 11,831 ft.). Called *Pointe de Bazel* by the French map.

9. *Col de la Tsanteleina* (3,167 m., 10,391 ft.). From the *Sassière* Glacier to the *Centelina* branch of the Rhêmes Glacier.

10. *Pointe de la Goletta* (3,291 m., 10,798 ft.)

11. *Granta Parei* (3,473 m., 11,395 ft.). On a spur projecting N.E. from the watershed.

12. *Col de la Goletta* (3,120 m., 10,237 ft.). From the *Sassière* Glacier to the *Goletta* Glacier.

13. *Pointe de la Traversière* (3,341 m., 10,962 ft.)

14. *Grande Sassière* (3,756 m., 12,323 ft.)

Neglecting for a moment the peaks enumerated in this list (all accessible from the passes between them, and all, as well as the Pointe de la Galise (Rte. B), easily taken on the way from one valley to the other), it

will be seen that three small glaciers on the French side communicate, by means of the passes numbered 1, 3, and 5, with the enormous glacier which fills the head of the Val de Rhêmes, and is divided into the *Lavassey* and the *Fonte* branches (separated only by an unimportant moraine), and the *Centelina* branch, which is raised on a rock terrace above the *Fonte* branch. On the other hand, the principal French glacier—that of *Sassière*—communicates both with the *Centelina* branch of the Rhêmes Glacier and with the *Goletta* glacier, the latter having no connection with the former, but being squeezed up into the S.W. corner of the Val de Rhêmes.

Of these five passes two may be dismissed briefly, as the *Col de Bassagne* and the *Col de Calabre* are really variations of the *Col de Rhêmes*; the former is gained by the right side of the *Bassagne* glacier and that glacier itself in  $1\frac{1}{2}$  hr. from the point at which the moraine of that glacier and of the *Galise* glacier unite, while the *Col de Calabre* is accessible over the glacier of that name in 1 hr. from the point of union of its moraine with that of the *Bazel* glacier on the route of the *Col de Rhêmes*. The *Roc de Bassagne* is easily accessible by snow slopes in a few minutes from the *Col de Calabre*, but the *Pointe de Calabre* is reached only from the *Col de Rhêmes*.

We have, therefore, now to describe the *Cols de Rhêmes* and *de la Goletta*, both known and traversed since at least the end of the seventeenth century, as well as the *Col de la Tsanteleina*, which connects the routes over those passes, yet seems only to have been first completely traversed as recently as 1881.

a. *By the Col de Rhêmes.* (7–7 $\frac{1}{2}$  hrs. from Val d'Isère to Notre Dame de Rhêmes.)

This is the most direct route, if the start be made from the village of Val d'Isère; but it is inferior in every way to the *Col de la Goletta*, and will pro-

bably be visited only by mountaineers wishing to climb the peaks near it.

The way to the *Col de la Galise* (Rte. B) is followed as far as the entrance to the gorge of *Malpasset* ( $1\frac{1}{2}$  hr.), where an ill-marked track leads up the steep grassy and rocky ridge descending from the point marked 2,697 m. on the French map to (1 hr.) the upper basin of the *Calabre* glen, which may also be gained direct by stony slopes. Here the moraines from the *Calabre* and *Bazel* glaciers join. Leaving to the N.E. the way to the *Col de Calabre*, an hour's easy ascent to the N. up moraine and the small *Bazel* glacier brings the traveller to the *Col de Rhêmes* (3,101 m., 10,174 ft.), a well-marked snowy depression.

[Hence the *Pointe de Calabre* (3,276 m., 10,749 ft.), on the E., can be easily climbed in  $\frac{3}{4}$  hr., or less, by easy broken rocks and a great snow slope, up which many steps may sometimes have to be cut. But a finer ascent is that of the *Pointe de Bazel* (3,446 m., 11,306 ft.), on the W., which takes  $1\frac{1}{4}$  hr. by way of the rocky E. face. As the N.W. face of the latter summit consists of gentle snow slopes, it is easy to regain the *Col* by that route; but a party desiring to enjoy some very fine snow scenery is recommended—whether or not they push on in  $\frac{1}{2}$  hr. more to the still loftier *Cîme de Quart Dessus* (3,474 m., 11,398 ft.)—to make their way over those slopes to the *Col de la Tsanteleina*,  $\frac{1}{2}$  hr. from the *Pointe de Bazel*, and thence regain *Val d'Isère* (3 hrs.), or reach *Notre Dame de Rhêmes* ( $3\frac{3}{4}$  hrs.) by the *Goletta* route, unless they are bound from the latter pass to the *Val Grisanche* over the *Col de Bassac Déré*.]

From the *Col* easy snow slopes lead down to the *Centelina* branch of the great *Rhêmes Glacier*. Thence a traveller may traverse in a N. direction the whole of that branch (lying beneath the precipices of the *Granta Parei*), or may bear a little to



the N.E. so as to descend by a steep slope of stones at its S. end the rocky barrier which supports the Centelina glacier on its shelf above the Fonte branch to that branch of the Rhêmes Glacier. There is no difficulty on either route, which both bring the traveller by the left bank of the main torrent in  $1\frac{1}{2}$  hr. or less to or below the *Soches* chalets, where the Col de la Goletta route is joined.

b. *By the Col de la Goletta* ( $7\frac{1}{4}$ –8 hrs. from Tignes or Val d'Isère to Notre Dame de Rhêmes). — The path from Tignes crosses the Isère and then mounts by the S. side of the fine waterfall so conspicuous from the village past the chalets of *Le Villaret* and *Sales*, and above the cliff passes to the right bank of the torrent at the entrance to the upland basin of *Sassière*. Here are the *Sassière* chalets ( $1\frac{1}{4}$  hr.), where night quarters may be obtained by a party bent on the ascent of the Grande *Sassière*.

[If coming from Val d'Isère the traveller should descend the high road towards Tignes for 40 min., when, at a fine spring just above the great zigzags of the road, a path to the N.E. must be taken, by which the hamlet of *Franchet* is gained in 20 min. Hence 20 min. more suffice to join the track from Tignes to *Sales*, so that the *Sassière* lake may be reached from Val d'Isère in  $2\frac{1}{2}$  hrs.]

Half an hour above the chalets is the *Lac de la Sassière* (2,446 m., 8,025 ft.), whose dull green waters are turbid by reason of the fine glacial mud held in suspension. The path runs along the N. side of the lake, with the black wall of the Grande *Sassière* on the left, and then ascends slopes of alternate rock and Alpine pasture, the fine *Sassière* glacier and the snowy slopes of the *Tsanteleina* gradually coming into view. The moraine on the right bank of that glacier is attained in  $1\frac{1}{4}$  hr. from the lake, and then the gently inclined glacier is mounted

without the slightest difficulty by its N. edge to the rounded snow ridge and broad depression of the *Col de la Goletta*, 3,120 m., 10,237 ft. (40 min., or  $4\frac{1}{4}$ –5 hrs. from the starting point.)

[If bound for the *Col de la Tsanteleina* it saves time to keep more to the S. on the way up, but it is also easy to bear E. across the *Goletta* glacier, and up the side glacier leading to that Col, reached in 1 hr. from the point at which the *Goletta* glacier is struck. A few minutes over snow slopes leads to the route of the Col de Rhêmes, while from the former pass the *Tsanteleina* (3,606 m., 11,831 ft.) itself may be climbed in  $1\frac{1}{4}$  hr. or more, by the snowy N. face, the time varying according to the condition of the snow.  $\frac{1}{2}$  hr. suffices to go from the Col de la *Tsanteleina* to the Col de la *Goletta*.]

'The pass is one of the finest in the Graian Alps, and both in its foreground scenery and in the extent and interest of its distant views may bear comparison with some of the more celebrated Col's of the Pennine or Bernese Oberland Alps. The summit of the Col is far in advance of the *Sassière*. As we faced the Val de Rhêmes we had upon our left hand tracts of snow of immense extent, stretching towards the Val *Grisanche*. On our right was the *Tsanteleina*, and immediately in advance of it a most peculiar peak, the *Granta Paret*, consisting of a tower of dark rock, capped by a cone of snow. On the Savoy side, beyond the Lac de Tignes, rose the graceful snow peak of the Grande Motte, and the frowning precipices of the Grande Casse, while on the Piedmontese side we looked over the Val *Savaranche* to the magnificent masses of the Grand *Paradis* and the *Grivola*. Straight down the Val de Rhêmes a section of the Pennine chain is seen, of which the Grand Combin forms the central summit.' (W. M., revised.)

[From the Col the *Sassière* can be

climbed in about 3 hrs. by way of its long S.E. arête. Nearer and less laborious is the *Granta Parei* (3,473 m., 11,395 ft.), accessible in 1 hr. by way of the steep but not difficult rocks of its S. face: this is a much easier route than that by the N. face and W. slope taken by the first party, Messrs. Nichols, Blanford, and Rowsell, in 1863, under the impression that they were climbing the true Tsanteleina. Should time not allow the ascent of any of these three high peaks, a party would do well to mount S. from the Col along the snowy watershed to the *Pointe de la Goletta*, 3,291 m., 10,798 ft. (20 min.), a very fine belvédère, just at the point at which the Granta Parei spur branches off from the main ridge. Another view-point in the neighbourhood is the *Pointe de la Traversière* (3,341 m., 10,962 ft.), just W. of the Col, and accessible thence in  $\frac{1}{2}$  hr. by its rocky E. face. Thence the *Col de Bassac Déré* (2,984 m., 9,790 ft.), at its N. foot, may be gained in 10 min. (this Col is 20 min. direct from the Col de la Goletta), and so by the great *Gliairetta* glacier, the icefall of which is turned by the rocks on its right bank, the *Vaudet* chalets ( $1\frac{1}{2}$ – $1\frac{3}{4}$  hr.), at the head of the Val Grisanche,  $1\frac{3}{4}$  hr. above Fornet, the highest hamlet in that valley, described in Rte. E, below. ]

The descent from the Col de la Goletta towards the Rhêmes valley is *not* made direct down the Goletta glacier, as might be expected, for that ice stream ends in a wild gorge. From the Col, therefore, a N.E. direction must be taken to its E. edge, gained in  $\frac{1}{2}$  hr. not far from the point marked 2,840 m. on the Italian map, at the N. foot of the Granta Parei. The edge of the wall which falls steeply on the E. side is then followed for a short distance, when a sheep track leads down several terraces and along the lowest to the *Soches* huts, 2,302 m., 7,553 ft. (35 min. from the glacier.) (There is a longer way continuing N.

to the point marked 2,509 m., and then descending direct to Soches.) Here it is easy to descend to the S. and cross by a stone bridge to the right bank of the main stream from the great Rhêmes Glacier, and so reach the arched bridge (see below) past the Lavassey huts. But it is much shorter and more direct to go straight down to the N. by a zigzag mule path to a bridge over the Goletta stream, not far below the fine waterfall made by it in its descent from that glacier, and to join the Lavassey path (20 min. from Soches) where this crosses by an arched stone bridge the main valley stream, below the junction of the Rhêmes and Goletta torrents. Henceforward the left bank of the valley torrent is followed. The chalets of *Balmaverain* are passed (20 min.), and beyond a stony descent leads down to the hamlet of *Thumel*, in the level valley (20 min.) It is a pleasant walk of 50 min. more to (3 hrs. from the Col) the chief village in the valley,

**Notre Dame de Rhêmes** (1,731 m., 5,679 ft.) This small hamlet is admirably situated in a green basin. At the head of the valley the Granta Parei towers up very grandly, while over its right shoulder from near the village the tip of the Tsanteleina can be seen. Glimpses only are had of the other peaks and glaciers at the head of the valley, but the amazing black precipices of the *Bec de l'Invergnan*, 3,608 m., 11,838 ft. (see next Rte.), just S.W. of the village, seem to dwarf everything else, and afford one of the most glorious sights in the Alps. To the N. the Grand Combin is seen. Rough accommodation may be had at the curé's house or at the poor village inn.

There is a mule path down the valley (12 m.— $3\frac{1}{4}$  hrs.' walk—to Villeneuve) amid fine scenery, the peak of the Grand Combin remaining always in view. 7 m. from Notre Dame is the village of *St. Georges de*

*Rhêmes* (1,171 m., 3,842 ft.) The path continues at a great height above the l. bank of the stream, and commands a fine view of Monte Rosa as it gains a point opposite *Introd* (3 m. from St. Georges). This village is built on a promontory enclosed by the streams from the Val Savaranche and the Val de Rhêmes, and commands a fine view of Mont Blanc. The char road coming from *Introd* crosses the deep gorge in which the latter flows, and by two great zigzags joins the high road in the valley of Aosta just before this crosses the united torrents of the two valleys in order to reach *Villeneuve*, 2 m. from *Introd* and 12 m. from *Notre Dame*, while it is 6 m. from Aosta (see *Rte. G.* below).

The chestnut, the walnut, and the vine finally become abundant and luxuriant between St. Georges and *Introd*, while the way from *Introd* to *Villeneuve* is shaded by splendid chestnuts.

### ROUTE D.

#### VAL DE RHÊMES TO VAL GRISANCHE.

The long and rugged mountain chain which separates these two nearly parallel Alpine valleys detaches itself from the main watershed at the *Pointe de la Traversière*, 3,341 m., 10,962 ft., and is crowned by a number of striking rocky peaks which culminate in the superb summit of the *Bec de l'Invergnan* (3,608 m., 11,838 ft.) This range is traversed by several passes, but, save the second and fourth of those named below, these are all only fit for experienced climbers. (The passes from the Val de Rhêmes to the Val Savaranche on the E. are described in § 15. *Rte. I.*)

1. *Col de Bassac Déré.*—This pass (2,984 m., 9,790 ft.) was mentioned

in the last *Rte.* (under *b*), as it is best combined with the *Col de la Goletta* to form a route from the Isère valley to the Val Grisanche. If taken from the Val de Rhêmes it may be reached not only from *Soches* by the route there described, but direct from the valley by a track above the left bank of the *Goletta glacier*, which is marked on the Italian map. From the *Col de la Traversière* (3,341 m., 10,962 ft.), on the S., can be climbed in 20 min. From the point on the left bank of the *Goletta glacier* marked 2,857 m. on the Italian map the *Pointe de Bassac Déré* (3,355 m., 11,008 ft.) can be gained in  $1\frac{1}{2}$  hr., or from the gap to its N. the *Mont Bassac Sud* (3,461 m., 11,355 ft.) in 1 hr.; in  $1\frac{1}{2}$  hr. more it is possible to climb the two more northerly towers of the latter peak, and attain the *Grande Traversière*, 3,495 m., 11,467 ft., the highest point in the ridge between this pass and the next.

2. *Col de Bassac.*—This pass offers no difficulties whatever, and is a fairly direct route for a party bound from the Rhêmes valley to the head of the Val Grisanche. A little beyond the *Balmaverain chalets* ( $1\frac{1}{2}$  hr. from *Notre Dame*) it is necessary to mount over grass in a N.W. direction in order to strike a cross path which makes a great zigzag to the N.E., so as to scale a rocky barrier. The way then lies due W., and passes over the easy *Traversière glacier* before gaining the pass, 3,153 m., 10,345 ft. ( $2\frac{1}{2}$ –3 hrs. from *Balmaverain.*)

【The fine peak of the *Grande Traversière* (3,495 m., 11,467 ft.), on the S., can be climbed without any trouble in  $1\frac{1}{2}$  hr., if care be taken to turn the second great rock tooth on the N. ridge by the glacier on the Rhêmes side. The view hence is extremely fine, extending from Monte Rosa and Mont Blanc to the Dauphiné Alps, so that this ascent is strongly recommended.】



Stones, snow, and a grassy plain and slopes (the track is marked on the Italian map, keeping N. of the Bassac glacier) lead down to the *Vaudet* huts in rather over an hour from the pass, and thence it is  $1\frac{2}{3}$  hr. more on to Fornet, the highest hamlet in Val Grisanche. The *Col de Fos* (3,302 m., 10,834 ft.), more to the N., is really a variation of this pass.

3. *Col de la Grande Rousse*.—This very difficult and lofty pass (3,500 m., 11,483 ft.) is here mentioned in order to warn travellers against it. On the Rhêmes side it is reached by a very high and extremely steep rock wall, and on the Val Grisanche side by much step-cutting, or by the steep rocks on the N. rim of the *Invergnan* glacier. It was first reached (from the W.) in 1864 by Mr. Nichols' party, who made an attempt to climb thence up the *Invergnan* (also called *Grande Rousse*) itself, being beaten back by a rock tower. In 1874 Signori Martelli, Barale, and Gorret succeeded in vanquishing this obstacle, thus achieving the first ascent of this magnificent peak; they forced their way down from the Col to Rhêmes by the great rock wall, thus making the first passage of the Col. In 1875 the Misses Pigeon made the second passage of the Col. In 1885 Mr. Coolidge reached the Col in  $5\frac{1}{2}$  hrs. from Fornet, and in less than an hour more ascended the Invergnan by the easy schist ridge, the great boulder or tower being easily turned on the W. side. In 55 min. the then snow-covered rocks of the N. ridge (it is best to keep a little on the W. side, and at the end down a débris slope on the E. side) were descended (Signor Vallino having first climbed them three weeks before) to the rock crest at the N. foot of the peak, Fornet being regained in  $2\frac{1}{2}$  hrs. more. The N. ridge is by far the best route, and Signor Bobba in 1888 reached it at the N. foot of the peak, by way of the *Torrent* glacier, in 4 hrs. from Notre Dame de Rhêmes. The ascent thence would probably not take more

than  $1\frac{1}{2}$ –2 hrs. if the rocks (not hard in themselves) are in good condition. Signor Bobba, on occasion of another expedition in 1888, ascended the S. summit (3,585 m., 11,762 ft.) of the Invergnan in  $6\frac{1}{2}$  hrs. from Notre Dame by way of the *Fos* glacier, without encountering any very serious difficulties; as it is quite easy to go from this point to the Col de la Grande Rousse a fine 'traverse' of the highest summit from Notre Dame and back, or over to Fornet, would be quite possible, though no ascent of the Invergnan seems to have been recorded since that in 1888 (the fourth).

4. *Finestra del Torrent*.—This is the only pass between the two valleys which is at all frequented by the country folk. There is a mule path as far as the *Torrent* huts, whence a faint track, mainly on the right bank of a great grass or snow-filled gully, leads to the Col (2,847 m., 9,341 ft.), the southernmost of three gaps (3 hrs. from Notre Dame). The descent on the other side to Fornet (1 hr.), past the *Nouva* huts, is perfectly straightforward. By bearing to the right from those huts a mule path may be followed through a forest to the level of the Val Grisanche, about half-way between Fornet and the chief hamlet, *Eglise*.

#### ROUTE E.

##### ISÈRE VALLEY TO LIVEROGNE BY THE VAL GRISANCHE.

Many passes of varying height and difficulty cross the long range between these two valleys, but, with the exception of the Col du Mont (to which the description of the valley of Val Grisanche is therefore attached), none of them is at all frequented. Indeed, the others will chiefly be visited by mountaineers, in order to

climb the peaks near them, or to take these on the way from one valley to another.

The most direct way from Val d'Isère, or Tignes, to the Val Grisanche is the combination of the Cols de la Goletta and de Bassac Déré, described in Rte. C. b. for the *Col de la Sassièrè*, leading from the lake of that name across the S.E. arête of the Grande Sassièrè to the Gliairretta glacier, is more laborious than the two combined passes.

1. *Col du Fond*.—This lofty pass (3,509 m., 11,513 ft.) was first crossed in 1876 by M. Henri Cordier, and traverses the range just N. of the *Petite Sassièrè* (3,653 m., 11,985 ft., of the French map, and 3,673 m. of the Italian map). The proper route from the Isère valley is through the *Fond* or *Nant Cruet* glen, which opens out at Le Bioley, and that route is perfectly easy. But it is shorter to follow the route past the *Revielle* chalets towards the Grande Sassièrè (§ 12. Rte. B), by which the pass may be gained in  $4\frac{1}{2}$  hrs. from Tignes.

[Hence the *Petite Sassièrè* can be climbed in  $\frac{3}{4}$  hr. by an easy snow slope. There is no difficulty whatever in descending from the Grande Sassièrè to the gap between it and the *Petite Sassièrè*, and then in gaining the latter summit (50 min. from the higher peak), and reaching the Col in 20 min. more. This would form a magnificent traverse for a party of good mountaineers, who might further from the Col continue N. up the *Pointe des Pattes des Chamois*, 3,632 m., 11,917 ft. ( $\frac{3}{4}$  hr.), and along the ridge to the *Becca di Suessa*, 3,421 m., 11,224 ft. (50 min.), whence  $\frac{1}{2}$  hr. suffices to gain the Col de Vaudet (see below), from which Fornet, in Val Grisanche, can be reached in  $2\frac{1}{4}$  hrs., after a most splendid high-level route, which would not take, under favourable circumstances, more than 11 hrs.' walking.]

The descent from the Col du Fond lies over fatiguing schist slopes, the

chalets of *Vaudet* being reached in 2 hrs., and Fornet in  $1\frac{3}{4}$  hr. more.

2. *Col de Vaudet*.—This easy pass rejoices in many names. The French map calls it the *Passage du Rocher Blanc*, and the Italian *Col de Suessa* or *de Sarrou*, while another name used is that of *Col du Clou*. It is rarely used, and offers no special attractions in itself, while the neighbouring summits can be better climbed from other passes. There is a track over it. It is gained on the W. through the *Clou* or *Plan* glen, the entrance to which may be reached by pretty forest paths either from Le Bioley or from La Thuille de Ste. Foy.  $3\frac{1}{2}$  hrs. from either village suffice to ascend to the *Plan* chalets, whence a direct ascent of  $1\frac{1}{2}$  hr. in a due E. direction by gentle grass and stone slopes leads to the Col (2,836 m., 9,305 ft.) The Alpine pastures are often covered with bright flowers. The botanist will find here *Draba fladnitzensis*, *Cardamine alpina*, and other interesting plants. The way on the other side descends to an upland glen, with a range of bold crags on the right, and a ridge of grey shale on the left, beyond which the edge of the steep rocky slopes overlooking the Vaudet glen is attained ( $\frac{1}{2}$  hr.) It is, no doubt, possible to clamber down to the E. direct to the *Sasse de Ponton* chalets, but the main path makes a great traverse towards the S.E., joining the path from Vaudet about 20 min. before reaching the Ponton chalets ( $1\frac{1}{4}$  hr. from the Col), and about 1 hr. from Fornet. From the *Plan* chalets it is easy to climb direct (without making the round by the Col du Lac Noir, N. of the Col de Vaudet) to the E. summit of the *Ormelune* (3 hrs.), whence the highest, or W., summit (3,283 m., 10,771 ft.) is gained in 1 hr. more, passing over the Central summit. This peak is a splendid belvédère, and very accessible on all sides. (See § 12. Rte. B, for the descent from it to the path of the Col du Mont.)

3. *Col du Mont*.—A mule path,

not always well kept, traverses this pass, which is the regular means of communication between the Isère valley and the Val Grisanche (6 hrs.)

Nearly due E. of Ste. Foy the beautiful pasture valley of the *Sassière de Ste. Foy* joins the main valley.

A char road leads from Ste. Foy over the brow of the hill to the hamlet of *Masures*, on the left bank of the torrent, and thence the mule path mounts steeply through a forest, at first by that bank to ( $1\frac{1}{4}$  hr. from Ste. Foy) the chalets of *La Crau*, situated at the point where two arms of the glen unite. Leaving to the left the N.W. branch (described below and in the next Rte.), our track follows the right bank of the torrent over splendid pastures to the chalets of *La Motte* ( $1\frac{3}{4}$  hr.), at the foot of the final ascent to the pass, which is gained in 1 hr. more by a last steep ascent (4 hrs. from Ste. Foy), having on the right the black precipices of the Ormelune.

The Col (2,646 m., 8,681 ft.) is a narrow ridge, commanding a finely-contrasted view of the bare and rugged Val Grisanche on one side, and of the comparatively bright and fertile mountains that enclose the Isère on the other. The Mont Pourri, opposite, is very fine, while the church tower of Bourg St. Maurice is visible. The Col possesses even now considerable military importance, and in the days of the French Revolution was the scene of some desperate conflicts between the French and the Piedmontese (1792-1800). 'In May 1794 General Moulins, who commanded the former, after many efforts, succeeded in gaining the position by advancing during a snow storm, when such assailants were not expected, and retained it in spite of not less than ten attempts to retake it, but abandoned it in November 1794. There are some remains of fortifications on the pass, and in 1868 the bones of four soldiers were found among the neighbouring rocks.' (M.)

The mule track descends by snow,

rocks, and stones, then by zigzags, down a grassy ridge, crosses to the right bank of the torrent, and then reaches the level pasture valley of St. Grat. The stream is crossed to the chalets of the *Grand' Alpe*,  $\frac{1}{2}$  hr. above *Fornet* (2 hrs. from the Col).

**Fornet** (1,731 m., 5,679 ft.), the highest village in the Val Grisanche, has now a fair little mountain inn, and is the best headquarters for mountaineers in the Val Grisanche. It stands not far from the junction of the St. Grat and Vaudet glens, which unite to form the Val Grisanche. Hence any of the neighbouring peaks (all described in the preceding or following Rtes.), such as the Grande *Sassière*, the Ormelune, the Rutor, or the Bec de l'Invergnan, can be ascended comfortably in the day, and generally taken on the way over to one of the surrounding valleys.

There is a mule path from Fornet in a short hour down to Liverogne. Below Fornet the vast piles of débris and masses of dark rock, which cause the upper end of the valley to present a nearly unbroken scene of desolation, gradually give place to pasture and forest. The level tract of *Suplun*, scored and wasted by the torrent, is passed before the chief village of the valley, **Eglise**, or **Valgrisanche** (1,664 m., 5,460 ft.), is attained. The path descends by a charming succession of green basins, wherein stand different hamlets, a little way beyond the last of which, *Revers*, at the level marshy plain of *Planaval*, the glen of that name joins the main valley, the stream here making a fine cascade. On the cliffs above are the ruins of the *Castle of Planaval*. At this point the valley, which has hitherto run in a slightly N.E. direction, bends more and more in that direction. A fine distant view of the Matterhorn and Monte Rosa is obtained as the path enters in a savage narrow defile, running high up on its left bank. The scenery here is of a striking character. The river rushes in a steep gorge, while



the rocks, both above and below the path, are nearly perpendicular.

【They 'consist of extremely hard gneiss, which preserves very distinctly the traces of glacier action.' (R. C. N.)】

On a sort of terrace on the opposite bank the ruins of the feudal castle of *Montmayeur* are seen, frowning over the black ravine. On issuing from this gorge, the lower portion of which is impassable, the path bears to the left away from it, and descends amidst splendid chestnuts, orchards, and meadows, and past a mill, to the village of *Liverogne* (9 m., or  $2\frac{1}{4}$  hrs.' walk from *Eglise*), on the high road in the village of *Aosta* (Rte. G. below), 9 m. from *Aosta* and 12 m. from *Courmayeur*.

4. *Col de la Sachère*.—This wild and little-known pass is a mountaineer's or smuggler's variation of the *Col du Mont*. It takes nearly the same time ( $6\frac{1}{2}$  hrs.), and leads through very fine scenery, while from the summit a very interesting peak may be ascended.

The way is the same as that of the *Col du Mont* as far as *La Crau*, then crosses a stone bridge and runs N. to the *Jordan* hut, at the junction of the *Louïe Blanche* glen (see next Rte.), when the path bends E. and past several groups of chalets brings the traveller to the huts of *La Sassièrè de Ste. Foy*, 2,039 m., 6,690 ft. (3 hrs. from *Ste. Foy*), beautifully situated in a pasture basin, surrounded by wild, rocky peaks, and in full view of the *Bec du Mont* and of the *Grand Avernet* glacier, flowing from the great *Rutor* snow-field. The way then turns due E., and after having mounted by pastures leads over a rocky promontory above the right bank of the torrent, and so to a small glacier, over which the pass (2,857 m., 9,374 ft.) is attained ( $1\frac{1}{2}$  hr. from *La Sassièrè de Ste. Foy*). It is also called *Col de la Sassièrè* ('*Sachère*' is a patois form of '*Sassièrè*,' adopted here to avoid confusion), and *Col du*

*Lac*, from the lake of *St. Grat*, on the Italian side.

【The view is limited, but may be much extended by climbing, in 55 min., over easy broken rocks and snow to the summit of the *Grand Bec du Mont* (3,218 m., 10,558 ft.), just S. of the pass, and rising between it and the *Col du Mont*. Bits of the *Mont Blanc* and *Monte Rosa* ranges are seen hence, while there is no better point whence to study the neighbouring peaks.】

The small glacier of *Sachère*, on the other side, is soon traversed, and then the way lies S.E. past a military Refuge till the stream flowing from the *Lac de St. Grat* is crossed some way below the waterfall. The left bank of that torrent is then followed past the *Grand'Alpe* chalets (where the path from the *Col du Mont* is joined) to *Fornet* (2 hrs. from the *Col*).

#### ROUTE F.

STE. FOY OR THE VAL GRISANCHE  
TO LA THUILLE BY THE RUTOR  
GROUP.

The northernmost portion of the mountain mass between the *Grand Paradis* group and the road across the *Little St. Bernard* pass is not, as might have been expected, occupied by a fourth long and narrow valley parallel to the *Val Savaranche*, the *Val de Rhêmes*, and the *Val Grisanche*, but is crowned by a considerable snow-clad region, that of the **Rutor**. (This name comes, perhaps, from '*ru tors*,' meaning a 'crooked brook,' but is more probably a form of the patois word '*reuse*,' or '*roise*,' signifying 'glacier,' as a part of this snowy mass is well seen from *Aosta* itself.) This snow region consists of a very extensive and gently inclined snow and ice field, ending on the S.

in a snow cliff, but enclosed on the E. and W. by lofty ridges, which send down glens in various directions, while the main glacier is drained through the opening on the fourth or N.W. side, the *Rutor* glen which descends direct to La Thuille, on the Little St. Bernard road. Besides this principal glen, by which access is most easily gained to the upper snows, there are on the S.W. the ravines which combine to form the valley of *La Sassièrre de Ste. Foy*, while on the S. the glen of *St. Grat*, on the E. that of *Morion*, and on the N.E. that of *Planaval* all join the Val Grisanche. Through all these five glens (each having a glacier at its head) passes lead up to the central snowy mass. On the N. and N.E. many minor ravines descend towards the Dora Baltea valley, between Liverogne and Pré St. Didier, while on the S.W. one or two run in that direction towards the Isère valley, E. of Bourg St. Maurice.

Before, however, describing the various routes by which the central mass may be reached, it seems desirable to give some account of that mass itself, and of the history of its exploration. This great sea of ice starts from a very wide opening on the S. which ends in a cliff of snow (the *Col de St. Grat*, 3,300 m., 10,827 ft.), overlooking on the S. the chapel and lake of St. Grat. Hence it flows down in a N.N.W. direction, between a double row of peaks, to the *chapel of Ste. Marguerite* (near which is a Club hut, built by the Italian Alpine Club) and the *Rutor lake*, both at the head of the glen descending towards La Thuille.

The following is a list of the peaks and passes, with the glens which lead up to them, on either side of this great snow field:—

#### 1. E. Side.

(a) *Tête du Rutor* (3,486 m., 11,438 ft.), the culminating point of the entire group.

(b) *Col du Rutor* (c. 3,350 m., 10,991 ft.) (Morion glen.)

(c) *Château Blanc* (3,369 m., 11,054 ft.)

(d) *Col du Château Blanc*, over 3,150 m., 10,335 ft. (Planaval glen.)

(e) *Doravidi Sud* (3,449 m., 11,316 ft.)

(f) *Col de Doravidi* (Planaval glen.)

(g) *Doravidi Nord* (3,304 m., 10,841 ft.)

(h) *Col de Planaval*, 2,958 m., 9,795 ft. (Planaval glen.)

(i) *Becca Nera* (3,211 m., 10,535 ft.)

(k) *Becca Bianca* (3,240 m., 10,630 ft.)

(l) *Les Envergneures* (3,051 m., 10,010 ft.). E. of this summit, but separated by it from the main glacier, is the *Mont Paramont* (3,309 m., 10,857 ft.), the last point of importance in the group.

#### 2. W. Side.

(a) *Bec du Lac* (3,409 m., 11,185 ft.)

(b) *Col du Bec du Lac* (Sassièrre de Ste. Foy glen.)

(c) *Col de l'Avernet*, 3,230 m., 10,598 ft. (same glen.) This pass is just W. of a rocky mound, whence a spur runs to the N.E. into the main glacier, and is crowned by two rocky points, the *Vedettes du Rutor*, the highest and southernmost of which is 3,332 m., 10,932 ft.

(d) *Pointe de l'Avernet* (3,236 m., 10,617 ft.)

(e) *Col de Loydon*, 3,045 m., 9,991 ft. (Sassièrre de Ste. Foy glen.)

(f) *Pointe de Loydon*, 3,148 m., 10,329 ft. (the *Pointe du Grand* of the French map.)

(g) *Col d'Assaly*, c. 3,025 m., 9,925 ft. (Sassièrre de Ste. Foy glen.)

(h) *Grand Assaly*, 3,174 m., 10,414 ft. (the *Pointe du Petit* of the French map). The summit is a little N.E. of the watershed, and on the spurs projecting from the actual point of junction rise the *Tête d'Assaly* (c. 2,950 m., 9,679 ft.) and the *Petit Assaly* (2,965 m., 9,728 ft.) W. of the Grand Assaly the watershed turns due W., thus leaving the

central glacier, and is briefly described at the end of this Rte.

Students of Alpine topography will find further details as to these two ranges in Signor Bobba's 1890 article and M. Ferrand's book, both referred to in the Introductions to this Chapter and this Section.

Some time before 1858 a hunter of Val Grisanche, J. B. Frassy, with a companion, built a stone-man on one of the Vedettes (seen in 1858 and 1861), this being the first known exploration of the great Rutor glacier. In 1858 Frassy acted as guide to Herren G. Studer, Bucher, and J. J. Weilenmann, who made the first ascent of the *Tête du Rutor*, climbing it from the Morion glacier on the E., and descending on the W. to the Rutor glacier, which was then traversed in all its length to La Thuille; on the way Herr Weilenmann alone went up the *Château Blanc*. In 1861 Messrs. W. Mathews and F. W. Jacomb made the passage of the *Col du Château Blanc*, and the ascent of the *Doravidi Sud*, declined to descend from the Col de St. Grat, but reached the Sassière de Ste. Foy glen by the *Col du Bec du Lac*. In 1862 Messrs. W. Mathews and T. G. Bonney ascended the *Tête du Rutor* from the Col du Rutor, on the N., coming from and returning to La Thuille. In 1864 Messrs. Bonney and Taylor repeated that ascent, and made the first complete passage of the *Col du Rutor*, while in 1865 Mr. Elijah Walton crossed the *Col de Planaval*. In 1868 Signori A. Gorret, Viérin, and P. J. Frassy gained the head of the Rutor glacier from the Morion glacier by the *Col de Morion*, S. of the rock tower (S. of the Tête), marking the point at which the ridge from the Tête joins the E. and W. line extending by the Col de St. Grat to the Bec du Lac. A long interval now followed, during which the ascents of the *Bec du Lac* in 1880 (by Signori Vaccarone and Chanoux), and of the *Grand Assaly* in 1878 (by M. Jacquemot), were the principal events.

In 1886 Mr. Coolidge (without realising at the time the historical importance of his expedition) made the first complete passage of the *Col de St. Grat* (climbing up from the S.), while in 1892 M. Henri Ferrand succeeded in at last discovering the true and easy way from the French side to the Rutor glacier by the *Col de l'Avernet*, whereas the 1861 party (and Mr. George in 1875) had effected only a very steep descent on that side from the Col du Bec du Lac. The next day M. Ferrand made the first thorough exploration of the tangled ridges between the Grand Assaly and the Little St. Bernard.

Most travellers who visit the Rutor group do so with the intention of climbing its culminating point, the **Tête du Rutor** (3,486 m., 11,438 ft.), a justly celebrated and very easily accessible belvédère, generally attacked by its rocky N. face ( $\frac{1}{2}$  hr. up) from the Col du Rutor, whereon is the *Defey Club hut*. It therefore seems the most convenient plan to indicate how this Col can be reached through the various lateral glens which give access to the great central glacier, giving some notice by the way of the minor peaks and passes of the group.

1. *By the Rutor Glen* ( $6\frac{1}{2}$  hrs. from La Thuille).—This is the usual route. From La Thuille a char road is followed along the right bank of the Rutor torrent, which crosses higher up to the other bank to the mining buildings of *Bocambré* (for a silver mine on the M. Colmet to the E.), and then continues along that bank to the green basin wherein are the chalets of *La Joux* (1 hr.) This basin is at the 'foot of the steep and lofty barrier of rock that closes the head of the valley, is covered with pines, and is crowned by the extremity of the great Rutor Glacier, which discharges a torrent that leaps down the rocks in the series of beautiful cascades known as the *Rutorines*' (across the upper and lower of which bridges have been thrown for the use



of visitors). 'On leaving the Joux basin we crossed by a foot bridge, which stands a few yards below the chalets. The mule path then ascends amidst charming scenery, winding round steep faces of rock, and among gigantic boulders, clothed with larch and the *cembra* pine, mingled with a few spruces. Close at hand, on the right, the torrent thunders down a deep cleft. The zigzags become steeper,' and the path mounts to the E. till it descends into a large basin in which is the *Lac du Glacier* ( $1\frac{1}{2}$  hr.) The path passes the *Glacier* huts, and then mounts by zigzags S.E. over a low ridge, whence it descends to the *Lac du Rutor*, 2,402 m., 7,881 ft. ( $3-3\frac{1}{2}$  hrs. from La Thuille), near which are the chapel and huts of *Ste. Marguerite* and the *Club hut* (2,420 m., 7,940 ft.) 'Throughout the ascent from La Thuille the marks of glacial action are conspicuous, and just before reaching *Ste. Marguerite* we passed a dome of rock, with a fine *bloc perché* on the summit. There are few walks in the Alps so beautiful as that from La Joux to *Ste. Marguerite*.' (W. M.)

But since 1864 the retreat of the glacier and the diminution of the *Lac du Rutor* have caused Mr. Mathews' classical description of the loveliness of the surroundings of *Ste. Marguerite* to become of purely historical interest. The history of the Lake has been written by Signor M. Baretti in the 'Bollettino' of the Italian Alpine Club for 1880, and is most interesting. It burst its bounds annually from 1594 to 1606, and often in later days, so that various projects were devised to restrain it, as these outbreaks caused great damage in the valley below. In 1605 the head of *St. Grat* (the patron saint of the diocese of Aosta) was carried solemnly in procession to the lake for the sake of averting future misfortunes, and the next year the chapel of *Ste. Marguerite* was built above the lake, and an annual procession henceforward made thither (but now discontinued)

on July 20, the festival of that saint. Since 1864, however, the ground has altered much, the glacier having lost 800 m. (2,625 ft.) in length and 350 m. (1,148 ft.) in breadth, while the lake has lost 45 m. (148 ft.) in depth, 500 m. (1,640 ft.) in length, and 200 m. (656 ft.) in breadth. Hence the appearance of the surroundings has been greatly changed, and the lake is now simply a big, dirty pond, with a moraine-besmirched glacier near it, all quite different from the fair sight described by Mr. Mathews in 1861. Owing to these changes the Lake now drains into the stream as it issues from the lower end of the glacier, whereas previously the ice forced its outlet to flow in a fine waterfall over the hillside into the *Lac du Glacier*, which drained into the *Combassa* or *Comba Sorda* torrent, this joining the *Rutor* stream far below in the level valley. However if the lake is less picturesque than it used to be the view from the hillock near the *Club hut* is always beautiful, including the *Mont Blanc* range, the group of the *Grand Assaly*, and the icefall of the *Rutor* glacier, with the *Tête* just peeping over.

【The *Envergneures*, on the E. of the *Club hut*, is easily reached along the W. ridge; while the *M. Paramount* may be reached by  $\frac{1}{2}$  hr.'s climb from the *Ussellettes* glacier, in 4 hrs. from the *Club hut*. This last-named glacier fills a glen between the two summits, through which the *Pas d'En Haut* (2,812 m., 9,226 ft.) gives access to *La Salle*, in the *Aosta* valley, in about  $4\frac{1}{2}$  hrs. from the *Club hut*. On the S.W. it is possible to go from *La Thuille* in about 7 hrs. to *Ste. Foy* by the *Bellecombe* and *Sasrière de Ste. Foy* glens, either by the *Col de la Louie Blanche* (2,567 m., 8,422 ft.) or by the *Col de Tachuy*, or *du Petit* (2,797 m., 9,177 ft.) To the N.W. of these two passes is the *Col du Grand G.acier* (2,806 m., 9,206 ft.), by which 8 hrs. are required from *La Thuille* by the *La Joux huts*

and the *Ponteilles* and *Moulines* glens to Ste. Foy or Bourg St. Maurice. S.E. of the Grand Assaly is the *Col d'Assaly*, by which Ste. Foy is 6-7 hrs. from the Club hut, while the *Grand Assaly* itself may be gained by a rock ridge in  $\frac{1}{2}$  hr. from the pass. ]

It takes about 1 hr. over moraine to gain the right bank of the great *Rutor Glacier*, which is then mounted without the slightest trouble in a S.E. direction. In 1-2 hrs. more the *Col du Rutor* may be attained. Thence it is  $\frac{1}{2}$  hr.'s climb to the summit of the Tête, the final tower of rock, about 18 ft. high, alone offering any difficulty.  $3\frac{1}{2}$  hrs. from the Club hut thus suffice to reach the top, whereon *Saxifraga bryoides* and an *Androsace* (? *glacialis*) grow abundantly. A curious turret in open iron work now crowns the summit.

Mr. Mathews has justly compared the position of the Rutor in respect to the range of Mont Blanc with that of the Buet, both points being separated from it by a lower intermediate range. There is, however, this difference, that on the side opposite to Mont Blanc the Rutor is encircled by the loftier peaks of the Graian Alps, while the only direction in which the eye penetrates to the lower cultivated region is along the Val d'Aosta, which is viewed throughout the entire distance from St. Pierre to beyond Châtillon, though the city of Aosta itself is not visible. The Penines are very fine, as are the nearer Graians, while one of the most striking features in the panorama is the great *Gliairetta* glacier, which fills the whole of the head of the Val Grisanche.

2. *By the Planaval Glen* (5-6 hrs. from Planaval).—The village of *Planaval* stands above the marshy plain of that name mentioned in Rte. É. 3. It is easily gained by a mule path from the *Ressia* huts, if coming from Eglise, or by a good path past *La Clusaz*, or from *Liverogne*, by a track along the heights above the left bank of the Val Grisanche stream, and

past the hamlet of *Baulen*. 2 hrs. beyond Planaval are the *chalets du Glacier* (2,150 m., 7,054 ft.), where night quarters may be had. Thence in 2 hrs. more the *Col de Planaval* may be reached by the N. branch of the *Château Blanc* glacier; if the S. branch be followed,  $3\frac{1}{4}$  hrs. are required from the chalets to the *Col du Château Blanc*, on which there is a little frozen lake. The *Dorawidi Sud* (the double-pointed peak, apparently the highest when seen from Aosta) may be climbed from the latter Col, or direct from the glacier, by easy rocks in  $\frac{1}{2}$  hr. It is visible from Aosta, as is the *Col de Planaval*. The *Rutor* glacier once gained in this way,  $\frac{1}{2}$  hr. or less suffices to reach the *Col du Rutor* from the *Col du Château Blanc*, and 1 hr. or more from the *Col de Planaval*.

3. *By the Morion Glen* ( $5\frac{1}{4}$  hrs. from Valgrisanche).—This route is probably the most favourite one after that from the Club hut described under 1. for in this way the peak may be climbed *en route* from Valgrisanche to La Thuille. It is most convenient not to ascend the whole of the Morion glen, but to quit the valley at the hamlet of *Bonne*,  $\frac{1}{4}$  hr. above the chief village, L'Eglise. Hence in about  $1\frac{1}{2}$  hr. (the distance is the same from Fonet, at the head of the Val Grisanche) the chalets of *Alpe Vieille* are attained, and in  $1\frac{1}{2}$  hr. more, by a direct ascent to the N., up pastures and rocks, the lake of Morion, close to the right bank of the glacier of that name, over which the Col is reached in 2- $2\frac{1}{2}$  hrs. more, or somewhat over 5 hrs. from Valgrisanche. It may be noted here that in 1864 Messrs. Bonney and Taylor went from La Thuille to the chief hamlet of Val Grisanche by the *Col du Rutor* in  $7\frac{3}{4}$  hrs.' actual walking, not including the ascent to and return from the Tête, which required 50 min.

4. *By the St. Grat Glen* ( $4\frac{1}{2}$  hrs. from Fonet).—This is by far the most interesting way for a traveller

who finds himself (having come thither perhaps from Val d'Isère or the Val de Rhêmes) at Fornet, the highest village in the Val Grisanche. The Col du Mont track is followed at first, but when it bears W. it is necessary to follow the path which bears up the St. Grat glen on the N., first by the left, then by the stony right bank of the torrent, to the *chapel of St. Grat*, close to the lake of the same name, 2,473 m., 8,114 ft. ( $1\frac{3}{4}$ –2 hrs.) Thence the ascent is continued in a due N. direction by a rocky glen, two rock terraces, and a small glacier to the left-hand end of a long and conspicuous snow band ( $1\frac{1}{2}$  hr.) It may sometimes be desirable to bear very far to the left, but the first party found (in Sept.) no difficulty in bearing very slightly to the left, and then working their way up a snow cliff of about 20 ft. to the S. rim of the great Rutor glacier, now called the *Col de St. Grat* (50 min.), gained thus in about 4 hrs. from Fornet. Twenty min. suffice over the easy glacier to go hence to the Col du Rutor.

5. *By the Sassièrè de Ste. Foy Glen* (5–6 hrs. from the Sassièrè chalets).—This is the direct way from the French side, and is very convenient for a party wishing to traverse the Rutor. Yet, as pointed out above, it was only discovered in 1892, two previous parties having descended from a high point on the N. ridge of the Bec du Lac, and been forced to cut down very steep snow slopes, so that before 1892 this side was regarded as rather difficult.

The start is best made from the chalets of *La Sassièrè de Ste. Foy*, 3 hrs. from Ste. Foy by the mule path described in the last Rte. (under 4.) The ascent is made by the *Avernet* ravine (in which flow the two central torrents seen from the chalets), by which in  $2\frac{1}{2}$  hrs., or less, the right bank of the *Avernet* glacier is reached. It is then an easy ascent of  $2\frac{1}{2}$  hrs., or less, up this gently-inclined glacier to the *Col de l'Avernet*,

just W. of the point where the Vedettes spur joins the main ridge. Thence about 1 hr. suffices to mount to the Col du Rutor. The two Cols more to the N. are more circuitous, but the return to the Sassièrè huts may well be made by the *Col de Loydon* and the glacier of that name, or by the *Col d'Assaly* and a rocky gully, 2 hrs. or so being required from the edge of the Rutor snow-field.

To complete the account of this region it only remains to give a brief description of the watershed between the Grand Assaly and the Little St. Bernard road, which is taken from M. Ferrand's book. The following Table is the continuation of No. 2 of those given above:—

(i.) *Pointe de Tachuy* (c. 2,850 m., 9,351 ft.). The point marked 2,963 m. on the Italian map.

(ii.) *Col de Tachuy* (2,797 m., 9,177 ft.). The *Col du Petit* of the French map. A broad and easy opening.

(iii.) *Roc Rouge* or *Mont Charve* (2,957 m., 9,702 ft.)

(iv.) *Col de la Louïe Blanche* (2,567 m., 8,422 ft.)

(v.) *Pointe Rousse* (2,810 m., 9,220 ft.)

(vi.) *Col de Planpizet*. Called *Col de Serre* or *de Truche* by the French map.

(vii.) *La Louïe Blanche* (2,951 m., 9,682 ft.) This is the highest of four points on the ridge, to which the heights 2,907 m. and 2,928 m. on the French and 2,901 m. on the Italian map belong. Between the north-westerly of these and the point next to the S.E. there is a gap in reddish rocks, locally known as the *Col Roux*.

(viii.) *Col du Grand Glacier* (2,806 m., 9,206 ft.) This is a very well marked depression, beyond which rises the well-known belvédère of the *Mont Valaisan*, to be mentioned in the next Rte. in connection with the Little St. Bernard.

A few particulars (taken from Signori Vaccarone and Bobba's ex-



cellent 'Guida'), as the passes numbered ii., iv., and viii. in this list, were given above in the notice of the Rutor Club hut, but these Cols are very little known even now, and detailed information as regards them would be most acceptable.

### ROUTE G.

#### BOURG ST. MAURICE TO AOSTA BY THE LITTLE ST. BERNARD.

	M.
Sézez . . . . .	2
Hospice . . . . .	6
La Thuille . . . . .	13½
Pré St. Didier . . . . .	20
Morgex . . . . .	22
Liverogne . . . . .	30
Villeneuve . . . . .	33
Aosta . . . . .	39

Good carriage road all the way. In summer diligences from Courmayeur and Bourg St. Maurice meet at the Hospice.

The Pass of the Little St. Bernard is the lowest gap in the main chain of the Alps between the Mont Cenis and the Simplon, and hence, as these respectively mark the limits between the Cottian Alps and the Graian Alps, and between the Pennine Alps and the Lepontine Alps, the Little St. Bernard seems the natural limit between the Graian Alps and the Pennine Alps. It is of considerable historical interest, as some writers have believed that it was the pass by which Hannibal entered Italy (though most modern scholars are of opinion that the Mont Genève was much more probably the scene of this famous event), and because St. Bernard of Menthon in the eleventh century founded here a Hospice as well as on the better known Great St. Bernard. But its commercial importance has never been very great, so that the carriage road over it was

only completed about 1870. Pedestrians can greatly shorten the distance by following the old mule path from Sézez to the Hospice, from the second Refuge to La Thuille, and from the second tunnel to Pré St. Didier.

After passing a square tower, said to date from the fourth century, the road from Bourg St. Maurice towards the pass crosses the *Versoye* torrent, descending from the Col du Bonhomme (§ 16. Rte. E), and then the *Recluse*, flowing from the Little St. Bernard. It thus reaches the village of *Sézez*, where the Recluse glen seems the natural prolongation of the Isère valley, as that valley (§ 12. Rte. B) here makes a sharp angle to the S.E. The old mule track henceforward keeps along the course of the Recluse past the hamlet of St. Germain, but the new carriage road on quitting Sézez mounts N.E. in a series of seven great zigzags high above and far from the left bank of that stream. The ascent is gentle, but there is no striking object in view save the fine peak of the Mont Pourri.

[In the middle of the last but one of the long zigzags a path falls in by which the traveller may reach the Hospice in rather over 3 hrs. from St. Foy by way of the hamlets of *Masures*, *Miroir*, *Le Châtelard*, and *La Combe*, a short cut especially convenient for a traveller bound from Courmayeur direct to the upper valley of the Isère. Higher up, not far from the Hospice, a military road leads up in zigzags to the S.E. to the *Col de Traversette*, by which Le Châtelard and Ste. Foy can be reached even more directly from the Hospice.]

The final ascent is very gentle, and the *Cantine Ste. Barbe* and then the French Customs house are passed before attaining the

**Hospice** (2,153 m., 7,064 ft.), which is just within the Italian frontier. It is at the end of a grassy plain, nearly 3 miles long and 1 mile wide, and about 35 mètres (115 ft.) below and S.W. of the actual Col, which lies in

the middle of the plateau, sloping very gently on either side.

The Hospice was founded by St. Bernard de Menthon in the eleventh century. The Celtic remains which still exist here, and the foundations of a temple constructed of Roman brick near the Colonne de Joux, show, however, that the pass was known in earlier times. From the eleventh to the thirteenth century the Hospice was styled *hospitale columna Jovis*, the name *donus Sancti Bernardi montis Jovis* occurring first in 1181, while later the pass was called Mont Jouvét, to distinguish it from the Mont Joux, or the Great St. Bernard. The Hospice was from 1466 (possibly earlier) dependent on that of the Great St. Bernard, but about 1750 was handed over to the military and religious order of SS. Maurice and Lazarus. (M.) The Rector is bound to entertain poor travellers gratuitously, but fair accommodation (*not* provisions for excursions) is supplied to tourists, who are expected to make an offering of about the same amount as they pay in an hôtel. There is a good library, as well as a Meteorological station, and a garden of Alpine plants.

On the plateau there are some remains of antiquity. The road passes through what seems to be a Druidical circle, said to be unique in Italy, but now misnamed 'Cirque d'Annibal.' Close to the summit of the pass there is a column of Cipolline marble, called the 'Colonne de Joux,' which is about 20 ft. high and probably belonged to the Roman temple. It is now surmounted by a statue of St. Bernard.

Many excursions and ascents may be made from the Hospice. S.E. rises the *Mont Valaisan* (2,892 m., 9,489 ft.), an outlier of the Rutor group, and accessible in 3-4 hrs. A spur running N. from this peak is called the *Belvédère* (2,692 m., 8,832 ft.), and is frequently visited for the sake of the view, as it is only

1½ hr. distant. On the N.W. a much higher chain divides the road over the pass from the Allée Blanche and the *Versoye* glen. The nearest point of this range is the *Roc de Belleface* (2,861 m., 9,387 ft.), reached in 1½ hr. from the Hospice. Another much-visited point of view (3 hrs. by mule path to the summit) is the *Lancebrantlette* (2,936 m., 9,633 ft.) The range continues N.W. through the *M. Miravidi*, 3,066 m., 10,060 ft. (5 hrs. from the Hospice, a fine point of view), to the *Pointe de Léchaud* (3,127 m., 10,260 ft.), in which it culminates. This last summit can be gained in about 6 hrs. from the Hospice, keeping high up on the E. side of the range over the *Lavage*, *Arguerey*, and *Breuil* glaciers, while it is easy to descend to the Col de la Seigne and Mottets (§ 16. Rte. E). Across this range the *Col de Forcle* (2,638 m., 8,655 ft.), S.W. of the Roc de Belleface, and the *Col de Breuil* (2,879 m., 9,446 ft.), N. of the M. Miravidi, lead over, in 5 hrs. and 7-8 hrs. respectively, to Bonneval-les-Bains, at the junction of the Versoye glen with that coming from Les Chapieux (see § 11. Rte. K). From the Pointe de Léchaud the range runs E.N.E., enclosing the head of the *Chavannes* valley, through which the *Cols des Chavannes* (2,606 m., 8,550 ft.) and *du Baracon*, 2,744 m., 9,003 ft. (see § 16. Rte. E), lead over in 7 hrs. from the Hospice to Courmayeur by way of the Allée Blanche; there is a new mule track from the latter to Courmayeur by the Cols de Youla and de l'Arp. From the Col du Baracon the fine viewpoint of the *Mont Favre* (3,259 m., 10,693 ft.) on the S.E. may be ascended, but if taken from La Thuille direct (6½-7 hrs.) it is best to mount the *Orgère* glen, and ascend the great gully in its E. face.]

The road mounts slightly from the Hospice, passing through the Druidical circle mentioned above, and reaches the summit of the pass

(2,188 m., 7,179 ft.), marked by the 'Colonne de Joux,' described above. It then descends past some ruins of a Roman temple or house. Near the *Lac Verney* the range of Mont Blanc, and later the Grand Combin and the Vélán, come into sight, and present a magnificent appearance; to the left is seen the summit of the *Mont Favre*. The Cantine des Eaux Rouses is passed, as well as two other *Refuges*, and soon after commences a series of great zigzags descending to the hamlet of *Pont Ser-rand*, where the Dora, flowing in a deep ravine, is crossed. A new set of zigzags brings the traveller to the village of **La Thuille** (1,441 m., 4,728 ft.), in a wide basin and in face of the great Rutor glacier to the S., which is worth a visit (see last Rte.)

[Many of the excursions from the Hospice can also be made from La Thuille. A pedestrian bound for Aosta may gain some fine views of the Mont Blanc range by following from La Thuille a mule track which passes through the hamlet of *Thovez* and then a pasture valley to a high upland, called the 'Camp of Prince Thomas of Savoy,' where are remains of fortifications thrown up in 1640 to guard the pass, and used again in 1792. The path runs through a thick forest, and then descends steeply to Morgex, 2 m. below Pré St. Didier, and 3 hrs. from La Thuille by this very pleasant route.]

The road soon plunges into a savage gorge, through which it is carried first above the right, then above the left, bank of the torrent, which roars at a great depth below. Two tunnels are traversed, on issuing from the second of which a splendid glimpse of the Mont Blanc chain is caught, before a final series of long zigzags leads down to the level of the Dora Baltea valley at

**Pré St. Didier** (1,010 m., 3,314 ft.), 2 m. below the well-known mountain resort of Courmayeur (§ 16. Rte. E).

Close to the village are the Baths

(iron), very picturesquely situated and much frequented in summer by Italian visitors. The view of Mont Blanc, and the surrounding pine forests, make the scenery here far superior to that of the immediate neighbourhood of Courmayeur, but Pré St. Didier is more distant than Courmayeur from all the objects of interest, with the sole exception of the Crammont, so that the latter village will be preferred by those bent on mountain excursions.

2 m. below Pré St. Didier is *Morgex*, the chief village in the magnificent basin called the *Valdigne*, which is dominated by the mass of Mont Blanc. (For the way hence by the Col Serena to the Great St. Bernard see § 18. Rte. B.) The vine begins to appear here, and becomes more common a little further down, about *La Salle*, a poor village above the road (for the way hence to the Mont Fallère see § 18. Rte. B), with a seventeenth-century castle: the village preserves in its name that of the Salassi, who once held the valley. The valley is here clothed with the fine forest of *Derby* on the S. side, but gradually contracts, as it approaches a fine modern bridge thrown across the Dora Baltea, close to the junction of a torrent (which makes a fine waterfall) from the *Combe de Vertosan*. Below the bridge the valley becomes a mere defile (called *Pierre Taillée*), and the road is carried along the right bank at a great height above the stream, in some cases forming a projecting cornice, propped up by massive beams of timber. The pass was formerly guarded by a gate and drawbridges, which, like a blockhouse, intended to enfilade the road, have now disappeared, but it would be easy to make the valley impassable to a hostile force by destroying the props which sustain the road. On issuing from the narrowest part of the defile the picturesque village of *Avise* is seen on the opposite bank, and the road then reaches *Liverogne*, at the



entrance of the Val Grisanche (see Rte. E. above). Here, and throughout the Val d'Aosta, it is painful to contrast the beauty of the scenery, and the richness of the vegetation, with the poverty, filth, and crétinism which are the characteristics of the population. The road crosses the stream flowing from the Val Grisanche, and through a fine avenue of walnut trees reaches *Arvier*, opposite a steep and lofty escarpment, on the N. side of the valley, above which is seen the spire of the church of St. Nicholas. To the right are the openings of the beautiful valleys of Rhêmes and Savaranche (see Rte. C. above, and § 15. Rte. I), the united streams from which are crossed before entering *Villeneuve*. Immediately after the road returns to the left bank of the Dora Baltea, and soon attains *St. Pierre*, with an ancient castle, commanding a view of the snowy Alps at the head of the Val Savaranche. The Grivola is seen just before St. Pierre, and soon after the rock tower of the Grand Nomenon comes into sight. The road passes opposite *Aymaville*, at the mouth of the Cogne valley (§ 15. Rte. B). Several modernised *châteaux* are seen on either slope of the valley, the most remarkable being that of *Sarre*, in which are preserved the horns of the numerous bouquetins and chamois shot by the late and present Kings of Italy. The character of the vegetation announces a marked change of climate, as the valley widens out, and the road, here hot and dusty, reaches

**Aosta**, a most interesting little city, in a lovely position, which is fully described in § 15. Rte. A.

## SECTION 15.

GRAND PARADIS DISTRICT  
(EASTERN GRAIANS).

As has been pointed out in the Introduction to this Chapter, the Eastern Graians, the culminating point of which is the peak of the **Grand Paradis** (4,061 m., 13,324 ft.), balances the mass of the Western Graians (described in § 12), both being connected with the Central Graian chain by an isthmus. In the case of the Eastern Graians this isthmus is the Col de Nivolet, connecting the Orco valley with the Val Savaranche, so that these two valleys form the natural S. and W. limits of the group, while the course of the Dora Baltea from Aymaville, near Aosta, to Ivrea bounds it on the N. and E. These mountains are the loftiest which are comprised within the actual kingdom of Italy, but the historical fact that their N. slope forms part of the Duchy of Aosta accounts for the prevalence of the Burgundian tongue (now considered a *patois* of literary French) in that portion of the group, while as naturally the Piedmontese dialect of Italian obtains in the Orco valley on their S. slope. This explains the usage, at first sight very puzzling, by which the peaks and passes of this region sometimes bear French, sometimes Italian names.

Within the area indicated above the Eastern Graians fall naturally into two well-marked divisions, of unequal size, and separated by the stream (called below Cogne the *Grand' Eyvia*) which flows W., then N.W. from the Fenêtre de Champorcher past Cogne to Aymaville.

1. To the N. of that torrent there rises a comparatively small group, the highest summits in which are the *Mont Emilius* (3,559 m., 11,677 ft.) and the *Tersiva* (3,513 m., 11,526 ft.), the best known being the *Becca di*

*Nona* (3,142 m., 10,309 ft.) As this group lies between Aosta and Cogne, the natural centre of the Eastern Graians, it affords many mountain routes from one of those places to the other (see Rte. B. 2. below).

2. To the S. of the above-mentioned stream stretches the far more extensive and important main ridge, which runs S.W. from the Roisebanque to the Col de Nivolet, the chief peaks on it being the *Punta Lavina* (3,308 m., 10,854 ft.), the *Punta Sengie* (3,408 m., 11,182 ft.), the *Punta Ondezana* (3,488 m., 11,444 ft.), the *Tour du Grand St. Pierre* (3,692 m., 12,113 ft.), the *Roccia Viva* (3,650 m., 11,976 ft.), the *Punta di Gaj* (3,623 m., 11,887 ft.), the *Pointe de Ceresole* (3,773 m., 12,379 ft.), the *Grand Paradis* (4,061 m., 13,324 ft.) itself, the *Charforon* (3,665 m., 12,025 ft.), and the *Punta Foura* (3,410 m., 11,188 ft.) The ridge on which the two last-named peaks rise may also be regarded as a S.W. spur of the Grand Paradis, but there are two far more important spurs which run out to the N. from the main ridge, and enclose the *Valnontey*, at the entrance of which stands Cogne. The more easterly of these two N. spurs starts from the Tour du Grand St. Pierre, and divides the Valeille from the Valnontey, the chief independent summit on it being the *Patri* (3,423 m., 11,231 ft.) But the more westerly of the two spurs is in every way more important. It takes its origin at the Grand Paradis, and separates the Valnontey from the Val Savaranche, while it is crowned by some of the loftiest and finest peaks in the group—the *Petit Paradis* (3,926 m., 12,881 ft.), the *Bec de Montandeyné* (3,850 m., 12,632 ft.), and the splendid *Mont Herbetet* (3,778 m., 12,396 ft.). It then sinks to the *Col de Lauzon* (3,307 m., 10,850 ft.), to rise again in order to confront the great range of the Pennine Alps in the daring and beautiful peak of the *Grivola* (3,969 m., 13,022 ft.), N. of which it throws out two arms, culminating in the

*Grand Nomenon* (3,488 m., 11,444 ft.) and the *Punta Crevasse* (3,307 m., 10,850 ft.) respectively, and enclosing between them the Nomenon glen, which leads down to Vièyes. Thus it will be seen that these great N. spurs projecting from the main ridge, together with the portion of that ridge stretching between the St. Pierre and the Grand Paradis, roughly form three sides of a square, whereon rest most of the great glaciers of the group—in the S.W. corner the huge *Plan de la Tribulation*, balanced on the S. slope of the ridge by the nearly equally extensive *Noaschetta* Glacier, while in the S.E. corner is the wide *Monei* Glacier, corresponding to which on the E. slope of the ridge is the snake-like *Valeille* Glacier. The N.W. flank of the Grand Paradis is covered by a series of considerable ice-fields, which may be grouped together as the *Montandeyné* Glacier, while its S.W. flank bears the flat *Moncorvé* Glacier, so that that summit is not merely the loftiest in the district, but, appropriately enough, the centre of all the great ice-fields therein comprised.

The village of *Cogne* (1,534 m., 5,033 ft.), lying between the two main groups into which this great mountain mass naturally falls, and at the mouth of the most considerable glen included in it, is the natural centre of the district, and now possesses a fair inn; Ceresole, on the S. side of the region, has a first-class hôtel, while Dégioz, in the Val Savaranche, on the W., has a good inn. But, apart from Cogne, the best headquarters for a mountaineer is the large and comfortable *Victor Emmanuel Club hut* (Rte. K), at the S.W. foot of the Grand Paradis. Elsewhere, save at the *Piantonetto Club hut*, at the S. foot of the Grand St. Pierre, recourse must be had to the herdsmen, who are everywhere hospitable according to their means.

This district is the only part of the Alps where the *bouquetin* (Germ. Steinbock; Italian, stambecco) still

survives in a wild state. It is reserved exclusively as royal game, and very severe penalties are enforced against any one killing or injuring the animal. Chamois also abound in this preserved district, wherein many good mule paths have been made in various directions for the king's convenience, which often serve the mountaineer, who should, however, recollect that some of them lead up to gorges whence there is no exit above. Care should be taken not to disturb the game when the king is hunting.

The flora of the Cogne district is particularly rich, and such plants as *Eritrichium nanum*, *Campanula cenisia*, *Linnæa borealis* are by no means uncommon. Some valuable botanical information is given by Signor Santi in the 'Rivista Mensile' of the Italian Alpine Club for March 1896. Mountaineers will find all details as to routes up peaks and over passes in the 'Cogne' vol. (1893) of the 'Climbers' Guides' Series, which is accompanied by a map giving the names adopted in these pages; a less detailed account of the district is contained in Signori Vaccarone, Martelli, and Bobba's 'Guida delle Alpi Occidentali,' vol. ii. Parts 1 and 2 (1889 and 1896).

## ROUTE A.

## TURIN TO AOSTA BY IVREA.

	M.
Chivasso . . . . .	18
Ivrea . . . . .	38½
Pont St. Martin . . . . .	49
Bard . . . . .	52
Verrès . . . . .	56½
St. Vincent . . . . .	63¼
Châtillon . . . . .	64½
Nus . . . . .	72
Aosta . . . . .	80

Rail in 4¼-5 hrs.

Chivasso, on the main line from Turin to Milan, is 18 m. from the former and 75 m. from the latter city, while it is 20½ more to Ivrea, one of the most picturesque of the numerous little towns which mark the point at which the Alps sink into the Piedmontese plain. It is a town of some 10,000 inhabitants, and is mainly built (at a height of 234 m., 768 ft.) on a promontory above the Dora Baltea. The fourteenth-century *Castle*, now a prison, has an imposing appearance, and the entrance from the S. by a fine bridge over the Dora is highly picturesque. The geologist should not fail to examine the hills which appear to close the mouth of the valley below the town. They are the gigantic moraines of a huge glacier which once united the separate ice streams that flowed from each of the lateral valleys of the Pennine and Graian Alps into the Val d'Aosta.

[The excursion from Ivrea to Biella and its environs is described in § 20. Rte. K. That to the **Val Chiussella**, on the W., may be briefly noticed here. The most important place in that glen is *Vico Canavese*, 2 hrs. by carriage road from Ivrea, and 12½ m. by road from Castellamonte, which is 26¾ m. from Turin direct by the Cuorgnè railway (Rte. I). 3 m. beyond Vico the carriage road ceases at *Traversella*, the centre of the industry connected with the neighbouring iron and copper mines. Hence a mule



path leads up to *Fondo*, or *Valchiusella* (1,077 m., 3,534 ft), the chief place in the upper valley. The Valchiusella is a specially beautiful valley, rich in forests, streams, and all features needed to make it most picturesque. But it has hitherto been little visited by strangers, as there are no inns beyond Traversella, so that the hospitality of the village priests, or of the herdsmen on the Alpine pasturages, must be sought. Above the hamlet of Fondo the scenery is more Alpine, and, as might be expected from the position of the glen, thrust up between the Champorcher and Soana valleys, there are many passes leading from it. The *Colle del Pra* (2,687 m., 8,816 ft.) leads over in 5-6 hrs. to Ronco, and from it two of the highest peaks in the Val Chiusella—the *M. Goiassa* (2,870 m., 9,416 ft.) and the *M. Giavino* (2,817 m., 9,242 ft.)—may be ascended. At the head of the valley the *Bocchetta delle Oche* (2,406 m., 7,894 ft.) gives access to Pianprato, in the eastern branch of the Val Soana (6 hrs.), and from it the *Monte Marzo* (2,750 m., 9,023 ft.), the most striking peak in the valley, may be climbed by its W. slope in 1 hr. (magnificent view), or it may be reached in a short  $\frac{1}{2}$  hr. from the *Colle degli Orti* (2,556 m., 8,386 ft.), on the E., by which Champorcher is attained in 6 hrs. from Fondo. More to the E. is the *Colle dei Corni* (2,712 m., 8,898 ft.), between the same places (6 hrs.), whence the *Cima dei Corni* (2,781 m., 9,124 ft.) is accessible in 1 hr. The *Colle della Dordogna* (2,400 m., 7,874 ft.) leads from Fondo to Bard in 7 hrs., and there are several other passes from the lower portion of the Val Chiusella to various places between Bard and Settimo Vittone.]

The railway line on leaving Ivrea pierces by a long tunnel the promontory on which stands the town, then traverses a rich flat, passing on the right the fine castle of *Montalto*, and, beyond, the small town of *Settimo Vittone*. The chestnut gradually

replaces the mulberry, while the Italian dialect of the province of Turin gives way to the Burgundian tongue, which is the historical language of the Val d'Aosta and its tributary glens. The Val d'Aosta here forms a nearly level floor between the hills that gradually subside into the plain of Piedmont, but it commences to be hemmed in between lofty ranges, through which flows the Dora Baltea before issuing from the Alps, on approaching *Pont St. Martin*. This is the first place, and one of the most beautiful, in the Val d'Aosta properly so called. It has a lofty Roman bridge, and stands at the mouth of the Val de Lys (§ 20. Rte. D). Higher up the Dora valley is *Donnas*, where the old road passed through a cutting in the live rock, wherein are still preserved the figures 'xxxvi,' indicating the number of Roman miles from Aosta by the Roman road. 2 m. further the line, after forcing its way along the bed of the Dora and passing through a long tunnel, reaches *Bard*, a poor village at the entrance of the Val Champorcher (Rte. D). It is famous for its fort, which in 1800 all but changed the destinies of Europe by barring for some days the passage of the valley to Napoleon and his army, descending from the Great St. Bernard. It was rebuilt in 1830, and is now one of the strongest forts on the Italian slope of the Alps. The valley widens on approaching *Verrès*, at the entrance of the Val d'Ayas (§ 20. Rte. C). It is dominated by the splendid fourteenth-century castle of *Challant*, the former seat of the powerful lords of the district. It commands a noble view. Nearly opposite is the fifteenth-century castle of *Issogne*, the most important and best preserved of all the castles scattered throughout the Val d'Aosta. Beyond *Verrès* the valley soon narrows again, and the way lies through a deep defile amidst syenitic rocks, here interposed between the schists at the head of the valley, and a zone of gneiss stretching from the S. side of the Graian chain

to the head of the Val Sesia. A glimpse is caught on the right of the ruined castle of *Montjovet* or *St. Germain*, which commanded the old road through this defile, now traversed by the railway by means of a fine viaduct and several tunnels. On issuing from this gorge the traveller finds himself in the smiling basin of *St. Vincent*, surrounded by magnificent chestnut and walnut trees. It is known for its much-frequented mineral spring, and as the point at which the route over the Col de Joux to Brusson turns off (§ 20. Rte. I). Here the Dora Baltea, which has flowed about due E. for 25 miles, turns to the S.S.E. Close to St. Vincent are the remains of a Roman bridge. A little way beyond St. Vincent is *Châtillon*, at the mouth of the Val Tournanche, through which lies the frequented route to Zermatt, which, as well as Châtillon itself, is described in § 20. Rte. B. The line turns W. and follows the Dora past *Chambave*, which gives its name to a wine of some repute in Piedmont, and *Fenis*, above which there is another fourteenth-century castle. Through the *Fenis* glen, as well as that of *St. Marcel*, a little to the W., easy passes lead over in 9 hrs. to Cogne, passing on either side of the fine peak of the *Tersiva* (3,513 m., 11,526 ft.) A short distance beyond Fenis is *Nus*, at the opening of the St. Barthélemy glen (§ 19. Rte. G), with a sixteenth-century castle. Nearer Aosta the twelfth-century castle of *Quart* stands in a commanding position on the N. side of the valley, and is worth visiting for the sake of the fine view gained thence. The country becomes more and more fertile, and, after crossing the Buthier by a long iron bridge, the line reaches its present terminus,

**Aosta** (583 m., 1,913 ft.), a small city which is the capital of the Duchy of Aosta, the last remnant of the Burgundian or original dominions of the present royal House of Italy. Hence the local tongue is not Italian,

but a dialect of French, while the buildings (save the towers with open arcades at the top) show only Burgundian influence. It is admirably situated in a rich valley surrounded by snow-capped mountains, the glaciers of the Rutor being seen in one direction (S.W.), the precipices of the Mont Emilius in another (S.), and the snows of the Combin in a third (N.) It was founded B.C. 24 by Augustus (in whose honour it was named *Augusta Prætoria*), on the ruins of the chief town of the Salassi, taken and destroyed by his general Terentius Varro. Few places in Europe have so well preserved the plan and the general character of the Roman city. The ramparts, forming a perfectly regular rectangle, are still in good preservation, especially on the S. side, on which they are most easily approached. The E. gate, or *Porta Prætoria*, still exists, and a short distance to its E., on the road which forms the principal approach to the city, is a splendid *Triumphal Arch*, erected in honour of Augustus by Terentius Varro. Near it, at some distance beyond the actual course of the Buthier, is a Roman bridge, which formerly crossed that stream, but is now partly buried in the soil that has accumulated over the ancient bed. There are also remains of the *Amphitheatre*, and of several other buildings of Roman date, as well as many Roman inscriptions scattered through the city. Several mediæval towers have been built on the Roman walls, of which the most remarkable are the *Tour de Bramafan* (S. side), built by the mighty Challant family, and the *Tour du Lépreux* (W. side), famous as the scene of a real tragedy, best known through Xavier de Maistre's version. The *Cathedral Church* (W. end of the city) is of no great antiquity, save the crypt, as it has been rebuilt; but it contains some good mediæval (not Roman) mosaics, as well as good fifteenth-century carved choir stalls and cloister, while there are several interesting antiquities in

the sacristy. The *Collegiate Church of St. Ursus* (E. end of the city) has also an ancient crypt, and good carved choir stalls; its twelfth-century cloisters are very remarkable, one of the columns still bearing the date at which the building was commenced, 1133. Among the celebrated men whose names are associated with Aosta it may suffice to name St. Anselm, later archbishop of Canterbury, born here about 1033, and his contemporary St. Bernard of Menthon, second founder of the Hospice on the Great St. Bernard. The Chanoine Carrel, whose Meteorological Observatory here was so well known to many English travellers, died in 1870, and six years later there passed away another friend of English visitors to Aosta, Jean Tairraz, of Chamonix, who built the H. du Mont Blanc, outside the city, which is still one of the most delightful inns in the Alps.

Aosta is the meeting point of many routes. That over the Little St. Bernard (and to Courmayeur) is described in § 14. Rte. G; the Great St. Bernard in § 18. Rte. A; the Col de Fenêtre to the Val de Bagnes in § 18. Rte. E; the Valpelline in § 19. Rte. E; the Val Savaranche in § 15. Rte. I; the Val de Rhêmes in § 14. Rte. C; and the Val Grisanche in § 14. Rte. E.

### ROUTE B.

#### AOSTA TO COGNE.

As mentioned in the Introduction to this Chapter, the mountain group of which Mont Emilius is the culminating point lies between Aosta and the village of Cogne. The usual way from one of those places to the other turns this group on the W., but mountaineers may find several more interesting routes across the moun-

tains. It is well to start early from Aosta in either case, in order to avoid the heat of the sun as much as possible.

1. **By Road** (5-6 hrs.)—Carriage road to Aymaville; rough road thence to Cogne. From Aosta the high road towards Courmayeur is followed till just before passing under the Château of *Sarre*. Here a new road branches off, which crosses the Dora Baltea to *Aymaville*, but pedestrians can save  $\frac{1}{2}$  hr. by taking the steep old char road, which quits the high road just opposite Aymaville. From Aymaville a steep and wearisome ascent by a stony road leads S. round the mountain-side, keeping well above the Grand' Eyvia and the Pont d'El.

【If coming from Courmayeur the pedestrian should leave the main road in the Aosta valley just below Ville-neuve, and mount by the left bank of the Grand' Eyvia, in shade in the afternoon, to the village of Pont d'El, whence a path ascends to the char road from Aymaville. By that path a traveller coming from Aosta can by a slight détour visit the very curious **Pont d'El**, which spans, at a height of 52 m. (171 ft.), the Grand' Eyvia, flowing from Cogne. The arch of the bridge was intended to serve the double purpose of bridge and aqueduct, since below the path over it a vaulted gallery, which formerly served to convey water, is carried across the arch, one entrance being in the village, and the other on the opposite bank. A Roman inscription, still perfectly fresh, seen over the arch on the N. side of the bridge, records its construction in the thirteenth year of the reign of Augustus.】

The road continues round another shoulder of the mountain, and passes by a bridge to the left bank of the Grand' Eyvia, just where the valley turns from N. to S.E. After passing the narrow part of the gorge the village of **Vièyes** (1,132 m., 3,714 ft.), at the mouth of the *Nomenon* glen, is reached.

【At the head of this glen, and



2-2½ hrs. from Vièyes, stand the chalets of *Grand Nomenon* (2,317 m., 7,602 ft.), which command a view probably unsurpassed in the Alps. Close overhead towers the graceful peak of the Grivola, while the Aiguille du Géant, the Grandes Jorasses, and the Grand Combin assert themselves boldly in the distance. Hence the *Cols de Mesoncles* (2,916 m., 9,567 ft.) and *de Belleface* (3,098 m., 10,165 ft.), lying respectively N. and S. of the fine rocky tooth of the *Grand Nomenon* (3,488 m., 11,444 ft.)—accessible from the former pass in 2 hrs.—lead over to Dégioz, in Val Savaranche, in about 5 hrs. or so. The traveller on his way to Cogne who has been tempted to make the much-recommended détour to these chalets need not return to Vièyes, but may cross in 3 hrs. direct from the huts by the *Col de Trajo* (2,872 m., 9,423 ft.) N. of the Punta Crevasse to Epinel, ¾ hr. below Cogne.]

The road runs along the left bank of the stream, winding through a narrow gorge, and passing a fine waterfall, before it crosses to *Epinel*, from which the end of the Trajo gl. and the *Punta Crevasse*, 3,307 m., 10,850 ft. (S. of the Col de Trajo, whence it can be best climbed in 1½ hr. by skirting the rocky W. face to the last bit of the S. arête), are conspicuous. ½ hr. higher up the glen is *Cretaz*, where the traveller enters on the fair green meadows of *Cogne*, that village itself being but ¼ hr. distant.

2. **By the Mountains.**—A pedestrian has the choice of many routes open to him.

(a) The shortest in point of distance are those over the *Col du Drinc* (2,550 m., 8,366 ft.), or the *Col de Chaz Sèche* (2,820 m., 9,252 ft.), both being traversed by mule paths, and lying across the westernmost spur of the Mont Emilius group. The Dora is crossed by a great bridge to *Charvensod*, from which point the ascent begins. Thence the mule track, amid near scenery and distant views

of continually increasing beauty, winds to the S. up the grassy slopes past the *Sanctuary of St. Grat*, and the chalets of *Chamolé*. The Drinc then lies to the S.W. (4½ hrs. from Aosta), and the Chaz Sèche to the S.E. (5 hrs. from Aosta.) The fine view may be further extended by mounting the *Pointe du Drinc*, 2,663 m., 8,737 ft. (20 min. from the pass of that name), whence Aosta and Cogne are both visible.

From the Drinc a descent in a S.E. direction leads to Epinel (1¾ hr.), ¾ hr. below Cogne. The descent from the Chaz Sèche passes the beautifully situated *Arpisson* chalets, whence the main path goes by those of *Chavanis* to Epinel (2½ hrs. from the pass), while a beautiful traverse to the S.E. leads to the hamlet of *Gimilian*, ½ hr. above Cogne.

(b) A mountaineer will, however, prefer to ascend the Becca di Nona or the Mont Emilius on his way to Cogne, spending the night at the *Comboé* chalets. These huts are best reached from Aosta (4 hrs.) by a mule path, which turns sharply from the *Chamolé* huts to the N., and by the *Col de Plan Fenêtre* (2,225 m., 7,300 ft.) crosses the W. boundary ridge of the *Comboé* glen, the huts being gained by some steep zigzags.

[On the way from *Chamolé*, or direct from the pass, the point called by Chanoine Carrel the *Signal Sismonda* (2,347 m., 7,700 ft.) may be attained in a few minutes, the view thence being very fine, so that those who fear the fatigue of the ascent of the Becca di Nona may content themselves with visiting this belvédère, 4 hrs. from Aosta.]

[Another route to *Comboé*, ½ hr. longer, but even more beautiful than that indicated above, is described by Mr. Tuckett in the second Series of 'Peaks, Passes, and Glaciers.' Taking a path which turns to the left above *Charvensod*, he mounted S.E. to the *Pouce* hut, at the N.E. foot of the ridge running N. from the *Signal Sismonda*. He then bore round the

E. slope of this ridge, and entered the upper part of the gorge of the Dard or Comboé, which forms a beautiful cascade below the dark mass of the Becca di Nona, with the Matterhorn closing the view to the N.E. In the lower part of this gorge there are some curious natural pillars, figured by Mr. Jacomb in the work just referred to. A path leads down from the N. ridge of the Signal Sismonda along a watercourse to the cascade in a green hollow, in which the stream is crossed to the *Ponteille* huts. Hence its E. bank is ascended, and a grassy ridge crossed before attaining the still higher hollow in which are the Comboé huts. ]

The **Comboé** chalets (2,121 m., 6,959 ft.), with the pasturages surrounding them, belong to the cathedral chapter of Aosta, but that formerly fitted up by the late Chanoine Carrel for the use of travellers is not now available, and recourse must be had to the ruder quarters occupied by the herdsmen. It is, however, very advisable to break the journey here, if bound over either of these peaks to Cogne, as the Becca is 2,559 m. (8,396 ft.) above Aosta, and the Mont Emilius 2,976 m. (9,764 ft.) These two summits rise in the range E. of Comboé, but the Mont Emilius lies some distance back. The head of the glen is closed by the Col de Garin (2,868 m., 9,411 ft.), the most convenient for a traveller on his way from the Becca to Cogne, while the Col d'Arbole (3,137 m., 10,292 ft.), just S. of Mont Emilius, is the best for a party wishing to take that peak on the way.

a. *By the Becca di Nona and the Col de Garin* (c. 8 hrs.)—There is a mule path (somewhat neglected of late) from Comboé to the summit (2½ hrs.), which bears first S., then E. at the S. foot of the promontory of *Gros Cez* by the *Vallé* hollow (in which a direct footpath from Comboé joins the mule track). The Italian Alpine Club has built close to the summit of the **Becca di Nona** (3,142

m., 10,309 ft.) a shelter hut, called the *Capanna Budden*. It is to the late Chanoine Carrel, of Aosta, that travellers are indebted for a knowledge of this admirable point of view, and it was the same gentleman who defrayed the expense of constructing the mule path, and who (1855 and 1860) published a complete lithographed panorama from the summit. Many of our countrywomen have thus been enabled to enjoy this excursion, of which one of them has given an interesting account in the pleasant volume entitled 'Alpine Byways.' The view includes the whole S. slope of the Pennine Alps from Mont Blanc to Monte Rosa, with the chain of the Eastern Graians. The rich Val d'Aosta seems to lie immediately at the spectator's feet.

A traveller bound from the Becca to Cogne need not return to Comboé, but from the foot of the *Gros Cez* should bear to the left, so as to join the path which mounts, at the last steeply, to the *Arbole* huts and pastures (1½ hr.) The head of the glen bends gradually E. to the Col d'Arbole (see 2), but the proper course is to keep nearly due S. by stones, past the lower *Arbole* lake (2,490 m., 8,170 ft.), and then through a gorge, sometimes filled with snow, to the *Col de Garin* (2,868 m., 9,411 ft.), about 1¼ hr. from *Arbole*. The view hence, says Mr. Tuckett, was one of unexpected sublimity. Beyond the deep trench of the Cogne valley the noble forms of the Grand Paradis and the Grivola are seen in full grandeur. The descent on the S. side lies in a S.W. direction at first over *débris*, and then over pastures to the *Arpisson* chalets, which are beautifully situated, the view from the cross near them towards the Grivola being considered by some to rival that of the Jungfrau from the Schilthorn. They may be made the object of an excursion from Cogne (see next Rte.) The cow path descends along the torrent to *Epinel*, ¾ hr. below Cogne, but from the *Chavanis* chalets a shorter path leads

to the left to Cretaz,  $\frac{1}{4}$  hr. below Cogne, which is thus reached in about 3 hrs. from the pass.

Following the advice of M. Carrel, the writer (J. B.) took (in 1866) another way from the summit of the Becca to Cogne, which he thinks worth the attention of travellers. Instead of descending to the foot of the Gros Cez, he left the ordinary track a few minutes below the top of the mountain, and bore to the left towards a col near a little tarn, which he passed on the W. side. Keeping the same direction, there is no difficulty in reaching (less than 1 hr. from the Becca) a second col overlooking the head of the Arbole glen. This rather up and down way brings a traveller to a point not far from the foot of the high snow pass called *Pas du Valaisan* (3,194 m., 10,479 ft.), just N. of the Pointe de Garin, but Mr. Ball preferred to take the route over the Col d'Arbole, described under *b*.

*b. By the Mont Emilius and the Col d'Arbole* ( $8\frac{1}{2}$ –9 hrs.)—As stated above, the **Mont Emilius** (3,559 m., 11,677 ft.) is the highest summit in the mountain mass lying between Aosta and Cogne. The ascent is longer and more laborious than that of the Becca di Nona, while the eye does not plunge quite so directly into the Aosta valley, though the mountain panorama from the summit is finer than that from the Becca. The excursion is, however, full of interest. The Editor (J. B.) has been favoured by notes of the ascent (probably the first by foreign travellers) made by Mr. W. Mathews and Professor Bonney on August 12, 1862. Starting from Comboé, the party mounted in a S. direction, at the last steeply, to the *Arbole* chalets (55 min.) The glen here bears E., and at its head it is closed by a small glacier, lying between the Mont Emilius on the l. and the Pointe de Garin on the r. 2 hrs. sufficed to reach the base of this glacier, above the upper Arbole lake (2,961 m., 9,715 ft.), one of the

highest in the Alps. In crossing this glacier they bore to the l., and, after mounting a steep face of rock, reached the S. arête of the peak, formed of shattered rocks, which led them in 1 hr. from the base of the glacier to the summit of *Mont Emilius* (3,559 m., 11,677 ft.) In 1871 a gigantic statue of the Madonna was erected here. Prof. Bonney made (unfortunately for private circulation only) a panorama (part of which was given with former editions of this work) from the top, which gives some idea of the magnificent view which it commands. The precipices falling towards the valley of Aosta are of extraordinary height and steepness, and the city is seen apparently at the base of the mountain. *Saxifraga bryoides* and *Androsace glacialis* were found close to the summit. Messrs. Mathews and Bonney kept nearly the whole way along the S. ridge of the mountain till they reached, in 1 hr., its lowest point, the *Col d'Arbole* (3,137 m., 10,292 ft.) This pass properly connects the Arbole glen with that of Lore or Laures, which joins the Aosta valley at *Brissogne*, about 5 m. E. of Aosta. No doubt the ascent of the Mont Emilius might be made through it direct from Aosta, but the height to be surmounted, nearly 10,000 ft., makes it advisable to sleep at Comboé, if it be desired to obtain a clear view.

A party bound to Cogne should descend by the glacier on the E. side of the Col d'Arbole, and then bear round to the S.E., so as to gain the *Col des Laures* (3,040 m., 9,974 ft.), which connects the Laures glen with that of Grauson (35 min.) Steep rocks and screes lead down past the *Lussert* lakes to the head of a tributary of the Grauson valley, whence, either by the marshy *Susse* plain on the E. or by rocky slopes direct, the *Grauson* huts, standing at the junction of that tributary glen with the main Grauson valley, are attained (1 hr. 20 min. from the Col des Laures). The track down the Grauson valley



runs at first high above the left bank of the stream, which it traverses about half-way down, then descending high above the right bank to the stone bridge over the Grand' Eyvia, just E. of the village of Cogne, which is reached in  $1\frac{1}{2}$  hr. from the Grauson chalets.

The grand view of the Grivola, gained from the Col de Garin, is missed on the route just described, but the views of the Grand Paradis and its glaciers during the descent from the Col des Laures are scarcely less striking.

### ROUTE C.

#### EXCURSIONS AND ASCENTS FROM COGNE. ASCENT OF THE GRIVOLA.

There are not many places in the Alps that offer so many interesting excursions and ascents within a small area as the village of **Cogne**, while it affords the additional attraction of a cool retreat from the oppressive heat of the neighbouring valley of Aosta. It stands in a beautiful position at a height of 1,534 m. (5,033 ft.), at the E. corner of a triangular green plain, nearly 1 mile wide, at the junction of the Valnontey on the S., and the Grausonglen on the N.E., with the main valley, which descends from the Fenêtre de Champorcher on the E., and is watered by the Grand' Eyvia. The tributary glen of Valeille, which is parallel with the Valnontey, joins the main valley at Lila, a little to the E. of Cogne. The view from Cogne through the main valley descending towards the Val d'Aosta is closed by a magnificent prospect of Mont Blanc himself. The Grivola is invisible from the village, though the *Pointe du Pousset* (3,046 m., 9,994 ft.), its N.E. spur, is very conspicuous thence. The Grand Paradis itself can only be

seen by going a short distance out of the village in an E. direction, while the *Roccia Viva* is seen on the way to the cemetery. Due S. of Cogne opens the *Valnontey*, the snow-covered peaks at the head of which form the great glory of the view from the village itself; going from E. to W. the spectator sees the *Pointe de Ceresole* (3,773 m., 12,379 ft.), the *Becca di Noaschetta*, 3,447 m., 11,310 ft. (just peering over the main ridge), the *Tête de la Tribulation* (3,642 m., 11,949 ft.), the *Tête de Valnontey* (3,543 m., 11,625 ft.), and the *Tête de Grandcroux*, E. of which is the well-defined depression of the *Col de Grandcroux* (3,305 m., 10,844 ft.)

The pastures of Cogne have been since a very early period the property of the bishops of Aosta. In 1191 the reigning bishop obtained permission from the count of Savoy to build a castle at Cogne, the present edifice, however, dating only from 1672, though on the foundation of the older building. It is now occupied by the king of Italy, who owns all the hunting rights in the district. (The telegraph line is no longer reserved for the king's use.) The considerable mines of rich iron ore N.E. of Cogne (there is also one of argentiferous lead at the head of the Valeille) have long been known. They are now abandoned, not from deficiency of ore (for that is believed to be inexhaustible), but owing to the heavy expense of working at so great a height. They may be visited in about  $2\frac{1}{2}$  hrs. from Cogne. The botanist will reap a rich harvest at Cogne, and should not neglect to visit (2-3 hrs.) the pastures of *Chavanis* (see Rte. D). Among other very rare plants found in the Cogne valley are *Astragalus alopecuroides*, *Valeriana celtica*, *Linnaea borealis*, and *Eritrichium nanum*.

#### 1. Walks Round Cogne.

One of the most beautiful short walks, which no traveller should omit to take, is that up to the village of **Gimilian** (1 hr.), on the mountain slope N. of Cogne. The way leads

across the stone bridge a little E. of Cogne, and then up a series of stony zigzags. No spot near Cogne commands so magnificent a view of the peaks and glaciers that surround the valley. The excursion may be prolonged by following a track along the mountain-side in a N.W. direction to the beautifully situated Arpisson chalets ( $1\frac{1}{2}$ –2 hrs.), on the route of the Col de Garin (Rte. B. 2. a), regaining Cogne in 2 hrs. or so by the path leading from those chalets to one or other of the hamlets just below Cogne. The botanist will not fail to follow the mule path towards the Fenêtre de Champorcher (Rte. D.) on the E. as far as the *pastures of Chavanis* (2–3 hrs.), even if he is not tempted to push on to the summit of the Roisebanque (see 2. below); the return to Cogne may be made by way of the iron mines, taking the path which traverses the mountain slopes above the lower tier of terraces N. of the main valley. Another pleasant excursion is to mount by the *Col de Lauzon* mule path (Rte. H. 1) to the *king's hunting lodge* ( $2\frac{1}{2}$ –3 hrs.); the return to Cogne may be made in 3–4 hrs. by another mule path which crosses the *Col de Pian Tsalende* at the S.E. foot of the Punta Rossa, and then descends past the Vermiana huts to Cretaz,  $\frac{1}{4}$  hr. below Cogne. A stroll *up the Valnontey* towards the foot of the glaciers at its head ( $2\frac{1}{2}$  hrs.; see Rte. G) may well be extended by mounting either to the *Herbetet* chalets, on the W. ( $3\frac{1}{2}$  hrs. from Cogne: see Rte. H. 2), or to the *Monei* chalets, on the E. ( $2\frac{3}{4}$  hrs. from Cogne: see Rte. F. 2), both spots commanding most extensive views over the glaciers at the head of the Valnontey.

## 2. Easy Ascents.

Those travellers who do not feel capable of undertaking the ascent of the Grivola should at least push on from the Pousset huts to the edge of the *Trajo glacier* (4 hrs. from Cogne). The view may be greatly extended by climbing in  $1\frac{1}{2}$  hr. from the Pousset huts the *Pointe du Pousset* (3,046 m.,

9,994 ft.), which makes such a brave show from Cogne, or (in 1 hr. from the edge of the glacier) the *Punta Rossa* (3,652 m., 11,982 ft.) By keeping along the N. slopes of the latter point, or its S.W. ridge, it is perfectly easy to attain ( $1\frac{1}{2}$  hr. from the edge of the glacier) the higher *Punta Nera* (3,692 m., 12,113 ft.), one of the finest belvédères in the district, and easily reached by any one who can walk over gentle snow slopes for  $1\frac{1}{2}$  hr. From the Punta Nera it is easy to gain the king's hunting lodge on the Col de Lauzon path in rather over an hour by the S.E. slopes of the peak, the mule track over the Col des Rayes Noires (at its S. foot) being soon joined. But it is still better to push on from the summit in  $\frac{1}{2}$  hr. by the ridge to the *Punta Bianca* (3,801 m., 12,471 ft.), immediately at the S. base of the Grivola; thence the Trajo glacier may be regained in  $1\frac{1}{2}$ –2 hrs. by the *Col de la Grivola* (between the Grivola and the Punta Bianca), and the steep slate slopes on its E. side, or the descent effected towards the Val Savaranche by way of the W. arête of the Punta Bianca. From the edge of the Trajo glacier the bold little peak of the *Grivoletta* (3,526 m., 11,569 ft.) can be attained in  $1\frac{1}{2}$  hr. by its S.W. arête, the view hence of the glorious snowy N. arête of the Grivola, and of the glaciers at the N. base of that peak, being most striking; Cogne may be regained by way of the gap on the E. and the Trajo glen.

Among the summits N. or E. of Cogne the *Pointe de Garin* (3,447 m., 11,309 ft.) may be climbed in 5 hrs. either by way of the Grauson glen and the S.E. arête or by the Arpisson huts and the W. arête. The *Tour d'Arpisson* (10,700 ft.) as a viewpoint rivals the Pousset. It can be reached in  $4\frac{1}{4}$  hrs. from Cogne by the Arpisson huts and the *Col de Pila*, to its S.W., and the return made in  $2\frac{1}{4}$  hrs. by easy couloirs to a good path on the W. side of the Grauson glen leading down directly to Gimilian.

But the fine view thence obtained is surpassed by that from the higher and more favourably placed **Tersiva** (3,513 m., 11,526 ft.) This peak is accessible from Cogne in about 6 hrs. by the Grauson glen and the N. or W. arête; the return may be made by crossing the *Cold'Invergneux* (2,891 m., 9,485 ft.), at its S.W. foot, to Cret, on the Fenêtre de Champorcher route (Rte. D). In either case the ascent is rather long, and monotonous, but the panorama from the summit is one of the most magnificent possible, the Matterhorn in particular being seen through the whole length of the Val Tournanche, which opens nearly due N. of the peak. The *Punta Lavina* (3,308 m., 10,854 ft.), at the S.E. corner of the Bardoney glen (Rte. E), is accessible in 5-5½ hrs. by that glen, and the N. ridge, or the W. face; the great feature of the view is the wide outlook over the Piedmontese plains on the S.E. Even easier than the last-named ascent is that of the *Roisebanque* (the name means the 'white glacier'), 3,164 m., 10,381 ft. (5 hrs.), by way of the Fenêtre de Champorcher path nearly to that pass, and then along the W. ridge; it is easy to descend from the peak in almost every direction, while the splendid view from the top, and the great number of rare and lovely flowers found on the way up, should make this one of the most popular among the easy ascents from Cogne.

### 3. High Ascents.

(a) *The Grivola*.—To the aspiring mountaineer this is the grand object of a visit to Cogne. But although the Grivola (and especially its most delicate snowy N. ridge) is conspicuous in all distant views of this region by reason of its great height, 3,969 m., 13,022 ft., and its remarkable form, it is so far buttressed round by minor masses that it is not well seen from the valleys of Cogne or Aosta, and this circumstance perhaps has been the cause of the neglect with which it was long treated by Alpine travellers. The direction from which its ascent

appears least difficult is along the S. ridge, formed of rocks, alternating with very steep snow-slopes, and it was by this way that Mr. Tuckett made his attempt in 1859. (It was not till 1890 that Signor Bobba succeeded in effecting this difficult route, keeping close to the S. ridge.) Later in the same year Messrs. J. Ormsby and R. Bruce made the first ascent of the peak, starting from the Val Savaranche (for the route on that side now followed see Rte. I. below). Finally, in 1861, M. Chamonin, the *curé* of Cogne, who had already made two attempts which served to set him on the right track, reached the summit from Cogne by a route which, under ordinary circumstances, offers no great difficulties. An active walker can easily accomplish the ascent and return in a day from Cogne, so that there is no real need to make use of the poor accommodation at the highest Pousset chalets. Opposite the hamlet of Cretaz (¼ hr. below Cogne) a steep mule path mounts S.W. past the Lower to the Upper *Ours* huts. Here the path to the Vermiana huts runs S.W., but a party bound for Pousset must be careful to take another, which leads in a N.W. direction across a ridge to the Pousset glen, whence a path leads past the Lower, up through glacier-worn rocks, to the Upper *Pousset* huts, 2,557 m., 8,389 ft. (2½ hrs. from Cogne.) The good path towards the *Pointe du Pousset* is followed for some distance, but at a cairn it is necessary to bear S.W. up steep and stony slopes, by which the E. edge of the Trajo glacier is reached at a point sometimes improperly called the *Col du Pousset*, 3,206 m., 10,519 ft. (1½ hr. from Pousset.) Here a fine view of the Grivola, seen across the Trajo glacier, bursts on the spectator. Some Alpine travellers have compared the view hence with that of the Matterhorn seen from some points on the ridge of the St. Théodule Pass, and of the Gross Glockner, from the Hohenwartscharte. The Matterhorn is



altogether a more colossal peak, and in its dimensions, as in the plan of its Titanic architecture, is perhaps unrivalled in the Alps, but it has not what in the eyes of some may be called the peculiar gracefulness of form that distinguishes the Grivola. The Gross Glockner is a far nearer likeness to the Grivola, which is but 561 ft. higher than the Glockner, while the points of view are of about equal elevation. Both are pyramidal peaks, laterally compressed, so that their faces are of unequal width. Of the Glockner the S. and W. faces—of the Grivola the N. and N.E. faces—are snow slopes of extreme length and steepness, while the opposite faces consist mainly of rock. But while the Glockner, as seen from the S.W., is still sharper, and perhaps more elegant in form, there is no point from which it is so well seen as the Grivola is from the E. edge of the Trajo glacier. The Hohenwartscharte is a point in a snowy ridge which rises continually towards the base of the pyramid, while from the edge of the Trajo glacier the nearly level surface of that glacier furnishes the desired contrast, enabling the eye to measure the steepness of the peak, which rises 2,500 ft. above the spectator.<sup>1</sup>

From the E. edge of the Trajo glacier the ice is crossed to the foot of the great rocky S.E. face of the Grivola ( $\frac{3}{4}$  hr. or less). (Travelers are *strongly warned* against being induced to try the tempting N.E. arête, which is extremely difficult, and takes three times as long as

<sup>1</sup> It may be permitted to the present Editor (W. A. B. C.) of this work to state here that, while well acquainted with the Grivola from all sides, it seems to him to be most majestic from the S.W. and N., whereas if looked at from the E. across the Trajo glacier it is (in his opinion) remarkably stumpy, and unimpressive. He is induced to mention this opinion, as many travellers, after reading the enthusiastic description given by Mr. Ball in his text, may feel disappointed when they come to compare it with the reality. Such was his own experience, and he is not the only traveller who has been similarly disappointed.

the usual route.) 'The ascent is made by mounting the long couloir seen *most to the left* from the E. edge of the Trajo glacier nearly to its summit, then crossing to the next couloir on the right, and going up it to the N.E. arête, gained within a short distance of the summit of the peak' (A. G. G.) The ascent of the final peak from the glacier takes from  $1\frac{3}{4}$  hr. to 3 hrs., according to the condition of the rocks, which are, under ordinary circumstances, quite easy, though in the gullies there is a certain danger of falling stones. Mr. W. Mathews, when making (in 1862) the third ascent, gathered *Campanula cenisia* at a height of 12,047 ft., while in 1896 Mr. J. S. Masterman found *Saxifraga oppositifolia* at about the same height. The peak is composed of crystalline schists, in which chlorite and mica alternately predominate. Good walkers may return to Cogne in 4 hrs. or less.

(b) *The Grand Paradis*.—The ascent of this, the culminating peak (4,061 m., 13,324 ft.) of the entire chain of the Graians, is long and fatiguing, if made from Cogne, the Victor Emmanuel Club hut (at its W. foot) being by far the best starting point (see Rte. K). If the ascent be undertaken from Cogne it is practically necessary to bivouac in a cave at the E. foot of the *more southerly* of the two great rocky spurs, which divide the icefalls of the very extensive Tribulation glacier. This miserable shelter may be reached in  $3\frac{1}{2}$  hrs. from Cogne by following the Col de Grandcroux route (Rte. G) to the Grandcroux glacier, and then mounting over moraine to the foot of the spur. 2 hrs. suffice to climb up this spur to the great rolling plain of the Tribulation glacier, which is crossed to the E. foot of the peak in 1–2 hrs. more. It is generally best to make by several snow and rock gullies for the Col du Petit Paradis (the lowest point between the Grand and the Petit Paradis) itself, or some point on the easy ridge S. of it, which is then followed to

the summit ( $2\frac{1}{2}$ –3 hrs.) Of late years a favourite route (see Rte. K. 1) has been that first taken in 1888 by Messrs. Coolidge and Yeld up a great snow couloir (at the extreme S.W. corner of the Tribulation glacier and just W. of the Col de l'Abeille), by which the S. arête of the Grand Paradis is gained just N. of the rock at which the three main ridges join, and the usual route from the W. soon joined. But this route is best taken from the Victor Emmanuel Club hut. It is usually no very arduous task to reach the summit from Cogne, but the first party to make the ascent from this direction (Monsieur G. Frassy, in 1869) in the route which they forced from the Herbetet chalets to the Tribulation glacier, and on the ascent of the E. face (forcing a way to the S. of those mentioned above) encountered extraordinary difficulties, so that their recital of their adventures long caused this route from Cogne to be considered very difficult, though in reality it is not usually so.

(c) *The Mont Herbetet.* — This splendid rock peak (3,778 m., 12,396 ft.), which seems to be particularly liable to be struck by lightning, rises in the long ridge between the Grand Paradis and the Grivola, but, though first conquered in 1873 by Signor L. Barale, long remained unknown to Alpine travellers in general. Now it is one of the favourite ascents from Cogne, whence it may be reached by three routes, all starting from the Herbetet chalets,  $3\frac{1}{2}$  hrs. from Cogne by the route of the Col de l'Herbetet (Rte. H. 2). The easiest route, probably, is to gain (in  $2\frac{1}{2}$  hrs.) the South Col de l'Herbetet, and then in 2 hrs. more to climb up the rocky N. arête to the summit. A better scramble is afforded by the E. arête, of which the foot is attained in 2 hrs. from the chalets, and which is then followed (rocks good and firm) in 3–4 hrs. more to the top. Yet a third route (first discovered in 1895) is to go from the Herbetet huts to the *Col Bonney* (3 hrs.), just S. of the peak, and then

to clamber up and around the jagged S. arête to the summit (2–3 hrs.) Mountaineers thus have a choice of routes for taking this very grand peak on their way from Cogne to Dégioz, in Val Savaranche.

(d) *The Tour du Grand St. Pierre.* — This pyramidal point (3,692 m., 12,113 ft.) rises at the S.E. corner of the Valnontey, thus balancing the Grand Paradis at the S.W. corner of that glen. It was first attained in 1867 by Messrs. Freshfield, Tucker, Carson, and Backhouse, and the route taken by them was long the usual one from Cogne. It involves, however, a great détour, as it is necessary to mount the Valeille nearly to the Col de Teleccio (Rte. F),  $5\frac{1}{2}$  hrs. from Cogne, and then to climb up in 1 hr. to the N. ridge, by which (some smooth rocks) the summit is attained in  $\frac{1}{2}$ – $1\frac{1}{2}$  hr. more, according to the condition of the rocks. The view is extremely fine, especially towards the Piedmontese plains. It was only in 1891 that the true direct route up this peak from Cogne was first effected. The pastures of Monei are gained (20 min. may be saved by passing N. of them, if the Monei huts have not been used as sleeping quarters) in  $2\frac{1}{2}$  hrs. by the Col de Monei route (Rte. F), which is followed till near the N.W. foot of the peak (3 hrs.) The rocks on the N. edge of the great snow wall between the St. Pierre and the Tour St. André, just N. of it, are scaled to the N. arête, on which the route from the Col de Teleccio is joined; probably  $2\frac{1}{2}$ –3 hrs. suffice for the ascent from the Monei glacier. The summit may also be reached in about 5 hrs. from the Col de Monei itself, over the many towers on the rocky W. arête. (For the way up the S. face from the Piantonetto Club hut see Rte. F.)

## ROUTE D.

COGNE TO BARD BY THE FENÊTRE  
DE CHAMPORCHER.

9-9½ hrs. by mule path.

For those who have already visited Aosta, and who wish to approach the Italian valleys of Monte Rosa by another route from Cogne, this way will afford a pleasant variation. It is quite easy, as it is traversed by one of the king's hunting paths (said not to be very well kept up). It was formerly known under the name of *Fenêtre de Cogne*.

The valley path is followed from Cogne in a S.E. direction along the left bank of the stream, till it crosses to the hamlet of *Champlong*, on the opposite bank. Soon after the opening of the Valeille is seen on the S. Pedestrians do well to take a steep and stony path above the right bank, which passes by the chapel of *Cret* (many rare flowers here—hence to the Grauson valley and Tersiva by the Col d'Invergneux, Rte. C. 2), and the Ponton lake. But the king's mule path descends (half-way between Champlong and Cret) to the stream, crosses it to *Bose*, and continues on the left bank, making a long round by the entrance of the Bardoney glen. In either case the chalets on the *Chavanis pastures* (famous for rare flowers) are reached in about 2-3 hrs. from Cogne (it being necessary to traverse the torrent from Cret, if the foot path has been followed). Near these chalets, on stony slopes of débris, is one of the very few known habitats of a curious plant, *Aethionema Thomasianum*. 2 hrs. from Chavanis, past the *Brouillot* huts, suffice to attain the pass (2,838 m., 9,311 ft.), a mere notch in the ridge. The view hence of the Grand Paradis is one of the finest in this part of the range. In the opposite direction the rugged summits on the ridge

separating the Champorcher glen from that of Soana are more striking than might be expected from their relatively moderate height.

The mule path on the other side descends by soft and rather slippery soil to a dreary plateau watered by glacier streams, above which on the S. is the *Miserin* lake (whither a branch path leads up), with the chapel of *N. D. de la Neige* on its shore. The *Dondena* huts are passed (hence the *M. Glacier*, 3,186 m., 10,453 ft., on the N., may be ascended in 3 hrs. by way of the Col Fussi, on its S.W., which gives access by a hunting path to the Fenis glen). Soon after the mule path (the foot path keeps high above the left bank all the way to Champorcher) descends by many zigzags to cross a promontory (hence the whole length of the Champorcher glen is overlooked), and by more zigzags reaches (2-2½ hrs. from the pass) **Champorcher** (1,427 m., 4,682 ft.), the chief hamlet in the glen of that name.

☞ Hence many passes lead in different directions. The Colle degli Orti, and the Colle dei Corni, whence the Monte Marzo and the Cima dei Corni respectively may be ascended, lead over in 6 hrs. to the Val Chiusella, described in Rte. A. The *Colle Larizza* or *della Reale* (2,605 m., 8,547 ft.) and the *Col de Santanel* (2,540 m., 8,334 ft.) give easy access in 7-8 hrs. to *Pianprato*, at the head of the E. arm of the Val Soana, and about 1½ hr. above Ronco (see Rte. E). A traveller bound direct to Aosta may profitably reach Verrès in 3 hrs. from Champorcher by the *Col de Plan Fenêtre*. ☞

The village of Champorcher is 8 miles (2½-3 hrs.) by a mule path through the Champorcher glen (described by Mr. King in his 'Italian Valleys of the Pennine Alps') from Bard, in the Val d'Aosta, now a station on the railway from Aosta to Turin (Rte. A).



## ROUTE E.

## COGNE TO PONT CANAVESE BY THE VAL SOANA.

On the S.E. flank of the Eastern Graians the principal valley is that of **Soana**, which joins the great valley of the Orco (Rte. I) at Pont Canavese. The Soana valley is formed by the union of three Alpine glens near *Ronco*, 956 m., 3,137 ft. (7 miles by a good char road, through a most picturesque glen, from Pont Canavese.) The most easterly of these (that of *Pianprato*) was briefly noticed in the last Rte., as through it descends the path from Champorcher over the Colle Larizza or della Reale. Several passes lead from Cogne through the central arm (that of *Campiglia*) to Ronco, while the most westerly arm (that of *Forzo*) is connected with Cogne by passes from both the Bardoney and the Valeille glen. The usual routes between Cogne and Ronco are by the Colle della Nouva and the Col de Bardoney, the passes from the Valeille being fitted for mountaineers only.

1. *By the Colle della Nouva* ( $8\frac{1}{2}$  hrs. to Ronco).—This pass is also called the *Col de l'Arietta*, but its proper name is Nouva, as in the Middle Ages it was called 'Fenestra Nova,' to distinguish it from the Fenêtre de Champorcher. There is a royal hunting path over it, but it is in a ruinous condition. The Fenêtre de Champorcher route (Rte. D) is followed to the *Brouillot* huts (3 hrs.), whence the ruined track leads up in a S.E. direction in  $1\frac{1}{2}$  hr. between two small glaciers to the pass (2,933 m., 9,623 ft.), a mere window in the ridge, whence Turin is seen. The pass commands a very grand view of the range of Mont Blanc, on one side, and on the other looks over the Val Soana to the plain of Piedmont, and the Montferrat hills, beyond Turin. By mounting a couple of hundred

feet to a knoll on the W. of the pass, this view becomes a panorama which includes many of the principal peaks of the Pennines and the Eastern Graians.

Many zigzags lead down to the *Campiglia* glen, the village of *Campiglia* being gained in 3 hrs. from the pass, and Ronco in 1 hr. more. Above *Campiglia* the botanist may find many interesting plants, among which *Saponaria lutea* and *Silene vallesia* are conspicuous, while walnut trees are seen half-way between the hamlet of *Campiglia* (1,350 m., 4,429 ft.) and *Ronco* (956 m., 3,137 ft.), an unusual height. There are several other passes from the Bardoney glen into the *Campiglia* glen, but that most to the S.W., the *Col des Eaux Rouges*, is alone of importance to mountaineers, as thence the *Punta Lavina* (3,308 m., 10,854 ft.) may be ascended in 1 hr.

2. *By the Col de Bardoney* (8 hrs. to Ronco).—The Bardoney glen runs from N. to S. on the W. side of the *Punta Lavina*, and is separated from the Valeille on the W. by a little-known ridge. The entrance of the Bardoney glen is reached from Cogne by following the king's hunting path towards the Fenêtre de Champorcher (Rte. D) till near a fine waterfall, when another track on the left bank of the Bardoney torrent leads S. up to the *Bardoney* chalets (3 hrs. from Cogne). The way then lies due S. up the glen, stones and a small glacier giving access to that pass (2,833 m., 9,295 ft.) in 2 hrs. from the chalets.

☐ The ascent of the *Lavina* from this glen has been noticed in Rte. C. 2. The peak of the *Grande Arolla* (3,302 m., 10,834 ft.), just W. of the pass, and at the point of junction of the Bardoney, Valeille, and *Forzo* glens, may be reached from the Col de Bardoney in  $1\frac{1}{2}$ –2 hrs., either by its N.E. face or by its E. ridge. The view is interesting as commanding the rarely visited glaciers at the S.E. corner of the Valeille. S. of this peak the *Col de la Muraille Rouge* (3,195 m., 10,483 ft.) connects the *Arolla*

glacier with the head of the Forzo glen.]

The first part of the descent from the pass lies down a small gully, and then it is necessary to keep S.E. along the left bank of the torrent in the *Forzo* glen, till the high road is reached, a little below Ronco (3 h.)

3. *By the Col de Forzo* (9-10 hrs. to Ronco).—This is a roundabout way, but it enables the enquiring traveller to see something close at hand of the *Monveso* and *Arolla* groups. The route on the *Cogne* side is the same as that to the *Col de Teleccio* as far as the huts in the *Valeille*. The way then lies S.E., traverses the lower part of the great spur (not shown on the Italian map) which divides the *Arolla glacier* on the N.E. (over which passes the route to the *Col de la Muraille Rouge*) and the *Sengies glacier* on the S.W. The pass (3,185 m., 10,450 ft.) is reached without difficulty by the latter glacier.

[Hence the *Monveso di Forzo* (3,319 m., 10,890 ft.), on the S.W., can be climbed in  $\frac{3}{4}$  hr. by its snowy N. arête, or the *Punta Forzo* (3,302 m., 10,834 ft.), on the N.E., in 1 hr. by its S. arête. Both summits command interesting views of a little-known corner of the Alps.]

A great couloir, filled with shifting stones and snow, leads down to the route of the *Col de Bardoney*, a little on the *Forzo* side of that pass.

[W. of the *Monveso* is the *Colle di Monveso* (3,164 m., 10,381 ft.), also reached on the *Cogne* side over the *Sengies glacier*, another steep couloir leading on the S. to the *Pian delle Mule* huts, in a side valley, which joins the *Forzo glen* at the hamlet of *Forzo*.]

4. *By the Col des Sengies* (10 hrs. to Ronco).—Two passes bear this name. The more northerly (3,338 m., 10,952 ft.) lies just at the S.W. foot of the *Pointe des Sengies*, 3,408 m., 11,182 ft. (easily accessible hence or by the N.W. ridge from the *Sengies glacier*.) The more southerly (3,206 m., 10,519 ft.) lies at the S. corner of

the *Valeille glacier*. Each is easily gained from the *Valeille glacier*, at the head of the *Valeille glen*, the descent from either lying over the *Ciardonei glacier*, and past the *Pian delle Mule* huts.

[At the W. extremity of the *Ciardonei glacier* is the broad snow gap of the *Col de Ciardonei* (3,161 m., 10,371 ft.), by which access is gained to the *Soera glen*, a tributary of the *Piantonetto valley*. But a party bound from the *Col de Ciardonei* to the *Piantonetto Club hut* at the head of the glen of that name should from the pass cross due W., by two gullies, the *Bocchetta d'Ondezana*, a gap just at the S. foot of the *Ondezana peak*, thus gaining the very head of the *Piantonetto valley*.]

From the S. *Col des Sengies* it is easy to climb via the *Col de Ciardonei* in  $1\frac{1}{2}$  hr. the lower or W. peak (3,328 m., 10,919 ft.) of the *Monte Gialin*, or *Uja di Ciardonei*, and the higher or E. summit (3,332 m., 10,932 ft.) in  $\frac{3}{4}$  hr. more by way of the ridge connecting them; it is, however, simpler to ascend direct from the *Ciardonei glacier* to the gap, *Colle delle Uje*, between them, whence both are easily attained.

Detailed information, based on personal experience, is much desired as to the relatively unknown ridge which divides the *Forzo glen* on the E. from the *Piantonetto valley* on the W.

## ROUTE F.

### COGNE TO LOCANA BY THE VAL PIANTONETTO.

As was pointed out in the Introduction to this Section, the extensive *Monei Glacier*, at the S.E. corner of the *Valnontey*, is balanced on the E. by the more sinuous, though less im-

portant, Valeille Glacier, at the head of the side glen of that name, the peak of the Tour du Grand St. Pierre and its N. ridge alone separating these two glacier basins. Both give access by not very difficult glacier passes to the head of the narrow *Val Piantonetto*, which joins the Val d'Orco at *Perebecche*, a little way above Locana. To a modern mountaineer the way through the Valnontey and over the *Col de Monei* would seem the most direct route from Cogne to Locana, but in the Middle Ages glacier difficulties were circumvented as far as possible, and hence when the men of Cogne wished to make use of the pastures at the head of the Val Piantonetto, granted to them in the thirteenth century by their lord, the bishop of Aosta, they preferred the roundabout way through the Valeille and over the *Col de Teleccio*. Nowadays climbers visiting this district will cross one or other pass mainly for the sake of establishing their headquarters at the *Piantonetto Club-hut*, at the S. foot of the Tour du Grand St. Pierre, in order to explore the neighbouring peaks, still known to but few English travellers.

1. *By the Col de Teleccio* (10 hrs. to Locana).—The *Valeille* is the most considerable of the side glens in the valley of the Grand' Eyvia, which join that valley E. of Cogne. A king's hunting path leads from Cogne along the left bank of the Grand' Eyvia, crosses the stream to *Champlong*, and recrosses to *Lila* before entering the Valeille, but pedestrians should remain on the left bank and take a short cut above Lila to rejoin this path. It continues to mount the narrow and stony Valeille glen to its head, just at the foot of the glacier (3 hrs. from Cogne). Hence the Valeille glacier must be ascended in all its winding course, the pass (a broad snow opening slightly S.W.) being hid (like the St. Pierre) till the traveller is quite near it.  $2\frac{1}{2}$ –3 hrs. suffice to reach the pass (3,326 m.,

10,913 ft.) from the foot of the glacier.

¶ Hence the *Tour du Grand St. Pierre* (3,692 m., 12,113 ft.), on the W., can be climbed in  $1\frac{1}{2}$ – $2\frac{1}{2}$  hrs. by mounting an easy couloir to the N. ridge, by which the summit is gained in a longer or shorter time, according to the condition of the final rocks. A shorter climb from the Col is that of the *Ondezana* (3,488 m., 11,444 ft.), on the S.E., which takes  $\frac{3}{4}$  hr. by the steep S.W. rocky flank, on which an amusing scramble is to be had. Both peaks command grand views, especially towards the Piedmontese plains. ¶

On the Orco side of the pass there is the short *Teleccio* glacier, the upper bit of which is easy. Lower down it becomes crevassed. At this point a party bound for the Club hut (see under 2) must leave the ice on its *right* bank, and bear S.W., descending a steep rocky barrier to the hut, reached in 2 hrs. from the Col. But if bound for Locana the traveller must quit the glacier on its *left* bank in about 20 min. from the Col, and descend by stones in  $\frac{3}{4}$  hr. more to the upper hollow in the *Val Piantonetto*, where stand the chalets called *Muanda di Teleccio* (2,216 m., 7,271 ft.), used as night quarters by some explorers before the construction of the Club hut. A steep barrier separates this hollow from that of *Telessio*. The stream is crossed several times, and many chalets and hamlets passed before the road in the Val d'Orco is reached at *Perebecche*, 2 m. above Locana, which is 3–4 hrs. distant from the *Muanda* huts.

2. *By the Col de Monei* (11–12 hrs. to Locana).—This easy glacier pass lies over the ridge stretching W. from the Tour du Grand St. Pierre, and was first traversed by Mr. W. Mathews and Professor Bonney in 1863.

The mule path along the right bank of the torrent in the Valnontey is followed up that glen, past the hamlet of *Valnontey* and the chalets of *Vermiana*, till a little way beyond the latter (about  $1\frac{1}{2}$  hr. from Cogne)



it is necessary to leave the main path. A rough and steep cattle track then mounts S.E. to the *Monei* pastures in 1 hr. The *Monei* huts lie 20 min. to the S., but there is no need to go to them if it is intended to cross the pass. The right moraine of the N. bit of the great *Monei* glacier is ascended till it is easy to get on to the ice, over which a great circuit must be made by its E. portion round the foot of the *Cresta Paganini*, the general direction being S.

【The gap of the *Coupé de Monei* (3,382 m., 11,096 ft.) is seen on the left; it leads over to the head of the *Valeille*. From the *Coupé* the *Patri* (3,423 m., 11,231 ft.), on the N., can be climbed by the glacier on its W. shoulder, or the *Tour St. Ours* (3,583 m., 11,756 ft.), on the S., in  $1\frac{3}{4}$  hr., and the *Tour St. André* (3,630 m., 11,910 ft.) in rather more. It is not hard to go down from the latter point by rocks to the point on the N. ridge of the *Tour du Grand St. Pierre*, generally reached when ascending that peak by the usual route from the *Col de Teleccio*: see under 1. above.】

The *Col de Monei* (3,428 m., 11,247 ft.) is thus attained in  $3\frac{1}{2}$  hrs. from the pastures.

【From the pass the *Tour du Grand St. Pierre* (3,692 m., 12,113 ft.) can be climbed in 5 hrs. by the many-towered W. rock ridge.】

One or other of several snow and stone gullies leads down on the S. side to the great stone-strewn shelf, on the S. edge of which (1 hr. from the pass) is the **Piantonetto Club hut** (2,786 m., 9,141 ft.), whence it is  $\frac{3}{4}$  hr. to the *Muanda di Teleccio* huts (see above).

The Club hut, though small, and locked (the key must be brought from *Cogne*, *Dégioz*, or *Ceresole*), is very advantageously placed for climbers, since from it many ascents may be made in a comparatively short time. The chief is that of the *Tour du Grand St. Pierre* (3,692 m., 12,113 ft.), accessible in  $4\frac{1}{2}$  hrs. by way of the *Teleccio* glacier, and the rocks of the W.

bit of the S. face. S.W. of the hut rise three fine rocky pinnacles known as the *Becchi della Tribolazione* (the S. most and highest is 3,360 m., 11,024 ft.), which form the delight of rock-climbers, by whom any of them may be gained in 5-6 hrs. from the Club hut. 1 hr. N.W. of the Club hut, and reached by many stones, is the secluded little *glacier of Roccia Viva*, guarded by the *Punta di Gay* (3,623 m., 11,887 ft.), the *Roccia Viva* (3,650 m., 11,976 ft.), the *Jumeaux de la Roccia Viva* (3,589 m., 11,775 ft.), the *Bec de la Patience* (3,604 m., 11,825 ft.), the *Tête de Monei* (3,564 m., 11,693 ft.), and the *Monte Nero* (3,391 m., 11,126 ft.) (See the view from this glacier given in the 'Alpine Journal,' vol. xvii.) Any of these summits can be reached from the Club hut in from 3 to 4 hrs. The *Roccia Viva* is climbed by a great couloir in its S.E. flank, the top of the peak being formed by a small frozen lake, in a kind of crater, and invisible from any other point. The *Monte Nero*, whether by its E. or W. face, affords a good rock-climb. The other peaks are attained by a rock climb from the head of the glacier, save the *Punta di Gay*, which is ascended in  $1\frac{1}{2}$  hr. from the gap at its S. foot, the *Bocchetta di Gay*. This last-named mountain may be easily taken on the high-level traverse from the Club hut (if the peak is not climbed it is shorter to cross the *Bocchetto della Losa*, some way farther S.) by the *Noaschetta* glacier and the *Col du Grand Paradis* to the *Victor Emmanuel Club hut*, 7 hrs. direct (see *Rte. K*).

## ROUTE G.

COGNE TO CERESOLE BY THE  
COL DE GRANDCROUX.

Just S. of the village of Cogne opens the **Valnontey**, at the very head of which is a deeply cut depression, extremely conspicuous from Cogne, and obviously forming the shortest way thence to Ceresole (12¼ hrs.) Hence this pass was traversed, and christened **Col de Grandcroux**, as far back as 1862, by Mr. F. F. Tuckett. One of the king's hunting paths leads all the way up the Valnontey, past the hamlet of *Valnontey* and the chalets of *Vermiana*, beyond which it crosses to the left bank of the torrent. The point at which another hunting path to the Herbetet chalets (see Rte. H) bears to the N. is gained in 2½ hrs. from Cogne, and soon after the main path must be quitted (as it goes S.E. to a hunters' shelter at the foot of the Monei glacier) in order to mount by moraine to the *N. Grandcroux* glacier (¾ hr.) The first party encountered great difficulties in forcing a way through the séracs, but as a rule they are not difficult, and can always be turned by rocks on the E. The final snow or ice slope leading up to the pass is very steep, and is best attacked on its E. edge. The pass (3,305 m., 10,844 ft.) is gained in about 4 hrs. from the foot of the glacier, or rather over 7 hrs. from Cogne. Hence the Grivola and the Grand Paradis are concealed by intervening ridges, but the Pennine chain on the N. from the Mont Vélán to Monte Rosa, and on the S. many peaks of the Graian and Cottian Alps compensate for their absence. There is a very striking view of Cogne seen through the Valnontey.

From the Col the *Punta di Gajj* (3,623 m., 11,887 ft.), on the E., may be climbed in about 2 hrs. either by its rocky S.W. face or direct by steep rocks. From the S. Grand-

*croux* glacier, just on the S. side of the pass, it is easy to mount in ¾ hr. to the snowy opening of the *Col de Valnontey* (3,535 m., 11,598 ft.), leading to the great Tribulation glacier; from this pass the *Tête de Valnontey* (3,543 m., 11,625 ft.), on the N.E., can be climbed in 5 min., the *Tête de la Tribulation* (3,642 m., 11,949 ft.), on the S.W., in under 1 hr.; by a traverse to the notch between the latter point and the *Becca di Noaschetta* (3,447 m., 11,310 ft.), on its S.E., the last-named peak may be gained in ½ hr. from the Col de Valnontey, the view thence being odd, as the Becca just peers over the main ridge towards Cogne, whence it is visible. ]

Some easy rocks (best at the W. end) lead down to the flat *S. Grandcroux* glacier, from which a descent, rather to the right (crossing at right angles the high-level route from the Piantonetto Club hut to the Victor Emmanuel Club hut, Rte. F.), leads down into an upland plain, whence a royal hunting path on the right bank of the torrent guides the traveller over a low shoulder and past the *Motta* and *Goj* huts to the *Bruna* huts, on a second plain (1 hr. from the Col de Grandcroux). Hence *Noasca*, in the Orco valley below Ceresole, may be reached in 2½–3 hrs. by paths on either side of the stream, and this is the most direct route. Ceresole itself lies a good way to the S.W., and may be gained most easily in 4 hrs. from Bruna by a royal hunting path, which makes a great round to the W., traversing two low passes, and passing one of the royal hunting lodges before descending to the Orco valley. In fact the chief difficulty on the S. side of the Col is the multiplicity of such paths, leading in all directions, and all ultimately attaining the Orco valley, though often by immense détours.

A longer and more devious route from Cogne to Ceresole is to reach (5½–6 hrs. from Cogne by the way up the Grand Paradis, Rte. C. 3. b)

the great Tribulation glacier, and thence cross one of three passes over the ridge bounding it on the S., thus reaching in 2-3 hrs. the extensive *Noaschetta glacier* on its S., and then descending to Ceresole by way of the Motta hut ( $\frac{1}{2}$ -1 hr.), on the Col de Grandcroux route, described above. But these passes are most conveniently described in Rte. K. 2. in connection with the ascents of the peaks separating them, which are best ascended from the Victor Emmanuel Club hut.

## ROUTE H.

### COGNE TO THE VAL SAVARANCHE.

As the Valnontey is parallel to the Val Savaranche, while a considerable bit of the Grand' Eyvia glen, below Cogne, is also roughly parallel to the Val Savaranche, it is clear that there are many ways of reaching the last-named valley open to a traveller starting from Cogne. The ardent climber will prefer to traverse the Grivola (see Rte. C. 3. a, and Rte. I, under Dégioz), or the Mont Herbetet (Rte. C. 3. c), or even the Grand Paradis (ibid. b., and Rte. K). Others may choose the route N. of the Grivola by the *Cols de Trajo* and *de Mesoncles*, climbing perhaps the Punta Crevasse (3,307 m., 10,850 ft.) from the former, or the Grand Nomenclon (3,488 m., 11,444 ft.) from the latter (see Rte. B. 1). But less enterprising travellers may cross one of two other passes, both easy and pretty direct.

1. *By the Col de Lauzon* (7 hrs.; mule path).—This pass (3,301 m., 10,831 ft.) is traversed by a royal hunting path, one of the highest mule tracks probably in the Alps. This leaves the Valnontey at the hamlet of that name, 35 min. from Cogne, and zigzags high above the left bank of

the Lauzon stream, till it reaches an upland hollow ( $2\frac{1}{2}$ -3 hrs. from Cogne), wherein stands the king's hunting lodge (2,588 m., 8,491 ft.)

For the ascent of the Punta Nera hence see Rte. C. 2. and for the passage of the Col de Pian Tsalende, ibid. 1. On the S.W. *the Punta del Tuf* (3,416 m., 11,208 ft.) may be reached in 2 hrs. by its rocky N.E. ridge, or the higher *Gran Sertz* (3,510 m., 11,516 ft.), in  $2\frac{1}{2}$ -3 hrs. by the Lauzon glacier and the E. ridge.]

The ascent continues in a W. direction, finally by a long series of short zigzags, the pass being gained in under 2 hrs. from the royal hunting lodge. It is a narrow opening. Similar zigzags lead down slopes of black shale to the *Leviona* hollow ( $1\frac{1}{4}$  hr.; for the route hence to the Victor Emmanuel Club hut see Rte. K. 1), which is traversed to the little chapel at its W. end ( $\frac{1}{4}$  hr.) The mule path makes a great round to the S., reaching the Val Savaranche at Maison-nasse, but a pedestrian can gain Dégioz, the chief village in the valley, in about 1 hr. by a steep path in a W. direction, through the woods on the left bank of the Leviona stream, crossing that stream to Tignet, a little above Dégioz.

2. *By the Col de l'Herbetet* (8 hrs.)—This is an easy glacier pass, but more roundabout than the Lauzon, though the scenery is far finer. The Col de Grandcroux route (Rte. G) is followed up the Valnontey, till a royal hunting path branches off from it ( $2\frac{1}{2}$  hrs. from Cogne), and doubles back to the N., above a high cliff, to the *Herbetet chalets*, 2,422 m., 7,947 ft. (1 hr.) The path continues hence in a N.W. direction to a hunters' shelter, so that the traveller bound for the Col must take care to quit it before that point, in order to mount due W. to the Herbetet glacier ( $1\frac{1}{4}$  hr.), over which the pass is easily reached in 1 hr. more. There are two gaps, but that to the S. is only used by those bent on the ascent hence of the



*Mont Herbetet*, 3,778 m., 12,396 ft. (2 hrs.) That to the N. (3,257 m., 10,686 ft.) is used by parties bound for the Val Savaranche; from it the *Gran Sertz* (3,510 m., 11,516 ft.) can be climbed by the S. ridge in about 1 hr.

The descent on the W. side of the pass lies over the easy *Grand Neiron* glacier, and then down a royal hunting path in a N.W. direction to the Leviona hollow (1¼ hr.), whence the Col de Lauzon track is followed to Dégioz, a good hour further.

By bearing S.W. from the Herbetet chalets across the lower end of the E. ridge of the Mont Herbetet to the *Dzasset* glacier, either the *Col Bonney* (3,594 m., 11,792 ft.) or the *Fenêtre de Dzasset* (3,641 m., 11,946 ft.), at the head of that glacier, may be gained in 3 hrs. or so, but the descent on the W. is in each case harder than that from the Col de l'Herbetet.

#### ROUTE I.

##### AOSTA TO TURIN BY THE COL DE NIVOLET.

Carriage road to Villeneuve; mule track thence (about 13 hrs.) to Noasca; carriage road to Cuornè, and railway thence to Turin.

In the Introduction to this Section it was pointed out that the Col de Nivolet forms a sort of isthmus by which the mass of the Eastern Graians is connected with the Central Graians, while, as it leads from the Val Savaranche to the valley of the Orco, the track across it forms the W. and S. limits of the Eastern Graians. It is a frequented route, and a very easy though a long one, but not very interesting to a mountaineer save as a means of reaching various good

headquarters whence many ascents may be made.

The carriage road towards the Little St. Bernard Pass (§ 14. Rte. G) is followed from Aosta up the valley of the Dora Baltea as far as *Villeneuve* (6 m.), which stands not far from the junction of the mountain torrents flowing from the Val Savaranche and the Val de Rhêmes. A fatiguing paved mule path mounts steeply on the right bank of the Val Savaranche torrent, and leads up to a point at a great height above the Val d'Aosta, overlooking that valley and the lower end of the Val de Rhêmes, richly wooded and set with orchards and corn fields, with the range of Mont Blanc in the background. Higher up the track runs at a great height above the narrow ravine through which the *Savara* roars, passes several hamlets and groups of chalets, and after crossing and recrossing the stream emerges into the small basin wherein stands *Dégioz*, 1,541 m., 5,056 ft. (3½ hrs. from Villeneuve), the chief village in the Val Savaranche and the meeting point of many routes. Hence the *Punta Foura* (3,410 m., 11,188 ft.) is seen at the end of the glen.

[For the routes to Cogne by the Cols de Mesoncles or de Belleface, and de Trajo, de Lauzon, and de l'Herbetet, as also the ascents of the Grand Nomenon, and the Mont Herbetet, see Rtes. B. 1., C. 3., and H. 2. The ascent of the *Grivola* (3,969 m., 13,022 ft.) from Dégioz takes about 7-8 hrs., and offers no great difficulties; the best way is to follow the royal hunting path towards the Col de Belleface for some distance up the *Peson* or *Bocconere* ravine, and then to mount the rocks of the S.W. face, by a well-marked and nearly level ledge, on top of a layer of red rock, and later by ribs and gullies leading to the S. ridge, close to the top. On the W. side of the Val Savaranche several easy passes lead over to the neighbouring Val de Rhêmes. The most direct (5½ hrs.) is the *Col de Sort*

(2,967 m., 9,735 ft.), reached by a king's path, bearing N. from the Col d'Entrelor route. The Col de Sort is just at the S. foot of the *M. Roletta* (3,384 m., 11,103 ft.), which is accessible thence mainly by another king's path, in rather over 1 hr., and commands a very fine view. A rocky descent from the pass leads down to a stony basin, whence a track brings the traveller direct to Notre Dame de Rhêmes. An easier pass (6 hrs.) is the *Col d'Entrelor* (3,009 m., 9,873 ft.), a little further to the S., and reached from Dégioz by a royal hunting path; from it the mountaineer should not fail to follow the ridge (or its W. slope) to the S. over the Cima di Percia, the Colle di Percia, and the Sommet d'Entrelor to the *Cima dell' Avuille* (3,446 m., 11,306 ft.),  $2\frac{1}{4}$  hrs. from the pass, and a splendid view-point, as it is the highest summit in the ridge separating the Val Savaranche from the Val de Rhêmes. The descent on the Rhêmes side of the pass is steep at first, but easy. A traveller delayed at Dégioz would do well to mount the *Punta Bioula* (3,414 m., 11,201 ft.), N. of the *M. Roletta*, and accessible in 4-5 hrs. by a royal hunting path, which from the royal hunting lodge of *Orvieille*, on the way to the Col d'Entrelor, strikes boldly to the N., and leads to a hunter's shelter on the very summit of the peak. ]

The mule path from Dégioz crosses and recrosses the stream before entering a fine gorge through which it passes, the mountain-sides being clothed with pine forests, while glimpses are had of rugged peaks and pinnacles towering high above them. On issuing from it the basin in which stands **Pont**, 1,946 m., 6,385 ft. (2 hrs. from Dégioz), the highest hamlet in the valley, is attained, and traversed to that village, many evidences of glacial action on a grand scale being seen here as well as higher up the glen.

[Pont is situated at the junction of the torrents from the Nivolet plain,

on the S.W., and from the *Seiva* or *Grand Etret* glen, on the S.E.; through the latter several passes lead over easy glaciers to Ceresole, but are more conveniently described in Rte. K, as well as the way from Pont to the Victor Emmanuel Club hut,  $1\frac{1}{2}$ -2 hrs. distant by mule path. ]

From Pont a 'rough but well-engineered path zigzags up the cliff, like an expurgated edition of the Gemmi, with the objectionable parts omitted' (F. F. T.), the *Croix d'Aroletta*, at its upper edge, being gained in 50 min. from Pont. The view hence of the near mass of the Grand Paradis, with its attendant peaks, and of the jagged range extending thence to the Grivola, is celebrated by all who have passed this way as among the finest in the Alps. The way now lies S.W. amidst rocky ridges which have been flattened and rounded by the former passage of a glacier. A large number of erratic blocks have been deposited on these smooth surfaces by the extinct glacier. Some of these are so nicely poised that a slight exertion would upset them, but it may be hoped that no traveller will be so stupidly barbarous as to cancel these records of the past history of the earth. Beyond, an extensive upland plain is traversed to the *Nivolet chalets*, 2,410 m., 7,907 ft. ( $1\frac{1}{4}$  hr. from the Croix), where poor quarters on hay may be had in case of necessity.

[The view may be extended by mounting in  $2\frac{1}{2}$ -3 hrs. without any difficulty either the *Tout Blanc* (3,438 m., 11,280 ft.), on the N.W., or the *Punta Violetta* (3,031 m., 9,945 ft.), on the S., it being perfectly easy to take the latter point on the way to the Col de Nivolet. The *Col Rosset* (3,024 m., 9,922 ft.) leads over to the Val de Rhêmes, the track from the chalets winding among glaciated rocks, interspersed with small tarns, near the largest of which the king's hunting path from the Nivolet lakes to the pass is joined. The pass affords

a good view in different directions. In descending the course is at first nearly due W., down a slope of shifting stones, and then N., winding round a projecting spur of the mountain, a good track finally leading N.W. down to the *Balmaverain* chalets, at the head of the Val de Rhêmes (see § 14. Rte. C). It is not difficult to go from the chalets S.W. over the *Basei* glacier to the *Punta Basei* (3,338 m., 10,952 ft.), and thence to follow the ridge to the panoramic *Pointe de la Galise* (3,341 m., 10,975 ft.), easily reached from the Col de la Galise (§ 14. Rte. B), which connects the Isère and Orco valleys.】

The path from the chalets mounts over a slightly inclined plateau of about 5 miles in length past the king's hunting lodge and some fine lakes. A short distance below the pass the rocky peak of the Grivola comes into view on turning round, and contrasts finely with the dreary character of the upland plain, patched with snow-fields. Some zigzags lead up a short ascent to the wild opening of the **Col de Nivolet** (2,641 m., 8,665 ft.), yet the lowest pass in the district (a good hour from the chalets). Fresh snow is generally found in patches near the top. The Grivola is seen to the N., and the three-peaked Levanna to the S., the scenery being otherwise wild and dreary.

The mule path zigzags down a curious rock crest, where no one, especially if mounting from Ceresole, would expect to find a passage.  $\frac{1}{4}$  hr. below the pass care should be taken to take the *right-hand* path, at a bifurcation.

【From a small tarn a short  $\frac{1}{2}$  hr. below the Col on the Ceresole side of the Col a traveller bound for the Col de la Galise or du Carro may traverse round to the S.W. to the chapel above the great Cerrù lake in 1 hr. from the Col. Hence the *Col de la Galise* (§ 14. Rte. B), leading to the Isère valley, may be reached in less than 2 hrs.; for the *Col du Carro*

(§ 13. Rte. I), giving access to the Arc valley, a further traverse in a slightly S.E. direction, past the wildly situated *Rocce* huts, is made to the foot of the steep final snow slopes,  $1\frac{1}{2}$ –2 hrs. from the Cerrù lake—by which the pass is attained in 1 hr. more.】

More zigzags lead past the *Bestalone* huts (situated on a shelf on the steep side of the mountain, and commanding a very grand view of the peaks and glaciers at the head of the valley of the Orco) to the level of the Orco valley, the hamlet of *Chiapili di sopra* being gained in  $1\frac{1}{4}$  hr. from the pass. Hence 2 hrs.' walk by the mule path on the left bank of the Orco, past the church hamlet of Ceresole, leads to the inn at Ceresole, near the mineral spring and a good bit beyond that hamlet.

**Ceresole Reale** (1,495 m., 4,905 ft.) consists of little else than the Stabilimento, and several inns, all situated in a charming green basin, with a pretty waterfall, and overhung by the great wall of the Levanna. The mineral spring attracts a certain number of Piedmontese visitors, as well as other Italians seeking coolness during the summer months, so that the accommodation is now excellent. The mountaineer will, however, find it too low to be conveniently employed as a starting point, but the recent erection of two Club huts, one at a height of 2,800 m. (9,187 ft.) on the W. edge of the great couloir leading up to the Colle Perduto, the depression between the Central and Eastern peaks of the Levanna, the other at the S.W. foot of the Grand Paradis (see Rte. K), has greatly stimulated climbing in this district.

【The chief belvédère near Ceresole is the *Bellagarda* (2,939 m., 9,643 ft.), on the S.E., accessible in 5–6 hrs. without difficulty, and commanding a magnificent view on all sides. It is also easily gained from the Val Grande, on the S., which is reached from Ceresole by the Colle della Piccola, or the Colle della Crocetta



(described in § 13. Rte. H). The ascent of the *Central Levanna* (3,640 m., 11,943 ft.) *direct* by its N. face is difficult and laborious, as many steps have to be cut, or a long and very steep rock ridge scaled, so that it is now better to start from the **Levanna Club hut**, under 4 hrs. from Ceresole, whence the *Colle Perduto* (3,242 m., 10,637 ft.) is reached in 1½ hr.; hence the Central Levanna is accessible in 2 hrs. or less by its easy S.W. rock face, and the *Eastern Levanna* (3,564 m., 11,693 ft.) in 1¼ hr. by its N. ridge; but both summits, as well as the *Western Levanna* (3,607 m., 11,835 ft.), are most conveniently attacked from Bonneval, at the head of the Arc valley (see § 13. Rte. F. 3.). For the passes from Ceresole to the Victor Emmanuel Club hut see Rte. K., below, and for those to Cogne direct, Rte. G.]

The mule track towards Noasca traverses the undulating, almost level basin of Ceresole, divided into barley fields and rich meadows, enclosed by pine forests and rugged peaks, till the summit of the famous *Scalari di Ceresole* is reached. This is a series of rude steps (now passable for mules) cut in the live rock down a steep cliff to the lower level of the Orco valley. The gorge is almost closed by huge masses of rock, fallen from either side. A fine waterfall is passed, and another where the path crosses the *Noaschetta* torrent (flowing from the extensive glacier of that name), which issues from the rift in the mountain-side, between huge masses of granite, one of the grandest scenes in the Orco valley. Just beyond the junction of this torrent with the Orco is the wretched hamlet of **Noasca**, 1,062 m., 3,484 ft. (1 hr. from Ceresole Reale.) Its miserable appearance recalls to mind the couplet:

‘Noasca, Noasca,  
Poco pane, lunga tasca.’

But there is now a good inn there, where carriages can be obtained for

the drive down to Pont Canavese, as the carriage road begins at Noasca.

[For the passes to the Victor Emmanuel Club hut and Cogne, see Rtes. K and G respectively.]

The road keeps along the left bank of the Orco. Glacier markings may be traced to a height of 600–800 feet along the walls which shut in the valley. The scenery becomes less savage as the traveller advances towards Locana, and the chestnut becomes the prevailing tree; its foliage contrasts finely with the nearer rock masses, and the rugged peaks that frown over the traveller, who turns round to view whence he has come. At *Perebecche* the Val Piantonetto (see Rte. F) joins the Orco valley, and the latter valley bends to the S.E. as 2 miles further the traveller reaches

**Locana** (617 m., 2,024 ft.), a little old town, with narrow streets, rather over 9 miles from Noasca. A good but hot and dusty road leads, amid very fine scenery, in about 8 miles more, past picturesque *Sparone*, to

**Pont Canavese** (440 m., 1,444 ft.), most beautifully situated at the junction of the Val Soana (Rte. E) with the Val d’Orco. Pont is a village which has grown into a town of 5,500 inhabitants since the establishment of large cotton mills. An afternoon may very well be spent in strolling about the neighbourhood, where every eminence commands noble views of the two valleys, and the snowy chain which encloses them. A ruined tower on a steep knoll, and the church of Santa Maria, about ½ hr. below Ponte, are particularly well worth a visit. *Campanula elatines* is found in shady spots near the river.

¾ miles below Pont is the small but prosperous manufacturing town of **Cuornè** (20½ miles from Noasca). Hence a railway leads through a richly cultivated country, with many thriving villages, to Turin (28 miles). At *Rivarolo* (6¼ m. from Cuornè) it joins the line from Castellamonte, by which the Val Chiusella may be visited (Rte. A, under Ivrea).

## ROUTE K.

ASCENTS AND PASSES FROM THE  
VICTOR EMMANUEL CLUB HUT.  
ASCENT OF THE GRAND PARADIS.

With the exception of Cogne itself, the **Victor Emmanuel Club hut** is by far the best headquarters for a mountaineer in the Eastern Graians, while it possesses the advantage over Cogne that, being at a much greater elevation (2,775 m., 9,105 ft.), expeditions can be made thence in far shorter times. It is situated at the S.W. foot of the Grand Paradis, close to and above the N.W. corner of the *Moncorvé* glacier, and contains 5 rooms, very well and conveniently fitted up. But it is locked, and the key should be brought by a party from Cogne, Dégioz, or Ceresole. It is usually approached from Pont, in the Val Savaranche (2 hrs. from Dégioz : see Rte. I), whence a mule track leads S.E. up the *Seiva* or *Grand Etret* gien for some distance, till a royal hunting path mounts due E. by many zigzags past some chalets to the Club hut ( $1\frac{1}{2}$ –2 hrs. from Pont), continuing a little further. A party coming from Ceresole to the hut has several passes open to it, those of the Grand Etret or Moncorvé being the best (see 3. below). A party coming from Cogne may from the highest chalets below the Col de Lauzon (Rte. H) gain the Grand Neiron glacier, on the route of the Col de l'Herbetet, and then cross the *Col du Grand Neiron* (over the ridge S. of that glacier) to the *Montandeyné* glacier, by which and the *Lavetiau* glacier the Club hut is reached in 5 hrs. or so from the Col de Lauzon; this is a fine route which traverses the entire W. slope of the range between the Lauzon and the Grand Paradis.

It seems most convenient to divide the climbs which may be made from the Club hut under three heads.

1. *The Ascent of the Grand Para-*

*dis.*—To the great majority of mountaineers who visit this Club hut the ascent of the **Grand Paradis** (4,061 m., 13,324 ft.), the monarch of the entire Graian chain, is the chief object. It was first climbed (and from this side) on September 4, 1860, by Messrs. J. J. Cowell and W. Dundas, with Jean Tairraz and Michel Payot. The weather having been very unfavourable, Mr. Cowell, with Payot, pluckily repeated the ascent the next day, with better luck as to a view, which is, as might be expected, very extensive, and has been twice photographed by Signor V. Sella. The route now usually taken is to follow the royal hunting path from the Club hut as far as it goes, and then to mount N.W. by stones to the W. end of the great spur stretching W. from the point at which the Grand Paradis, the Tour du Grand St. Pierre, and the Charforon ridges meet. Easy shale and snow slopes are then followed in an E. direction to the foot of that point, the *Roc du Grand Paradis* (4,018 m., 13,183 ft.), or towards its foot only. In the former case the snow at the W. base of the rocky pinnacles on the S. ridge of the Grand Paradis is traversed, in the latter a steep ice or snow slope must be cut up diagonally to the foot of the most northerly of these pinnacles or towers. A short ascent then leads to the beautiful snow crest which forms the summit of the mountain. 3–4 hrs. are required for the ascent from the Club hut, under ordinary circumstances, when there is not the slightest difficulty or danger in the expedition. There are several other routes to the summit, for which reference must be made to the 'Climbers' Guide.' That from Cogne has already been described in Rte. C. 3. *b.* An interesting way of returning to the Club hut is to follow the W. slope of the S. ridge to the gap just N. of the *Roc* ( $\frac{1}{4}$  hr.), whence steep rocks and a fairly broad snow couloir lead down on the E. to the great Tribulation glacier, a short traverse then sufficing

to reach the *Col de l'Abeille*, 3,852 m., 12,638 ft. ( $1\frac{1}{4}$ – $1\frac{1}{2}$  hr. from the gap); thence the small Abeille glacier, and either the rocks below it, or a great deeply cut snow couloir to its S.W., are descended to the extensive Noaschetta glacier (1 hr.), the Club hut being regained by the Col du Grand Paradis (see below) in rather over 1 hr. more quick walking, or in little more than  $3\frac{1}{2}$  hrs.' walking from the summit of the Grand Paradis.

From the Col de l'Abeille the *Cresta Gastaldi* (3,862 m., 12,671 ft.), on the E., may be reached in 10 min.

2. *The Col du Grand Paradis and the Noaschetta Glacier.*—Nearly due E. of the Club hut, and very conspicuous from it, is a wide gateway between the Tresenta and the Roc du Grand Paradis, which is an obvious pass. This is the **Col du Grand Paradis** (3,349 m., 10,988 ft.), which gives access to the rarely visited *Noaschetta glacier*, lying at the S. foot of the range which limits on the S. the Tribulation glacier, and so in a sense balancing that great glacier. The pass is gained by a very straight-forward course over the moraine on the right bank of the *Moncorvé* glacier, that level glacier, and a short scramble up a low ridge ( $1\frac{1}{2}$  hr. from the hut).

[Hence the *Tresenta* (3,609 m., 11,841 ft.), on the S., is accessible by a very easy ridge in  $\frac{3}{4}$  hr. or less, and may be descended on the other side to the Col de Moncorvé by a ridge of nearly equal easiness in  $\frac{3}{4}$  hr. or less, but the peak is too close under the Grand Paradis, so that the view from it is not equal to that from the Charforon, or the Monciair: see 3. below.]

The Col is on a level with the snows of the *Noaschetta* glacier, the E. end of which may be attained in less than an hour. Thence the Bruna huts, on the Col de Grandcroux route (Rte. G), are soon reached, and so Ceresole. But this is a roundabout route, even if from a point midway down the glacier a short cut is taken

to the *Goj* huts, close to those of Bruna.

The Col is, therefore, chiefly useful to a party bound for the Piantonetto Club hut (Rte. F. 2.—7 hrs.) by the Bocchetto della Losa (the way by the Bocchetta di Gaÿ, and the Punta di Gaÿ, is finer, though longer), or desirous of making the ascent of some one of the peaks which overhang the Noaschetta glacier on the N. That most to be recommended is the **Pointe de Ceresole** (3,773 m., 12,379 ft.) (close to the summit of which Mr. Yeld found *Ranunculus glacialis*), a fine view-point. It is most easily reached from the Noaschetta glacier by the rocks on the S.W. side of its S. buttress, and the small glacier above, whence a short traverse leads to the hollow between the two teeth composing the summit, the highest (that to the W.) being gained by a short scramble ( $2\frac{1}{2}$  hrs. from the Noaschetta glacier). The descent may be made either by the snowy W. ridge to the *Col Chamonin*, 3,692 m., 12,113 ft. (20 min.), whence the Noaschetta glacier is regained by gullies and rock ribs in 1–2 hrs., or by the N. face and the E. ridge to the *Col de la Lune* (3,513 m., 11,526 ft.), whence the same glacier is reached in rather over  $\frac{1}{2}$  hr. down an apparently, though not really, difficult rock wall. From the last-named pass the *Tête de la Tribulation* (3,642 m., 11,949 ft.) may be climbed without any difficulty, the descent being made to the *Col de Valnontey* (3,535 m., 11,598 ft.), on the N.E., and so the S. Grandcroux glacier attained, not far from the E. end of the Noaschetta glacier (Rte. G). The four passes—the Cols de l'Abeille, Chamonin, de la Lune, and de Valnontey—mentioned here or under 1. above—all lead over from the great Tribulation glacier, but are very circuitous routes from Cogne to Ceresole, and are mainly used by parties bent on the ascent of some one of the peaks rising between them. The *Becca di Noaschetta* (3,447 m., 11,310 ft.) rises on the S.E. spur of



the Tête de la Tribulation, and may be ascended in  $\frac{3}{4}$  hr. from the Noaschetta glacier by the rocky S.W. ridge, and traversed in  $\frac{1}{2}$  hr. more to the Col de Valnontey; it peers over the main ridge towards Cogne, and is the home of many Alpine plants, while it commands what is perhaps the finest view of the Grand Paradis that can be obtained.

The Club hut has even been taken as the starting point for the ascent of the *Punta di Gaj* (3,623 m., 11,887 ft.) by way of the Col du Grand Paradis and the S. ridge of the peak (4 hrs. 40 min. walking up, and  $4\frac{1}{4}$  hrs. walking back to the Club hut), but this summit properly belongs to the district served by the Piantonetto Club hut, and this expedition is only mentioned here to show what an admirable climbing centre the Victor Emmanuel Club hut really is.

3. *The Peaks and Passes to the South of the Club Hut.*—The spectator who looks towards the ranges S. of the Club hut will be first struck by a very wide opening, seen across a series of glaciers, scarcely to be distinguished from each other, and closing the head of the *Seiva* or *Grand Etret* glen, which opens into the Val Savaranche at Pont. This wide opening is the *Col du Grand Etret*, a double pass leading over to Ceresole. W. of it rise the summits of the *Mare Perci* (3,385 m., 11,106 ft.) and the *Punta Foura* (3,410 m., 11,188 ft.), both accessible without difficulty from the glacier at their E. foot. E. of the Col du Grand Etret a range runs in a N.E. direction to the Col du Grand Paradis. It is crowned by a number of peaks, the depressions between which serve as passes to Ceresole. The order from S.W. to N.E. is as follows:—*Punta del Broglio* (3,455 m., 11,336 ft.), four sharp rock pinnacles, of which that most to the S. is the highest (accessible in  $1\frac{1}{2}$ –2 hrs. from the Col by way of the gap N. of the S. pinnacle, a sheer rock needle); the *Colletto Monciair*, 3,309 m., 10,857 ft.

(a difficult and dangerous pass); the *Becca di Monciair*, 3,544 m., 11,628 ft. (a most graceful rock and snow point, easily gained in 35 min. from the *Col du Charforon* (3,331 m., 10,929 ft.), on its N.E.); the *Cima di Charforon*, 3,665 m., 12,025 ft. (a heavy, shapeless peak, with a very fine view), reached in  $1\frac{1}{4}$  hr. from the Col du Charforon, and in rather over 1 hr. from the *Col de Moncorvé* (3,351 m., 10,995 ft.), on its N.E.; N.E. of the latter pass is the *Tresenta* (3,609 m., 11,841 ft.), described under 2. above. Of these summits the Monciair and Charforon are recommended for the splendid view which they command, while the Broglio will be sought by mountaineers who delight in rock work.

The *Col du Charforon* is probably the shortest route from the Club hut to Ceresole; it is reached by an easy traverse over the Moncorvé and Monciair glaciers, and a steep snow slope (2 hrs.), the descent on the other side lying at first to the left down steep rocks (on which an iron cable has now been fixed) and the small *Broglio* glacier, below which one of the royal hunting paths is found, and followed past the *Broglio* huts and over a grassy pass, the *Colle della Sia* (2,274 m., 7,461 ft.) to Ceresole ( $3\frac{1}{2}$  hrs. from the pass). The *Col de Moncorvé* is even easier in itself, but it brings the traveller to the head of the *Ciamosseretto* glen, which descends direct to Noasca, so that to gain Ceresole a wearisome traverse round spurs, or the traverse of a second high pass, the *Colle della Torre* (3,187 m., 10,457 ft.), is necessary. The *Col du Grand Etret* (for the W. pass, 3,158 m., 10,361 ft., is far better than that to the E.) leads by yet a third glen, that of *Medico*, to Ceresole. The Moncorvé, Monciair, and Seiva glaciers must all be traversed in a S.W. direction from the Club hut in order to gain the pass ( $2\frac{1}{2}$  hrs.) An easy snow gully starting from the ridge between the Mare Perci and the mound on the E. of the

pass, called *Grand Etrét* (3,199 m., 10,496 ft.), leads in 20 min. or so to the W. side of the *Colle della Porta* (3,025 m., 10,925 ft.) The traveller can then choose between a direct descent by the royal hunting path S.W. past the *Medico* huts to the church town of Ceresole (Rte. I), and so to

the inns at Ceresole Reale ( $2\frac{1}{2}$ -3 hrs.), or may follow the path E. over the Colle della Porta, and join the Col du Charforon route at the Broglio huts, and so reach Ceresole Reale in about  $3\frac{1}{2}$ -4 hrs. from the foot of the Col du Grand Etrét.









## CHAPTER VI.

### PENNINE ALPS.

#### SECTION 16.

##### MONT BLANC DISTRICT.

Route.

- A. Geneva to Chamonix. Excursions from Chamonix.
- B. The Ascent of Mont Blanc.
- C. The Chamonix Aiguilles.
- D. Chamonix to Courmayeur by the Col du Géant and other Passes from the Montanvers.
- E. Chamonix to Courmayeur by the Col du Bonhomme. Excursions from Courmayeur.
- F. Contamines to Courmayeur by the Trélatête Glacier.
- G. Chamonix to Courmayeur by the Miage Glacier.
- H. Chamonix to Martigny.
- I. Chamonix or Martigny to Orsières by Champex.
- K. Orsières to Courmayeur by the Col Ferret.
- L. Chamonix to Orsières by the Argentière Glacier.
- M. Chamonix to Orsières by the Tour Glacier.

#### SECTION 17.

##### SIXT AND CHAMPÉRY DISTRICT.

Route.

- A. Geneva to Sixt by Taninges or Samoëns.
- B. Cluses, Sallanches, or Servoz to Sixt.
- C. Sixt and its Neighbourhood.
- D. Sixt to Chamonix by the Col d'Anterne.
- E. Sixt to Argentière or Chamonix by the Buet and the Aiguilles Rouges.
- F. Sixt to Salvan and Martigny.
- G. Sixt or Samoëns to Champéry.
- H. Monthey to Champéry. Ascent of the Dent du Midi.

Route.

- I. Champéry to Martigny or Chamonix.
- K. Geneva to St. Maurice by Thonon.
- L. Thonon to Bonneville or Taninges.
- M. Thonon to Taninges or Samoëns.
- N. Thonon to Monthey by Moirins or Champéry.

#### SECTION 18.

##### GRAND COMBIN DISTRICT.

Route.

- A. Martigny to Aosta by the Great St. Bernard.
- B. Great St. Bernard Hospice to Courmayeur.
- C. Bourg St. Pierre to Courmayeur.
- D. Bourg St. Pierre to Aosta by the Col de Valsorey. Ascent of the Mont Vêlan.
- E. Martigny to Aosta by the Val de Bagnes and the Col de Fenêtre.
- F. Fionnay to Bourg St. Pierre by the Col des Maisons Blanches. Ascent of the Grand Combin.
- G. Bourg St. Pierre to Chanrion by the Col du Scnadon.
- H. Chanrion to the Valpelline. Ascents from Chanrion.
- I. Chanrion to Arolla by the Otemma or Breney Glaciers.
- K. Mauvoisin or Chanrion to Arolla or Hérémece by the Cols du Mont Rouge and de Seilon.
- L. Sion to the Val de Bagnes or Arolla by the Val d'Hérémece.

#### SECTION 19.

##### EVOLENA, ZINAL, AND VALPELLINE DISTRICT.

Route.

- A. Sion to Evolena by the Val d'Hérens. Excursions from Evolena.



VIII. MONT BLANC AND ITS NEIGHBOURS. (THE WESTERN PENNINES.)



SCALE: 1:250,000. 4 ENGLISH MILES TO 1 INCH (NEARLY).  
0 1 2 3 4 5 ENGLISH MILES  
0 1 2 3 4 5 KILOMETRES

London: Longmans & Co.

*Stanford's Geographical Establishment*



Route.

- B. Evolena to Arolla. Excursions and Ascents from Arolla.
- C. Arolla to Zermatt.
- D. Arolla to the Valpelline by the Col de Collon.
- E. Aosta to Zermatt by the Col de Valpelline. Ascent of the Dent d'Hérens.
- F. Prarayé to the Valtournanche by the Col de Valcournera.
- G. Through the Val St. Barthélemy to the Valpelline or the Valtournanche.
- H. Evolena to Zermatt by the Col d'Hérens. Ascent of the Dent Blanche.
- I. Sierre to Zermatt by the Val d'Anniviers. Ascents from Zinal.
- K. Evolena to the Val d'Anniviers.
- L. Val d'Anniviers to Gruben.
- M. Gruben to St. Niklaus and Randa.

#### SECTION 20.

##### MONTE ROSA DISTRICT.

Route.

- A. Visp to Zermatt. Excursions and Ascents from Zermatt.
- B. Zermatt to Châtillon by the St. Théodule Pass. Ascents from Breuil.
- C. Zermatt to Verrès by the Schwarzthor and the Val d'Ayas.
- D. Zermatt to Pont St. Martin by the Lysjoch and the Val de Lys.

Route.

- E. Zermatt to Varallo by the Sesiajoch and the Val Sesia.
- F. Zermatt to Domodossola by the Weisssthor and the Val Anzasca.
- G. Tour of Monte Rosa by the High Glacier Passes.
- H. Valtournanche to Macugnaga by the Middle Passes.
- I. Aosta to the Val Anzasca by the Lower Passes.
- K. Ivrea to Orta by Biella.
- L. Orta to Ponte Grande by the Val Mastallone.
- M. Orta to Ponte Grande by the Val Strona.
- N. Visp to Macugnaga by the Monte Moro.
- O. Saas to Zermatt.
- P. Saas to St. Niklaus.

#### SECTION 21.

##### SIMPLON DISTRICT.

Route.

- A. Geneva to Milan by the Simplon Pass.
- B. Simplon to Saas by the Fletschhorn Range.
- C. Saas to Simplon or Domodossola by the Zwischbergen Pass.
- D. Simplon to Domodossola by the Val Bognanco.
- E. Saas to Domodossola by the Val Antrona.

THE traveller who has explored the Alps in different directions, and surveyed them from several of the high points which offer an extensive panoramic view, can scarcely fail to have formed the conclusion that, whatever the forces may have been that have raised so vast a mass of matter above the ordinary level of our continent, they have acted with peculiar intensity throughout the range, which, to speak roughly, extends between the upper valley of the Rhône and that of the Dora Baltea from Mont Blanc to Monte Rosa. On studying a model, or even a good map, it becomes apparent that

the importance of this range does not depend only on the fact that it includes all the highest peaks of the Alps, all but one of those exceeding 14,000 ft., and fully two-thirds of those over 13,000 ft. Throughout the whole central region of the Alps, from the valley of the Adige to the basin of the Isère and that of the Arve, a prevailing direction is observed in the chief valleys, the key to which is to be found in the Pennine chain. We thus find that the range of Mont Blanc lies between two parallel troughs, the valley of Chamonix, and the Allée Blanche, directed from W.S.W. to E.N.E. ;



that the same direction is repeated in the Valpelline, the Val Anzasca, the valley of the Trient, &c., and that, if we carry our eye across the whole of Switzerland, we constantly encounter ridges and depressions of the surface that conform to the same direction. A line drawn from Martigny to Coire, with a slight dislocation between Leuk and Visp, marks a great line of depression nearly 120 m. in length—traversed, it is true, by two ridges, and forming the channel for four different streams, yet essentially one trough, parallel to and nearly a continuation of the valley of Chamoinix. Farther E. another great parallel line of depression may be traced from Kauns (not far from Landeck), in the valley of the Inn, to the source of that stream, and then over the Maloja Pass to Chiavenna, perhaps even thence to Cannobio, on the Lago Maggiore, and through the Val Vigizzo and the Val Anzasca to the base of Monte Rosa. The line of lakes from Interlaken to Küsnacht, that between Orbe and Soleure, and the direction of most of the minor ranges of the Canton of Bern, all bear testimony to the existence of forces which have operated over a wide area, but which have produced their maximum effect in the range of the Pennine Alps.

The Little St. Bernard and the valley of the Dora Baltea as far as Ivrea separate the Pennine from the Graian Alps. The W. boundary of the Pennines is formed by the glens of Bonneval and Montjoie, between Bourg St. Maurice, on the Isère, and St. Gervais, and then by the valley of the Arve to its confluence with the Rhône. The Upper Rhône valley, the Simplon Pass, and the Val d'Ossola serve to fix the N. and E. limits, while between Ivrea and Arona the massive buttresses of Monte Rosa sink into the plain of Piedmont. The hilly district of the Chablais, lying between the Arve, the Rhône, and the Lake of Geneva, along with the adjacent Swiss valleys,

W. of the Rhône, is perhaps more intimately related to the Bernese than to the Pennine chain, but its contiguity to the latter makes it practically more convenient to include it in the present Chapter.

Within the limits here indicated the Pennine chain presents a tolerably continuous range about 70 m. long, in a straight line from the S.W. end of the chain of Mont Blanc to the Fletschhorn, with two great dislocations. The one, between Mont Blanc and the Mont Vélan, gives place for the chief passes across the main chain that fall below the level of perpetual snow. The other dislocation is seen in the irregular zigzag line described by the crest of the chain between the Matterhorn and the Fletschhorn, forming the main range of Monte Rosa.

The pre-eminence of Mont Blanc over every other summit of the Alps, the interest attaching to its conquest, especially to the ascent of Saussure, and the grand scenery of the valley itself, all combined to make Chamoinix one of the earliest resorts of Alpine travellers, so that, even before the French Revolution, many strangers were seen in the valley, which but a few years earlier was almost unknown to travellers for pleasure. After the peace of 1814 the stream of tourists began to flow in the same direction. The number of visitors constantly increased, but for long the valley of Chamoinix and the pass of the Great St. Bernard were the only portions of the Pennine Alps at all generally known. A few Swiss and German naturalists, and a still smaller number of adventurous Englishmen, had followed in the footsteps of Saussure in the valleys surrounding Monte Rosa, but it is only within the last 40 years or so that general attention has been directed to that region, which is now recognised as second to none in the union of all the elements of the sublime in nature. Still more recently the central portion of the Pennine chain has been pretty

thoroughly explored by English and foreign climbers, while excellent inns have now been established at Evolena, Arolla, Zinal, and other villages, and Club huts have been built at various convenient points. But the accommodation at the head of the Val de Bagnes and of the Valpelline still leaves much room for improvement. The southern valleys of Monte Rosa are now well supplied with inns.

The snow-clad portion of the Pennine chain is generally divided into three parts—the *Western Pennines*, or the chain of Mont Blanc, the *Central Pennines*, thence to the St. Théodule Pass, and the *Eastern Pennines*, limited by the Simplon Pass. All three have been described in detail in three volumes of the 'Climbers' Guides' series, which were published between 1890 and 1892.

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## SECTION 16.

### *MONT BLANC DISTRICT.*

THE mountain mass which includes the highest summit of the Alps lies between the parallel valleys of Chamonix on the N. and of the Allée Blanche and of Ferret on the S.<sup>1</sup> The Allée Blanche and the Italian Val Ferret send down two torrents flowing in opposite directions towards the village of Entrèves, near which

<sup>1</sup> This word is correctly written La Lex Blanche ('lex' meaning a meadow shut in by hills); but it does not seem possible to change the received spelling. It is an old name, and appears under the form 'Lalays Blanchy' in a charter of 1359. The name Ferret is here used of the two valleys on either side of the Col Ferret, the W. one being Italian, the E. one Swiss. For convenience we speak as if the range of Mont Blanc lay E. and W., but it must be recollected that the true direction of the watershed, and of the valleys on either side, approaches N.E. and S.W.

they unite to form the main stream of the Dora Baltea, which escapes to the S.E. by a broad opening between the Mont Chétif and the Mont de la Saxe. It is questionable whether the Mont Blanc range may most properly be described as a single ridge, throwing out on the N. side massive buttresses, which are crowned by towers and pinnacles that rival in height those of the central ridge, or as two parallel ridges linked together by connecting walls of rock, and with this peculiarity, that the N. ridge is broken through by numerous gaps, through which the vast accumulations of ice formed in the central basins are drained by the glaciers descending into the valley of Chamonix. At the W. end of the range several glaciers descend towards the Montjoie glen, while the opposite extremity, limited by the Swiss bit of the Val Ferret, the Dranse, and the Trient, is also bordered by numerous glaciers whose streams flow into those valleys.

As already explained, the watershed of the Mont Blanc range is the ridge which rises on the S. side immediately above the Allée Blanche and the Italian bit of the Val Ferret. Although the crest does not maintain continuously so high a level as that of Monte Rosa, this may be pronounced for combined length, height, and steepness to be the most formidable barrier existing in the Alps. Until about thirty-five years ago but two passes—the Col de Miage and the Col du Géant—had been effected across the snowy portion of the range extending from the Mont Tondou on the W. to the Mont Dolent on the E. But of recent years this number has been very largely increased, so that no fewer than twenty-two passes are now known between those limits, six leading from St. Gervais, and sixteen from Chamonix. There are also seven snow passes, approached from the Argentière and Tour glaciers, at the E. end of the main range, which lead into the Swiss Val Ferret.

The name **Mont Blanc** is sometimes applied collectively to the entire range, or to a large portion of it; we here confine it to the central peak, which overtops all its attendant summits by nearly 2,000 ft., and is cut off from its chief rivals by the Col de Miage on the W., and on the E. by the Vallée Blanche and the Col du Midi, between the Aiguille du Midi and the Mont Blanc du Tacul. The latter projecting point, as well as the higher eminence of the Mont Maudit, are properly but portions of the main peak, and the same may be also observed of the continuous ridge which extends from the summit by the Bosses du Dromadaire and the Dôme du Goûter to the Aiguille du Goûter. The remaining portion of the chain of Mont Blanc is not naturally divided into large and distinct masses, but exhibits in extraordinary perfection that characteristic form of sharp craggy pinnacle which has received the name of *aiguille*, nearly sixty peaks in the range now bearing this prefix.

Two outlying ranges closely connected with the chain of Mont Blanc are included in the present Section. To the N. of the valley of Chamonix the range of the Brévent and that commonly called the Aiguilles Rouges, connected with the Buet, but nearly separated by the Vallorcine and the Diosaz, cannot well be detached from the adjoining valley of Chamonix. For the same reason the range of the Crammont (its best known though not its highest summit), between the Allée Blanche and the road over the Little St. Bernard, is not placed apart from Courmayeur, which lies close to its N.E. base.

The two Alpine villages above named, **Chamonix** and **Courmayeur**, are the natural headquarters to which travellers resort, according as they would establish themselves on the N. or S. side of the range. There are a few little inns, and many Club huts, at higher points; but, owing to the form of the range, there is no one

inn in a central position and at a considerable height, such as the Riffel or the Eggishorn, where a mountaineer can sojourn with satisfaction while exploring the surrounding peaks. The much enlarged and improved inn at the Montenvers is, indeed, very conveniently placed for the peaks and passes round the great basin of the Mer de Glace; but any one who would explore the E. and W. ends of the chain must thence make a longer or shorter journey before gaining suitable night quarters. On the other hand, it may be remarked that there is, perhaps, no great mountain mass so admirably provided with natural *belvédères* whence it may be viewed on every side as that of Mont Blanc. These are the Brévent, the Buet, the Catogne, the Crammont, and the Mont Joly, all of them possessing the great advantage that a deep valley lies between the observer and the main range rising on the opposite side.

The whole of the French portion of the district described in this Section is included in that part of Savoy which was neutralised in 1815 by the Great Powers. (See the Introduction to Section II.)

Full details as to all the peaks and passes in the range of Mont Blanc will be found in M. Louis Kurz's 'The Chain of Mont Blanc' (1892), a volume of the 'Climbers' Guides' series. (The French edition, published at the same time, contains, in addition, a complete bibliography of the range.) M. Charles Durier's admirable history of Mont Blanc itself, 'Le Mont Blanc' (fourth edition, 1897) is a model of its kind, and should be consulted by any one desiring to know how the highest summit in the Alps was discovered by travellers, and later thoroughly explored and overrun. It is a remarkable fact that no one really satisfactory map of the whole chain of Mont Blanc was, till 1896, given to the world. That constructed by the unassisted exertions of Mr.



Adams-Reilly (1865) cleared up many topographical points, indeed, and took in the whole chain, but gave no heights. The best on the whole was that by M. Mieulet (1865,  $\frac{1}{40000}$ ), though it does not show the entire chain. But in 1896, at last, a really good map of the range, from the Col du Bonhomme to the Catogne, was issued. This is the map ( $\frac{1}{100000}$ ) by Herr X. Imfeld, based on the long-continued researches on the spot of M. L. Kurz. The heights given in the following pages are throughout (with the limits of the map) derived from this map by M. Kurz, on whose observations with a theodolite, made in 1893 and 1894, they are founded. One by the MM. Vallot ( $\frac{1}{200000}$ ), in twelve sheets, is in preparation, but will not be completed for many years. The sketch map ( $\frac{1}{40000}$ ) of the Brévent-Belvédère range, just N. of the Chamonix valley, published by MM. Vallot in vol. xix. of the 'Annuaire du Club Alpin Français' (1892), is the only one which gives an accurate representation of that range. It is difficult to account for the fact that so well known a range has hitherto been so badly surveyed; in the case of the main chain, the fact that it is divided between three countries explains, if it fails to justify, the very curious existing state of things.

## ROUTE A.

## GENEVA TO CHAMONIX. EXCURSIONS FROM CHAMONIX.

	M.
Annemasse . . .	3 $\frac{3}{4}$
Monnetier-Mornex . . .	5 $\frac{1}{2}$
La Roche sur Foron . . .	13 $\frac{3}{4}$
Bonneville . . .	20 $\frac{1}{2}$
Cluses . . .	29 $\frac{1}{2}$
Sallanches . . .	38 $\frac{3}{4}$
Le Fayet . . .	43
Chamonix . . .	54 $\frac{3}{4}$

Railway open to Le Fayet, in progress (electric line) to Chamonix. Trains to Cluses in 1 $\frac{1}{2}$  hr., and to Le Fayet in

$\frac{3}{4}$  hr. more; diligence on to Chamonix in 2 $\frac{1}{2}$  hrs. Travellers from Paris wishing to avoid Swiss territory may do so by taking the railway from Bellegarde (between Culoz and Geneva) to Annemasse (24 $\frac{1}{4}$  m., 1 $\frac{1}{4}$  hr.) Note that the Cornavin station (r. bank) at Geneva, where the Paris, Swiss, and Italian trains arrive, is about a mile from the Eaux Vives station (l. bank), whence the trains for the Cluses and Annecy line (with its branches) depart.

There is a fine alternative route to Chamonix from Aix les Bains and Annecy by way of Flumet and Mégève, the through service accomplishing the distance from Annecy in about 11 hrs. (See § 11. Rte. H.)

Geneva (375 m., 1,230 ft.) is the capital of the smallest Canton, save that of Zug, in the Swiss Confederation, and is the third most populous city in Switzerland, but perhaps the richest, and certainly one of the most important. In part through its natural advantages, in part through the intellectual activity of its inhabitants, but mainly because (with the exception of the French domination between 1798 and 1814) it has maintained for several centuries its political independence against all attacks, it has held a place in Europe quite disproportioned to its population and resources. Within the last half-century the town has been almost rebuilt, especially that portion of it on the r. bank of the Rhône, and has thus put on an aspect of wealth and stateliness befitting its admirable natural position at the outlet of what many regard as the finest of the Swiss lakes, in a rich strip of country that lies, as in a bay, between the Jura and the Alps. Most of its fine buildings are modern, save the *Cathedral Church of St. Pierre* (recently restored), which dates from the late twelfth and early thirteenth centuries, and has the interesting 'Chapelle des Macchabées,' built in 1406. There are a splendid *Public Library*, containing many valuable

MSS. and books, a *Natural History Museum* (with the geological collection of Saussure and the botanical collection of Candolle, besides other objects of importance), an *Archæological Museum*, and an *Historical Museum* (in the Arsenal), all three in the University buildings. The *Musée Rath* has many pictures, mostly by local artists, the *Musée Ariana* a magnificent collection of art treasures of all kinds, and the *Musée Fol* many antiquities of various periods. Those interested in the Alps will be especially drawn to the *Jardin Alpin d'Acclimatation*, in the Chemin Dancet (Alpine plants may here be purchased). A little to the S.E. of the pretty *Jardin Anglais* on the l. bank of the Rhône, are several erratic blocks in the lake, the largest of which is called the *Pierre du Nilon*, the name being taken from a traditional belief that it was an altar to the god Neptune. Its height was determined many years ago as 377 m. (1,237 ft.), but the result of later observations, made by more accurate processes, is 374 m. (1,227 ft.) As this stone has been taken by the Swiss surveyors as the basis of their hypsometrical calculations it follows that all heights on the Swiss maps are 3 m. (nearly 10 ft.) too high. For this reason the heights on the Swiss bit of Herr Imfeld's map (mentioned in the Introduction to this Section) differ by 3 m. from those on the Swiss Government maps.

The Public Walks in and about the town may challenge comparison with those of any city in Europe. The magnificent *Pont du Mont Blanc* commands an even finer view than the *Pont des Bergues*, a little below. But the latter bridge is connected with the *Ile J. J. Rousseau* (on which is a fine statue by Pradier), dividing the waters of the 'arrowy Rhône' just as they issue from the lake, and so deserves a visit also. The *Promenades de la Treille* and *des Bastions*, on the site of the old bastions, are also worth a

stroll. The best view of Mont Blanc is obtained from the *Quai du Mont Blanc*, on the r. bank of the river, close to the fine new street of that name leading from the Cornavin or main railway station to the Pont du Mont Blanc.

The environs of Geneva are studded with Villas, which for the most part command beautiful views of the lake and the mountains. The junction of the Rhône and the Arve about 1 m. W. of the town is worth a visit. The latter stream is laden with the impalpable powder into which the rocks of Mont Blanc are ground beneath the glaciers that feed the torrent, and, in addition to this, with the detritus of the sedimentary deposits through which it flows from Sallanches to Geneva; while the waters of the Rhône, after depositing their impurities in the bed of the lake, acquire the exquisite blue tint that fascinates the ordinary observer, and long puzzled men of science.

The mountaineer, when within sight of the snowy Alps, is not likely to halt long at Geneva; but among the numerous points of view which may be reached from that city there are some that in their way can scarcely be surpassed. The range of the *Jura*, extending from the Mont Colombier, near Culoz, to Soleure, forms a natural terrace from which to survey the Swiss and Savoyard Alps. A traveller who ascends to a height of 3,000 or 4,000 ft. anywhere in the range overlooks the intermediate lower country, while his eye takes in a considerable portion of the great girdle of snowy peaks that encloses the upper basin of the Rhône. The effect of this panorama is immeasurably increased when a broad expanse of water lies in the space between the eye and the distant background; and hence it is that the finest views from the Jura are those obtained from the parts of the range near the W. end of the Lake of Geneva, or from above Neuchâtel. The latter position is the more central, being

about equidistant from the highest peaks of the Mont Blanc chain and the Bernese Oberland Alps. The Jura above Geneva is much nearer Mont Blanc than the Bernese chain, the former being about 60 m. distant, and the panorama, though more striking towards the S.W., is less complete; but the **Lake of Geneva** (or *Lac Léman*), extending from the spectator's feet for a distance of 40 m., with its broad channel gradually contracted between heights that rise higher and higher on either side until they merge in the background of snowy peaks, is an object which, when once seen under favourable circumstances, can never be forgotten. To enjoy this view it is not necessary to reach the higher summits of the Jura, which surpass by some 1,400 ft. the general level of the range. It may be obtained, without trouble, by mounting the old road from Geneva to Dijon by Gex, in France (2 hrs. by diligence) to (7 m. from Gex) the *Col de la Faucille* (1,323 m., 4,341 ft.), or rather less perfectly from the road (which was at a later time preferred) from Nyon (13 $\frac{3}{4}$  m. by the railway towards Lausanne) by *St. Cergues* (9 m.), in Switzerland, to the pass leading over the crest to (8 m.) Les Rousses. The road from Geneva to Gex passes by *Ferney* (35 min. from Geneva by steam tramway), long inhabited by Voltaire. The pedestrian will be tempted to reach the summit of the *Dôle*, 1,678 m., 5,505 ft. (lying wholly in Swiss territory), between these two roads. This is, perhaps, the most desirable point from which to view this matchless panorama. It takes about 2 hrs. from the *Col de la Faucille*, or from the villages of *St. Cergues* or *Les Rousses*; the latter should be preferred as a starting point, as then the view comes suddenly before the spectator's eyes. The *Dôle*, being only surpassed in the Jura by the *Crêt de la Neige* (1,723 m., 5,653 ft.) and the *Recullet* (1,720 m., 5,643 ft.) (for both see below), and

the *Mont Tendre* (1,680 m., 5,512 ft.), overlooks an extensive horizon to the N. and W., while at its W. base lies the *Vallée des Dappes* (through which the road descends from the *Col de la Faucille* by *La Vattay* to *Les Rousses* in 11 $\frac{3}{4}$  m.), in dispute between France and Switzerland from at least 1815, but in 1862 the subject of a friendly compromise.

The *Recullet* (1,720 m., 5,643 ft.) is the second summit of the Jura, and lies a little S.W. of Geneva. It does not command quite so fine a view as the *Dôle*, but is more interesting to the naturalist because of its varied flora. It is best gained in about 4 hrs. by way of *Thoiry* (5 m. above *Satigny*) from *Satigny*, a station 6 $\frac{1}{4}$  m. from Geneva on the line to *Bellegarde*. Hence it is easy to follow the ridge N.E. to the *Crêt de la Neige* (1,723 m., 5,653 ft.), the culminating point of the entire Jura range; from it it is easy to descend in 2 $\frac{1}{2}$  hrs. to *Lelex*, 7 m. by road from *Mijoux*, which is 2 m. from the *Col de la Faucille* on the E.

The *Salève* is a ridge of limestone, lying S. of Geneva, and divided into the *Grand Salève* and the *Petit Salève* by a depression where stands the village of *Monnetier*. It is a very fine point of view, and is now easily accessible by rail. From Geneva there is a steam tram to either *Etrembières* ( $\frac{3}{4}$  hr. from the *Place du Molard*), at its N. foot, or to *Veyrier* ( $\frac{1}{2}$  hr. from the *Cour de Rive*), on the W. side. From either place runs an electric tramway, the two lines meeting at *Monnetier-Mairie* station. Thence it mounts to the *Plateau des Treize Arbres* (patois form of 'trois'), 1,184 m., 3,885 f. (1 hr. from either place), the summit of the *Grand Salève* being  $\frac{1}{4}$  hr. further on. The *Petit Salève* (902 m., 2,959 ft.) is gained in a short half-hour's walk from *Monnetier*. The highest point on the *Salève* is the *Grand Piton* (1,380 m., 4,528 ft.), which may be reached in 2 hrs. from the summit, generally visited by fol-



lowing the ridge in a S.W. direction. On the W. side towards Geneva the Salève forms an escarpment so steep as to be only practicable in a few places, notably the *Pas de l'Echelle*, a staircase cut in the rock, near which runs the electric tramway from Veyrier to the depression between the two points of the Salève. Another is the path through the *Grande Gorge*, from Bossey, on the N.W., which is further S. This gully is often visited by botanists. Fatal accidents have arisen from attempts to descend from the Salève through gullies which are practicable above, but become gradually steeper, and terminate in precipices. The mountain is rich in rare plants, among which *Arabis saxatilis*, *Hieracium andryaloides*, and *H. glaucum*, and *Orobanche Laserpitii* may be specified. The S.E. slope of the mountain facing the valley of the Arve is covered with blocks of protogine, which have been evidently transported from the Mont Blanc chain.

There are two other view points which may be visited from Geneva, but they are rather more distant than those already mentioned. The *Voirons* (1,480 m., 4,856 ft.), on the E., can be reached in  $2\frac{1}{2}$  hrs. from the Bons-St. Didier station,  $12\frac{1}{2}$  m. from Geneva on the Thonon line (§ 17. Rte. K). The *Môle* (1,869 m., 6,132 ft.), on the S.E., is best reached in  $3\frac{1}{2}$  hrs. from Bonneville (see below), or in 4 hrs. from St. Jeoire, a station  $16\frac{1}{2}$  m. from Geneva by the steam tramway to Samoëns (§ 17. Rte. A).

From the Eaux Vives station at Geneva the railway to Cluses runs E. past *Chêne Bourg*, and, entering France across the Foron, soon after reaches *Annemasse*, whence the lines to Thonon and Bouveret (§17, Rte. K) and to Bellegarde (24 m.) branch off, as well as the steam tramway to Samoëns (§ 17. Rte. A). It soon traverses the Arve, and continues S.E.

above its l. bank till near Bonneville. The *Monnetier-Mornex* station,  $5\frac{1}{2}$  m. (for the Salève see above, but it is better to go by tramway, as there are not many trains a day by the railway), is close to the junction of the Menoge with the Arve.  $3\frac{3}{4}$  m. beyond is *Reignier*, near which there are a very large quantity of erratic boulders. In  $13\frac{3}{4}$  m. from Geneva the train reaches the junction of *La Roche sur Foron* (picturesquely situated on the l. bank of the Foron), where the line to Annecy and Aix les Bains (§ 11. Rtes. E and F) leaves the main line. On quitting La Roche the Cluses line descends to the l. and crosses successively the Foron, the Borne, and the Arve, before reaching ( $20\frac{1}{2}$  m.) the station of

**Bonneville**, which is on the r. bank of the Arve, just E. of the town. This town was formerly the capital of the Faucigny, the ruined eleventh-century castle whence the province got its name standing on a steep rock, about 4 m. N.E. of the town, on the r. bank of the Arve. Bonneville stands in the valley of the Arve, between the Môle on the N.E. and the Brezon on the S.E.

[The **Môle** (1,869 m., 6,132 ft.) can be reached in about  $3\frac{1}{2}$  hrs. by way of the *Bovère* huts, on its W., and the *Petit Môle*, 1,518 m., 4,981 ft. (a grassy shoulder on the S.,  $\frac{3}{4}$  hr. below the summit), on which is a small inn or glorified Club hut. The Môle is a conical mountain which makes a great show from below, while the view of the snowy mountains from the summit is even finer than that from the Salève, as it is much nearer to them. The ascent from St. Jeoire (§ 17. Rte. A) is longer and steeper. The *Brezon*, or *Pointe d'Andey* (1,879 m., 6,165 ft.), is a favourite resort of botanists, and may be ascended in  $3\frac{3}{4}$  hrs. from Bonneville, there being now a char road to the village of *Brizon* ( $5\frac{1}{2}$  m.), whence the summit is attained from the S.E., but it may also be gained by way of Andey, on the N.W. From Brizon it is easy to

go E. by the village of Mont Saxon-  
nex to *Marnaz*, on the high road,  
about 3 m. from Cluses. For the  
road from Bonneville by the valley of  
the Borne and the Col de St. Jean de  
Sixt to Thônes and Annecy see § 11,  
Rte. F. and for that to Thonon see  
§ 17. Rte L.]

The railway follows the r. bank of  
the Arve for some distance, then  
bends N.E. along the same bank of  
the Giffre, and crosses it to  
( $4\frac{1}{4}$  m.) the station of *Marignier*,  
at the S.E. foot of the Môle. (Hence  
a steam tramway runs N. to the Pont  
du Risse station,  $\frac{1}{2}$  m. from St.  
Jeoire, on the Samoëns tramway,  
§ 17. Rte. A.) The line once more  
bends S.E., and nears the Arve, on the  
r. bank of which is situated ( $29\frac{1}{4}$  m.)

**Cluses**, a small town at the mouth  
of the Arve gorge, whence it derives  
its name. It was rebuilt after a great  
fire in 1844, and is devoted to watch-  
making. (For the carriage road over  
the Col de Châtillon to Taninges,  
and the direct routes by Arâches to  
Samoëns, see § 17. Rte. A. 2; for that  
by the Lac de Flaine to Sixt, § 17.  
Rte. B. 1; and for those through the  
Reposoir glen on the S., § 11. Rte. G.)

Below Cluses, which is but 360 ft.  
above the level of the Lake of  
Geneva, the Arve has flowed in a  
wide bed through a comparatively  
open country. Above Cluses it passes  
for several miles through a narrow  
defile, which forms a worthy portal  
to the grand scenery that awaits the  
traveller who would approach its  
sources in the glaciers of the chain of  
Mont Blanc. This defile, which  
mounts nearly due S., is known as  
the *Vallée de Magland*, and lies be-  
tween the limestone range separating  
the Arve from the Giffre, on the E.,  
and a nearly vertical wall of rock, on  
the W., which extends continuously  
to the Pointe Percée du Reposoir,  
above the Chartreuse du Reposoir.  
The new railway line follows the  
new carriage road, running for  
long between it and the Arve.  
At the station of *La Balme*, 2 m.

beyond Cluses, the defile opens a  
little, and a slope of débris, 750 ft.  
high, marks the spot where a cavern  
penetrates for about 1,000 ft. into  
the limestone. (It is sometimes visited  
by passers-by (2 hrs. there and back,  
fees), but is not particularly well  
worth the delay to any one who has  
seen similar caverns, common in all  
limestone districts.) The road, which  
keeps on the r. bank of the Arve  
from Cluses to near the Nant  
d'Arpenaz, passes opposite the hamlet  
of *Chamonix*, on the other side of the  
river. As M. Durier has pointed  
out (p. 44), this village is closed in  
(‘munitus’) on all sides by the  
mountain behind, a torrent, and the  
river, so that the real meaning of the  
name of the better known village of  
Chamonix is here perfectly set forth.  
Further on a powerful spring bursts  
out by the road-side. This was sup-  
posed by Saussure to be the out-  
let of the Lac de Flaine, an Alpine  
tarn high up on the E., on the way  
to Sixt (§ 17. Rte. B). Immediately  
beyond is (4 m. from Cluses) the station  
of *Magland*, and a little further the  
Château of *Bellegarde*, whence the path  
to Sixt (as above) turns off. 7 m. from  
Cluses the new road and line cross be-  
yond *Oex* (station) to the l. bank of the  
Arve, the old road continuing along  
the r. bank (for a description see  
below). Soon after the traveller sees  
on the r. bank of the Arve the *Nant  
d'Arpenaz*, one of the highest water-  
falls of the Alps. It is about 150 ft.  
from top to bottom, but, except after  
heavy rain, or in the spring, the  
volume of water is so small that it  
is broken into spray long before it  
reaches the lower ledge, and, save at  
such times, it is scarcely worth the  
trouble to approach it nearer than the  
road. The valley widens, and the  
summit of Mont Blanc comes into  
sight as the traveller draws nearer to  
( $38\frac{3}{4}$  m. from Geneva,  $9\frac{1}{2}$  m. from  
Cluses)

**Sallanches** (546 m., 1,791 ft.), a  
little town rebuilt after a disastrous  
fire in 1840. (For the path to Sixt

by the Désert de Platé see § 17. Rte. B. 2. and for the very beautiful paths and roads by Mégève and Flumet to Annecy and Albertville see § 11. Rte. H.) Opposite Sallanches, and separated from it by an old bridge, whence a wonderful view of Mont Blanc is obtained, is the village of *St. Martin*.

From Sallanches the *Aiguille de Varens* (2,488 m., 8,163 ft.), which immediately overhangs the valley on the E., may be climbed in about 6 hrs. by a path mounting through tiers of grand limestone cliffs, and the higher *Pointe du Colloney* (2,692 m., 8,832 ft.) in about the same time. The curious Désert de Platé may be visited on the way back. (For details see § 17. Rte. B. 2.) From Sallanches the *Pointe Percée du Reposoir* (2,752 m., 9,029 ft.), on the W., may also be ascended in 4½ hrs., but this route involves a great détour, while it is also accessible from the Reposoir or Grand Bornand valleys. (See § 11. Rte. G.)

The view of Mont Blanc from this part of the valley of the Arve is justly celebrated, and is, indeed, in some respects unique in the Alps. The views of the higher mountains, when not seen from a great distance, are almost always, in the case of ordinary travellers, gained from some narrow valley, where a limited portion only can be seen, or else from some ridge or summit that overlooks the intermediate valleys. Here at the foot of the range of Mont Blanc the valley of the Arve, between the mouths of the defiles of Magland and of Montjoie, opens out in a broad basin, with by far the greater part of the W. end of the range fully in view, a fertile plain in the foreground, and the pine-covered heights that enclose St. Gervais filling the middle distance. In perfect symmetry, without the sameness that is the fault of human architecture, Mont Blanc occupies the centre of the picture, the Dôme and Aiguille du Goûter being merged into its

mass. To the l. are seen the Mont Maudit and the Mont Blanc du Tacul, and beyond them the Chamonix Aiguilles, from the Midi to the Verte. On the r. the Aiguille de Bionnassay rises in all its beauty, flanked by the Dôme de Miage, and other peaks between it and the Col du Bonhomme. The Bionnassay and N. Miage glaciers are seen surrounded by the formidably steep ridges that enclose their upper basins, and a great part of the way to the summit of Mont Blanc by the St. Gervais route, and a part of that over the Col de Miage, may be traced in detail through the glass. It is true that the distance in a direct line to the summit of Mont Blanc is very nearly 14 m., but, as it is raised 14,000 ft. above the level of the valley, the angular elevation is as great as is compatible with a general view. Monte Rosa, as seen from the head of the Val Anzasca, is a more wonderful, perhaps also a more fascinating, object, but for massive and stately grandeur this aspect of Mont Blanc surpasses all rivals. The view is well seen from the high road, but better by mounting some ten minutes behind Sallanches to a point whence many old pictures were taken.

The new line and road to Chamonix run through the broad, nearly level valley in a S.E. direction, some distance from the l. bank of the Arve, past the *Passy-Domancy* station (2¼ m.), for ¼ m. to the *Le Fayet-St. Gervais* station, ¼ m. beyond which, at the bridge over the Bon Nant, the routes to the village of St. Gervais (2½ m. distant; the Baths of St. Gervais are only c. ½ m. off) and the Col du Bonhomme (see Rte. E, below) branch off.

From that bridge the new road bends abruptly to the N.E. in order to turn (on the l. bank of the Arve, as before) the N. base of the *Vaudagne*, or *Tête Noire*, a ridge which is the last spur of the Aiguille du Goûter, and projects in such a fashion as to appear to block the main valley above



Sallanches. The ridge also forms a barrier across the S.W. end of the valley of Chamonix, and would long ago have converted it into a lake if the waters of the Arve had not found a circuitous outlet through a gorge, partly cut by the river itself, round the N. base of the Vaudagne. Through this gorge the new road ascends, at a considerable height above the Arve, until leaving the river it enters through a deep cutting the basin of *Le Châtelard*. Passing out of it through a short tunnel, it winds, now in a S. direction, through a fir wood, well above the river, and is joined by the old road from Servoz at the *Pont Pélistier* (7 m. from Le Fayet). Many erratic boulders and many traces of former glacial action are seen near the road. Presently it crosses to the r. bank of the Arve, a little below Les Houches, but soon recrosses to the l. bank, and enters the valley proper of Chamonix.

【The *old road* commands more picturesque views, and is strongly recommended to all travellers who are not in a great hurry to reach Chamonix. From Sallanches it crosses the bridge to St. Martin, and thenceforth follows the r. bank of the Arve to the Pont Pélistier, which it crosses to join the more modern road. It passes underneath *Passy*, above which on the N. is a great terrace of pasture, commanding noble views of Mont Blanc. The Arve is retained within its bed by massive embankments. The road begins to ascend near *Chedde*, not far from which was formerly a little lake celebrated for the reflections of the snowy peak of Mont Blanc set in an exquisite framework of rock and pine forest, but it was completely choked up with rocks and débris by a landslide in 1837. A little further the road crosses the *Nant Noir*, a torrent that borrows its name from the anthracitic slates through which it descends. The defile opens a little at the village of *Servoz* (9 m. from Sallanches), which

lies in a meadow basin at the mouth of the *Diosaz* glen. Here are some fine gorges now made accessible by wooden ladders, and a favourite resort of tourists from Chamonix. (Through this glen the Buet may be reached in  $8\frac{1}{2}$  hrs. (§ 17. Rte. E. 1). For the route to Sixt by the Portettaz or the Col du Dérochoir, and the Col d'Anterne, see § 17. Rtes. B and D.) By the bridge over the Diosaz is a monument to F. A. Eschen, a German translator of Horace, who perished on the Buet in 1800. To the geologist the Diosaz valley is interesting from the fossil remains which abound on its N. slopes. Above *Servoz* (which is  $7\frac{1}{2}$  m. from Chamonix) the gorge of the Arve is again contracted, and in about  $1\frac{1}{2}$  m. the road passes over the *Pont Pélistier* to join the new road on the l. bank, described above.】

On emerging from the defile of the Arve the road looks along the whole length of the valley of Chamonix to the Col de Balme, at its E. extremity. The first impression of the stranger on entering this famous valley is probably that of disappointment. Its direction, parallel instead of perpendicular to the main range, leaves no striking object to close the vista, and the great Aiguilles which enclose the Mer de Glace, and which, as seen from the valley, are far more striking objects than the summit of Mont Blanc, are better viewed some miles farther on than from the W. end of the valley, where the peak of Mont Blanc also is concealed behind the huge mass of the *Dôme du Goûter*. The objects which chiefly attract attention are the great glaciers descending along the S. side of the valley through each of the openings that give access to the upper level where the snows accumulate. The two nearest comparatively insignificant glaciers are the *Gl. de la Griaz* and the *Gl. du Bourgeat*, lying on the steep N. slope of the Aiguille du Goûter. Beyond these is the *Gl. de Taconnaz*, divided by the *Montagne*

de la Côte from the still more imposing *Gl. des Bossons*. Farther off, behind the village of Chamonix, is the *Gl. des Bois*, but the great glaciers of Argentière and Tour are not visible. The effect is most striking to one who arrives late, and has the good fortune to see the glaciers partially lighted by the moon in her second quarter. By daylight the colour of the ice is less brilliantly white than is commonly expected, and the eye, still unused to the grand scale of all the surrounding objects, does not adequately estimate the dimensions of these vast streams of ice.

From the bridge over the Arve the road passes by the hamlet of *La Griaz* (the old road passed by *Les Houches*, on the way to passes leading to Contamines and St. Gervais, Rte. E). (The anthracite deposits of Les Coupeaux or Le Couppo, on the opposite bank of the Arve, deserve a visit.) It then ascends gently along the bank of the Arve during the 4 miles that lead to the village. About half-way, just after passing the lower end of the *Gl. des Bossons*, the road crosses back to the r. bank of the Arve, and the great Aiguilles surrounding the Mer de Glace come into view as the traveller approaches ( $54\frac{3}{4}$  m. from Geneva)

**Chamonix** (1,041 m., 3,416 ft.), which, as is usual in the Alps in the case of the chief village, bears the name of the valley, but is locally distinguished as *Le Prieuré*, from the old monastery formerly existing here. It is a large village, now nearly a town, subsisting by the great influx of strangers who come either to enjoy grand scenery or to follow a prevailing fashion. When the railway is completed from Le Fayet, and still more when that from Vernayaz is built, it will be even more overrun with tourists than at present. Mountaineers making any stay in this neighbourhood generally prefer to take up their quarters at the Montanvers Hôtel, 2 hrs. above the village (see below, Excursion 2). Besides the

usual kind of shops to be found in tourist centres, there are only two things that will arrest the attention. One is the lately-erected statue of Saussure and Jacques Balmat. It stands on the square on the l. bank of the Arve. Near the English church is the Gallery of Alpine pictures by M. Gabriel Loppé: it is permanently open, and the views of the ice regions to be seen there are well worth a visit.

The chief summer occupation of the men in the valley is that of guide. With very few exceptions, however, the present generation of Chamonix guides is far below the standard set before them by their predecessors 30 years ago. This decline in reputation, so far as high mountaineering is concerned, is no doubt, in part, due to the absurd regulations which long kept back the more enterprising men, placing them on very nearly the same footing with mule-leaders. Certain changes were made many years ago, in consequence of representations made by the Alpine Club, but several objectionable features still remained in the rules. In 1892 the State withdrew its sanction from the Regulations, the whole matter being left to the local authorities, who have full power of licensing, &c. But though this alteration produced good effects at first, we are informed that the old regulations are being revived, and that in the summer of 1897 the state of things was very much as before, barring the necessity of obtaining the sanction of the higher authorities.

Much nonsense has been written as to the supposed 'discovery' of Chamonix in the last century. But the publication of M. Bonnefoy's great collection of mediæval documents relating to the valley (Chambéry, 2 vols., 1879 and 1883), conveniently summarised in M. André Perrin's History of the valley (Chambéry, 1887), has thrown a flood of light on its early history, while many particulars can be gleaned from

other sources. We first hear of the valley in a charter of 1091 by which Count Aymo of the Genevois and his son Gerold granted the valley (the limits of which are carefully defined) to the great Benedictine monastery of St. Michel de la Cluse, near Turin. There is nothing in this document to show that the valley was then inhabited. Most probably it was simply a mountain pasturage, used in summer only, and in that case this gift would present a striking analogy to that of the acquisition (in 999 from the archbishop of Milan) of the pasture basin of Macugnaga by the Benedictines of Arona. Probably some shepherds permanently settled in the valley in the course of the twelfth century. For in 1202 the lord of Faucigny and in 1205 the count of the Genevois renewed their promises of protection; while in the former document we hear of a certain Aymo, who was then 'chaplain' of Chamonix, and of Peter 'Prior of Mègeve;' in the latter of Peter, who was 'Prior of Mègeve and of Chamonix;' and in a third of 1224, of Humbert, 'Prior of Chamonix.' It would thus appear that early in the thirteenth century a Benedictine priory (dedicated to St. Michel), dependent on St. Michel de la Cluse, was established in the valley. It came into existence later than the first settlement of permanent inhabitants, but, though never large (four monks at most, including the *curé* of Chamonix), it gradually gained all rights in the valley, and limited the old chartered liberties of the inhabitants. Henceforward the history of the Priory and of the valley are one. In 1519, by the inexplicable action of the last Prior, William II. de la Ravoire (for his family then held all the great offices in the valley), the priory was annexed to the collegiate church of Sallanches, which promised to maintain one of its canons as its resident representative at Chamonix. This transfer was made without the consent of the abbat of St. Michel de

la Cluse, which was only given in 1522. It is interesting to note that the nave and the bell tower of the parish church were always the property of the men of Chamonix, the Priory, later the Chapter, owning the choir only. This shows that there was a church there before the foundation of the Priory, at which date it was probably rebuilt, the date 1119 having been found in 1864 on a stone when the portico was reconstructed. The buildings of the Priory (close to the existing church) were destroyed by fire in 1758, and in 1786 the men of the valley bought their freedom from all feudal dues owed to the Chapter, the connection with St. Michel de la Cluse then disappearing entirely. In 1793 the landed property of the Chapter in the valley came into the possession of the 'commune,' the first mention of which occurs in 1264. It is a typical history of a mountain village, resembling that of Grindelwald (dependent on the monastery of Interlaken), but differing from the history of the 'free community' of Zermatt.

Of course it had relations with the outer world. In the Priory accounts for 1399 are all the details of the expenses of a journey of two men and two horses to Geneva and back. The valley was visited by its diocesan, the bishop of Geneva, in 1411, 1443, 1471, 1481, and 1517; the Reformation compelled the bishops of Geneva to take up their residence at Annecy (only erected into a see in 1822), and it was thence that in 1606 St. François de Sales, 'Bishop and Prince of Geneva,' came to Chamonix, and officiated in the church, rebuilt in 1602. In 1530 the right of holding two fairs a year was granted by the then count of the Genevois and lord of Faucigny, Philip of Savoy-Nemours, a cadet branch of the ducal House of Savoy, and thither came many foreign merchants, while from 1533 the inhabitants had the privilege of holding a market every Thursday. The civil officials too came to



Chamonix (e.g. in 1700) to collect dues and taxes, so that it is clear that long before the arrival of tourists the valley had its own independent life, and was well known outside, though it is probable that the removal of the bishops of Geneva to Annecy about 1535 broke its immediate link with Geneva, where memories of it became dim.

The first recorded tourist (in any sense of the word) found his way hither in 1669. This was M. Le Pays, a high financial official in Dauphiné, and a well-known person in the salons of Paris (probably sent on a mission of enquiry by the duke of Savoy). His letter from Chamonix, describing the horrors of the place and its surroundings, is, therefore, a document of great historical interest. Other travellers, for the sake of their pleasure, are known to have followed him, but it was in 1741 that the valley was visited by a traveller who first gave (1744) a detailed account of his experiences, though he mentions that others had been thither before him. This was William Windham, a young Englishman of about 22 years of age, who with his tutor, Dr. Pockocke, the Orientalist, Lord Haddington, and five other English friends came to Chamonix. Their description of the horrors of the way and wonders seen there is most vivid. They made an excursion to the Montanvers and Mer de Glace only, but legend has it (contradicting recorded facts) that they slept near the ice under the so-called 'Pierre des Anglais,' which was later split by a shepherd's fire, and replaced by one (still in existence and *in situ*: see Excursion 2. below) with the inscription, 'Pockocke et Windham.' This expedition drew attention to the ice fields near Chamonix, so that in 1742 Pierre Martel and four other Genevese went to see them, and they also set down their impressions. Saussure's first visit was in 1760, and the first French traveller to describe his

experiences of his journey to Chamonix was the Duc de la Rochefoucauld d'Enville in 1762. A few years later (certainly by 1769) Bourrit appeared on the scene, and the modern invasion had begun.

The origin of the name of Chamonix is undoubtedly the Latin 'campus munitus,' under which it appears from 1091 onwards. According to M. Perrin, the vernacular forms of the name most frequently met with in mediæval documents are 'Chamoni,' 'Chamony,' and 'Chamounis,' the two earliest being 'Chammonis' (1229) and 'Chamonix' (1236), so that the current and official form seems to have greater authority than the 'Chamouni' used in previous editions of this work. The name is obviously taken from the level valley or 'campus,' fenced or shut in, 'munitus,' by the great mountain wall on all sides. Another Chamonix, the position of which explains this rather fanciful name, has been mentioned above, near Magland.

In the neighbourhood of Chamonix the botanist may gather most of the characteristic species of the Alpine region that grow on the detritus of granite rock, but the flora is much less rich than in the valleys of Monte Rosa, where the rocks vary more in mineral composition. M. Venance Payot, of Chamonix, is well acquainted with the local flora, and has a fair knowledge of the geology of this district.

The *Excursions* to be made from Chamonix are very numerous, varying with the tastes and physical strength of visitors; but they fall into two principal divisions, according as the object is to approach the great glaciers and peaks of the central range (1-8, below), or to seek a more general view from some point in the range, commonly called the Aiguilles Rouges, on the N. side of the valley (9-11, below).

The chief object of the first class of excursions is the **Mer de Glace**. As has been said in the Introduction

to this Section, the mass of Mont Blanc may be considered to consist of two parallel ridges, of which the northern is broken by several wide gaps, through which the snows, accumulated in the valley between the two ridges, are drained by means of great glaciers that descend towards the valley of Chamonix. The *Glacier des Bois*, called in its mid region the *Mer de Glace*, is the most important of these glaciers, by reason of the area which it drains. Without speaking of minor tributaries, it receives the outflow of three great reservoirs. The most considerable of these is the *Gl. du Géant*, or *du Tacul*, which descends on the E. side of the central mass of Mont Blanc, between a double range of Aiguilles. In the opposite direction a reservoir lying between the Aiguille Verte and the Aiguille de Talèfre pours down to the W. an ice stream called the *Gl. de Talèfre*, and before reaching the N. foot of the Aiguille du Tacul receives from the S. the *Gl. de Leschaux*. (The central point where these three ice streams meet, opposite the Aiguille du Tacul, bears the same relation to the adjoining ridges as Entrèves, at the meeting of the Allée Blanche and the Italian Val Ferret, near Courmayeur.) Here the drainage of the whole basin is carried off to the N. in a broad channel, which henceforward bears the name of 'Mer de Glace' till about 4 m. lower down it falls over steep rocks in an ice cataract towards the level of the valley, where it comes to an end, about 3 m. from the village of Chamonix.

1. *Source of the Arveyron*.—Those who have 2 or 3 hrs. to spare, especially if they have not previously seen the end of a great glacier, do well to visit the spot where the Arveyron, one of the sources of the Arve, issues from the extremity of the *Gl. des Bois*. This is about 3 m. from Chamonix, and is approached by a carriage road which passes by the hamlets of *Les Prax* and *Les Bois*.

(For pedestrians there is a charming path through the woods, on the l. bank of the Arve.) Shortly before reaching the Source the great moraine, now overgrown with pine trees, on the r. bank of the *Gl. des Bois*, deserves examination, the Aiguille du Dru, seen towering above, being a magnificent object. As explained in the General Introduction (article on Glaciers), the form and position of the lower ends of glaciers are subject to continual change. In this case the stream formerly issued from a cavern in the ice, of variable depth, and from 30 to 40 ft. in height, whose strange aspect and exquisite colour often tempted strangers to penetrate some distance into it, notwithstanding that several fatal accidents have happened in consequence of the sudden fall of blocks of ice from the roof. Of late years, since the retreat of the glacier, the stream has commonly escaped from beneath the ice at a considerable height above the end of the glacier, forming a waterfall visible from Chamonix. This excursion is, therefore, not now as attractive as formerly, but may be easily combined with that to the Montenvers, or on the return from the Chapeau, or the Flégère.

2. *The Montenvers*.—The rocks near the ice cataract of the *Gl. des Bois* being very steep, the most convenient way of reaching the middle region of that glacier is to mount from Chamonix by a good mule path (railway projected), winding in an E. direction up the S. slope of the valley towards a promontory extending from the base of the Aiguilles des Charmoz, which form the W. barrier of the *Mer de Glace*. After crossing some meadows the path ascends through a forest, and if the visitor has no intention of going beyond the Montenvers Hôtel a guide is quite unnecessary. Mules take  $2\frac{1}{2}$  hrs. in the ascent—2 hrs. more than suffice for a good walker. About half-way the tracks of avalanches, which have destroyed much of the forest, are

frequently passed; but nervous persons may feel assured that in the tourist season there is no danger from that quarter. Towards the end of the forest the Aiguille du Dru becomes a more and more impressive object, but no other conspicuous peak is seen until the terrace before the Hôtel is reached. Then, losing sight of the main valley below, the traveller suddenly gains that wonderful view which suffices to annually attract and reward thousands of visitors from every part of the world. No amount of familiarity, nor even the rivalry of scenes, less accessible and not less grand, can much lessen the impression which this makes upon all true lovers of nature. The first object that attracts attention is the *Mer de Glace*, so often described in vain, for description gives no real image of the reality. Of the magnificent group of Aiguilles that rise on the opposite bank, the *Dru* (latest measurement 3,755 m., 12,320 ft., highest point, or Grand Dru; 3,732 m., 12,245 ft., Petit Dru), pre-eminent for boldness of form, almost conceals the much higher peak of the *Aiguille Verte* (4,127 m., 13,541 ft.), which lies behind it. To the r. is the *Aiguille du Moine* (3,413 m., 11,198 ft.), appearing behind the shattered ridge which descends W. from the Petit Dru. At the end of the vista, at least twice as distant as the Moine, the eye rests upon the *Grandes Jorasses* (4,205 m., 13,797 ft.), one of the giants of the S. ridge of the Mont Blanc range, rising at the farther end of the Leschaux glacier. This glacier is bounded to the W. by a ridge projecting towards the spectator, whose highest and most distant peak is the *Mont Mallet* (3,988 m., 13,085 ft.), while its N. extremity is the *Aiguille du Tacul* (3,438 m., 11,280 ft.) Farther to the r. is the *Aiguille du Géant* (4,014 m., 13,170 ft.), and then the nearer mass of the *Aiguilles des Charmoz* (3,442 m., 11,293 ft.) and *de Blaitière* (3,520 m.,

11,549 ft.) closes the view on that side. The old Pavillon on the Mont-envers was replaced, in 1879, by a substantial and comfortable stone *Hôtel* (1,910 m., 6,267 ft.), capable of accommodating forty or fifty persons. The large dining-room is generally filled to overflowing, in the day-time, by numbers of visitors from Chamonix, who are able to purchase a souvenir of their excursion at the 'Bazar' before continuing their journey. Most travellers descend from the Hôtel to the glacier, and go some short distance upon the surface of the ice. It is usual to sleep here before visiting the Jardin (5. below) or crossing the Col du Géant, while the Hôtel is the natural headquarters of the mountaineer bent on exploring the peaks and passes round the basin of the Mer de Glace (Rtes. C and D).

The traveller who takes an interest in the history of the theories as to glaciers will recollect that he here stands upon classic ground, and that much of our present knowledge of the laws and causes of glacier motion is due to the observations made on the Mer de Glace by our eminent countrymen Principal Forbes and Professor Tyndall.

The favourite way back to Chamonix is to cross the Mer de Glace, and then go by the Mauvais Pas to the Chapeau ( $1\frac{1}{2}$  hr.) (next Excursion). But those who for any reason do not select this route are strongly recommended, before returning to Chamonix, to descend on to the ice, so as to obtain a nearer view of the glacier and its crevasses. Guides for this purpose can generally be found at the Hôtel, and, unless accustomed to glacier-walking, the traveller will do well to secure one. Close to the path which descends to the glacier lies a large flat rock, between the moraine and the mountain-side, on which the names of Windham and Pococke have been cut in memory of their famous visit in 1741, noticed in the historical sketch given above.

3. *The Chapeau, and the Mauvais*



*Pas.*—The steepness of the rocks on the W. or Montanvers side of the ice cascade of the Gl. des Bois makes it impossible to approach very near it on that side. The opposite bank of the glacier, although steep, is traversed by a path which leads round the base of the Aiguille à Bochart, and it is thus easy to see close at hand the towers and pinnacles of ice formed by the action of the sun, where the glacier is riven into deep and frequent crevasses. To complete the impression of a glacier gained by a visit to the Mer de Glace, it is necessary to see near at hand its utterly different aspect in the wild confusion of the icefall. To reach the Chapeau from Chamonix it is necessary to follow the high road towards Argentière for 3 m., as far as the hamlet of *Les Tines*, from which the foot path (mules go on to Lavancher, and mount thence) turns up to the r., and approaches the r. bank of the glacier. The two paths join above, but the mules must be left before a short and steep ascent, leading in about  $\frac{1}{2}$  hr. more to a cavern or recess in the face of the rocks, perhaps a finer view than the Chapeau. The **Chapeau** (2 hrs. from Chamonix) is, properly speaking, the name of a grassy knoll above the cavern. About 100 yards further is the usual Chalet Restaurant, and Bazar. The Chapeau (1,609 m., 5,279 ft.) is considerably lower than the Montanvers, and the view of the Mer de Glace is not nearly so complete, though the Aiguilles des Charmoz, de Blaitière, du Plan, and du Midi, seen on the opposite side of the glacier, and backed by the still mightier central mass of Mont Blanc, form the materials of a grand picture. The special object of attraction is, however, the icefall of the glacier, which lies immediately below the spectator. The effect of the fantastic forms assumed by the ice is often increased in a startling manner by the fall of some huge mass, weighing many tons. The path from the

Chapeau round the base of the Aiguille à Bochart passes by a rough staircase along a face of rock, which formerly deserved the name '**Mauvais Pas.**' But it has been so much improved, and made so secure by an iron balustrade, that travellers pass without difficulty. About 1 hr. above the Chapeau the traveller reaches the point from which he may cross the Mer de Glace in  $\frac{1}{2}$ – $\frac{3}{4}$  hr. to the Montanvers. (It is a better arrangement to visit the Montanvers first, and then cross to the Chapeau, so as to descend, instead of ascending, the steep path on the E. bank of the glacier.) As the Mauvais Pas is not practicable for cattle it is necessary to drive across the ice the cows that are sent each summer to feed on the Alpine pastures at the base of the Aiguille du Dru. This is a curious operation, and well worth seeing. A large number of men, boys, and girls are employed, carrying axes to level the ice, planks to bridge over crevasses, and ropes to keep the cattle from slipping into them, or to rescue them if they do fall in.

4. *The Col and Aiguille des Grands Montets.*—A more serious undertaking than the excursion to the Chapeau and Mauvais Pas is the passage of this Col, combined with the ascent of the peak just N. of it. This walk should not be undertaken by ordinary travellers without a guide. The pass leads from the Mer de Glace to the Argentière glacier, and lies N. of the great N. spur of the Aiguille Verte, and S. of the Aiguille des Grands Montets. There are few passes of the same ease and shortness which can rival this for mountain scenery, and, whichever way it is taken, the views are as fine as they can possibly be. (It is, perhaps, more convenient to cross it from W. to E., as in that way, if the Montanvers be left at 5 A.M., the summit of the pass may be reached before the sun has risen above the ridge to be crossed, while the return from Lognan in the afternoon through the woods

is a delightful ending to an expedition which is one series of beautiful pictures.) Starting from the Montenvers, the Mer de Glace is crossed to its r. bank by the ordinary route to the Chapeau, and a small path at once leads up the hill-side past the foot of the Nant Blanc glacier. A short climb up an easy rock wall then leads to the *Grands Montets* glacier (wrongly called *Pendant glacier* on Mieulet's map), the top of the pass (3,241 m., 10,634 ft.) being gained in about 4 hrs. from the Montenvers. The views from the pass are all magnificent, and it is hard to say whether Mont Blanc and the Chamonix Aiguilles on the W., the Dru and the Verte immediately on the S., or the peaks surrounding the Argentière glacier on the E. form the most attractive picture. A scramble of  $\frac{1}{2}$  hr. up an easy rock ridge on the N. to the summit of the *Aiguille des Grands Montets* (3,300 m., 10,827 ft.) is strongly recommended by Mr. Adams-Reilly, whose opinion deserves the utmost weight. A descent of  $1\frac{1}{2}$  hr. down the upper or lower slopes on the l. side of the Argentière glacier leads to the little *Lognan* inn, on the l. bank of that glacier. Hence the traveller may go direct down to Argentière (1 hr.), or take a more agreeable path through the woods to the *Pendant* huts, whence the main valley may be reached, or the Chapeau, if it is desired to return to the Montenvers.

5. *The Jardin*.—This expedition is less serious than that last described, and is quite practicable (if starting from the Montenvers) for ladies who are good walkers, as in fine weather it is free from the slightest risk, though a guide is indispensable to those not already well acquainted with the glaciers or unused to glacier-walking in general. It is strongly recommended as one of the most interesting of the moderately easy glacier excursions to be made in this neighbourhood. An active pedestrian may make the whole expedition from

Chamonix and back in 9 or 10 hrs., without reckoning halts. But, as the distance is considerable, and the objects of interest very numerous, it is a good plan, even for those who do not fear fatigue, to sleep at the Montenvers Hôtel, thus leaving plenty of time to make the expedition leisurely, and to explore some of the upper recesses of the Mer de Glace.

It has been already said that the E.-most of the three glacier streams which form the Mer de Glace is the *Talèfre* glacier, originating in a great reservoir of névé surrounded by the Aiguilles Verte, de Triolet, and de Talèfre. In the midst of this névé basin rises a mass of rock, clear of snow in fine weather, which is nearly a mile in length by 300 or 400 yards in breadth, and whereon grow many species of flowering plants. This spot received, in the local patois, the name of *Courtil*, which has been supplanted by the French equivalent, *Jardin*. Those familiar with the higher regions of the Alps know that there is nothing unusual in the existence of an island of rock in the midst of fields of névé, nor in the presence of Alpine flowers on such islands, even above the height of 10,000 ft.; but, apart from any fancied interest attaching to a garden in the midst of eternal snows, the position of the *Jardin* fully justifies the reputation it has acquired as one of the most interesting spots within reach of Chamonix.

From the Montenvers the path is carried above the l. bank of the Mer de Glace, and the first 'difficulty' (one only to the veriest beginners in mountain-walking) is at a place called 'Les Ponts,' where steps have been cut in the face of some steep rocks to make the way easier. About  $\frac{1}{2}$  hr. from the Hôtel the traveller descends by the moraine on to the glacier itself, and, keeping at first near its edge, reaches a point nearly opposite *Trélaporte*, before crossing the ice diagonally towards the slopes of the *Aiguille du Moine*.

The 'Grand Moulin,' a curious glacier phenomenon, well worth a close inspection, is soon passed, and, continuing across two medial moraines, the junction of the Leschaux and Géant glaciers is attained. Pausing here the traveller finds, on turning round, that he has reached a point opposite the icefall of the Géant glacier, descending from the great central valley of the Mont Blanc range. The highest peak of that mountain, and the adjoining mass of the Mont Blanc du Tacul, are often in view during the remainder of the excursion. Advancing along the Leschaux glacier, it is seen that this glacier, originating at the N. base of the Grandes Jorasses and its neighbours, is greatly augmented by the Talèfre glacier, issuing from a narrow opening on the E., and forming a magnificent ice cataract before reaching the level of the Leschaux glacier. To gain the upper level of the Talèfre glacier, which is the object of this excursion, there are two routes. The *old route* mounted the rocks ('Les Egralès') of the *Couvercle* on the N. side of the Talèfre glacier, at the base of the Aiguille du Moine, and then followed an easy path along the base of that peak till the W. arm of the Talèfre glacier was crossed, opposite the Jardin, some way above the icefall. Though iron stanchions have been fixed on the steepest of the rocks ascended by this route, it is not much used. The *usual route* has been adopted because the great shrinkage of the glacier has made the *Couvercle* more difficult of access than formerly. This mounts along the moraine on the opposite (or l.) side of the Talèfre icefall. At a spot called the 'Pierre à Béranger' there is a recently rebuilt shelter hut. (These two routes can be easily combined, but the *ascent* by the *Couvercle* rocks is to be preferred to the *descent*.)

The ideas excited by the name Jardin may at first cause some disappointment. It is in fact a patch of

steep rocks, in great part bare, though here and there Alpine flowers bloom luxuriantly during the short summer, often not more than six weeks, when the surface is clear of snow; the summit is 2,997 m. (9,833 ft.) high. What is really impressive here is the position of this rock in the midst of a world that has so little in common with ordinary experience. The mountaineer who is used to roam in the upper regions of the Alps may often find himself in some similar solitude, entirely cut off from the lower inhabited world, and in a spot where nothing but ice, snow, and rocks meet the eye; but rarely can he see these strange regions on so great a scale, and so completely isolated, as here. The distance in a direct line to the summit of Mont Blanc is about 9 m., and throughout that distance, and on either side, there is no spot that exhibits traces of life, animal or vegetable. The tokens of destruction, the fall of rocks, or of blocks of ice, or the gentler murmur of the rivulets that flow from the melting snow, and by their unceasing energy complete the process of decay, are the only witnesses to living force in this wilderness.

The view is justly celebrated as an almost unrivalled panorama of snowy peaks. Immediately surrounding the Jardin rise the *Aiguille du Moine*, the *Aiguille Verte*, the *Droites*, the *Courtes*, the *Aiguilles de Triolet* and *de Talèfre*, which form an amphitheatre of the greatest beauty. Looking W. the whole stretch of the Géant glacier, with its superb icefall, flanked on the N. by the Chamonix Aiguilles, and on the S. by the Grandes Jorasses, the Mont Mallet, and the Aiguille du Géant, while the white dome of Mont Blanc itself fills up the distance, is as much to be admired as the wonderful amphitheatre close at hand. The excursion to the Jardin is neither long nor difficult, and probably there is no other spot so easy of access, anywhere else in the Alps, which affords such a



glorious panorama of mountains. The ridge N.E. of the Jardin, extending from the Aiguille Verte to the Aiguille de Triolet, one of the massive beams in the architecture of the Mont Blanc range, is a favourite resort of crystal-hunters.

6. *The Aiguille des Petits Charmoz*.—This peak is also known as the *Aiguille de l'M*, on account of its resemblance to the letter M. Saussure, Bourrit, and many subsequent writers have referred to it as the Grépon, a name now given to a higher peak on the S. (described in Rte. C.) It lies just N. of the Aiguille des Grands Charmoz, and the gap between its two highest points is called the *Col de la Bûche* (2,791 m., 9,157 ft.) This pass may be reached from the Montenvers on the E. in 2 or 3 hrs., but stones often fall in the couloir leading up to it, so that if there are two parties they should keep close together. The pass can also be reached from the W. over the tail of the Nantillons glacier, and this is the natural route if the start be made from Chamonix. Either summit affords good rock-scrambling, and may be gained in about  $\frac{1}{2}$  hr. from the Col. The highest point (2,868 m., 9,410 ft.) is that to the S. of the pass, the other is 2,836 m. (9,305 ft.) Those unused to climbing should not fail to take a guide with them.

7. *Plan de l'Aiguille*.—Five summits, all visible from Chamonix, overlook the middle portion of the main valley, and separate it from the nearly parallel snow valley of the Géant glacier. These are *par excellence* 'the Chamonix Aiguilles' (see Rte. C), and, reckoning from E. to W., are as follows: *Aiguille des Grands Charmoz* (3,442 m., 11,293 ft.), *Aiguille de Grépon* (3,489 m., 11,447 ft.), *Aiguille de Blaitière* (3,520 m., 11,549 ft.), *Aiguille du Plan* (3,673 m., 12,051 ft.), and *Aiguille du Midi* (3,843 m., 12,609 ft.) Three glaciers descend on the N. side of this range—those of *Nantillons*, *Blaitière*, and *Pèlerins*. An interesting excursion

may be made along the base of these Aiguilles, either traversing the three glaciers or passing beneath them, to the point of view called **Plan de l'Aiguille** (2,282 m., 7,487 ft.) This is a rocky eminence (with an Inn) rising between the Blaitière and the Pèlerins glaciers. A guide is desirable for this excursion, which may very conveniently be made from the Montenvers Hôtel in about 3 hrs. It is occasionally taken as a second day's walk by those who have slept at the Hôtel after visiting the Jardin. The foot of the first glacier, that of Nantillons, is about half-way. It is, perhaps, pleasanter to traverse the glaciers themselves than to pass below them, though the moraines are rather troublesome to surmount in succession. A mule path leads from the Plan direct to Chamonix in  $1\frac{1}{2}$  hr. It is possible to continue W. to the Pierre Pointue inn (Rte. B. 1)—1 hr.—or even to the Pierre à l'Echelle, on the way to the Grands Mulets (Rte. B), both ways of lengthening a pleasant excursion on a fine day. From behind the Pierre Pointue inn a walk of 20 min. up a mule path suffices to gain the summit of a rocky knoll, the *Aiguille de la Tour* (2,306 m., 7,566 ft.), whence the view over the neighbouring glaciers is very fine indeed.

8. *The Glacier des Bossons, and the Cascade du Dard*.—The **Glacier des Bossons**, which descends direct, in one stream, without medial moraines, from the upper part of Mont Blanc itself to the valley of Chamonix, does not drain nearly so extensive an area as the Mer de Glace, neither does it exhibit so fully the various aspects of glacier existence. It is necessarily traversed by those who go from Chamonix to the Grands Mulets (Rte. B), but its lower extremity, where it reaches the level of the valley, is often made the object of a short excursion from the village, and, taken together with the **Cascade du Dard**, suffices for a pleasant afternoon's stroll. (Both may, by a slight détour, be taken by a pedestrian on

his way from the W. end of the valley to the village.) The Bossons glacier reaches the valley about 2 m. below Chamonix, and its right bank may be gained by road (and foot path), or by a path along the S. bank of the Arve, in  $1\frac{1}{2}$  hr. The ice is broken up into pinnacles of great beauty, often more than 150 ft. in height. They are best seen on the W. side of the glacier, and instead of returning by the same way it is easy to cross the glacier in a place where it is free from crevasses to the E. bank, where there is a small inn, as there is on the other bank.

It is a walk of but  $\frac{1}{4}$  hr. from the E. bank of the glacier to the hamlet of *Les Pèlerins*, a house in which was the birthplace (1762) of Jacques Balmat, the discoverer of the right way up Mont Blanc, and now has a tablet, with an inscription, erected by the French Alpine Club. A little way below this hamlet was the *Cascade des Pèlerins*, formerly much visited as one of the most beautiful and graceful of waterfalls. The torrent, descending in a single bound, struck a projecting mass of rock and sprang out anew with fresh vigour, in the fashion which is imitated on a petty scale by some artificial fountains. The fall of some mass from above broke the projecting rock and spoiled the waterfall. Within a few hundred yards, and nearer Chamonix, is the *Cascade du Dard*, very picturesque, and better worth seeing than the *Pèlerins* in its present condition.

We now notice the excursions most frequently made on the N. side of the Chamonix valley, opposite Mont Blanc. (For the Buet, see § 17. Rte. E.)

9. *The Brévent*.—The S.W. end of the range commonly called the Aiguilles Rouges is formed by the ridge of the Brévent. This summit, rising just opposite the Glacier des Bossons, offers the very finest view of the N. side of Mont Blanc, and in favourable weather is one of the most

interesting excursions, some think *the* most interesting, to be made from Chamonix. To those not well used to mountain-walking it is a somewhat laborious day's work, which may, however, be lessened by taking a mule even to the summit, if wished. Of late years a new mule path has been made, passing by *Plan Lachat* and *Plan Bel Achat*, 2,154 m., 7,067 ft. ( $2\frac{1}{2}$  hrs.), on the S.W. side of the summit. At Bel Achat there is a small inn, whence a mule path leads to the summit in about 1 hr.

The more direct and usual route for pedestrians, however, ascends the hill-side immediately above Chamonix and passes by *Planpraz* (3 hrs.), mules going as far as the foot of the chimney described below. Persons used to finding their own way may go without a guide. Although rounded at the top, and sloping gently to the N. and N.W., the side of the Brévent facing Chamonix is an almost completely vertical precipice, and the most direct way of reaching the summit is by the ridge on the E. This route—part of the main way from Chamonix to Sixt by the Col d'Anterne (§ 17. Rte. D)—mounts the steep S.E. slopes of the mountain by zigzags, in part through forest, at intervals over open spaces that have been cleared by avalanches and landslips. After reaching the upper limit of trees, the mule path leads (2 hrs.) to a gently sloping green pasture, called *Planpraz* (2,064 m., 6,772 ft.), where there is a new mountain inn. (For the track hence over the Col du Brévent see § 17. Rte. D.) This spot commands a magnificent view, superior to that from the Flégère and not much inferior to that gained from the summit, so that it is well worth a visit by those who are unable to go further. (There is an up and down mule path leading N.E. to the Flégère inn in about 2 hrs.) From Planpraz the mule track winds round a ridge projecting to the E., then

bends W., and enters a stony hollow which leads to the foot of a steep chimney in a wall of rock about 50 ft. high. Here the mule path ceases. The chimney (in which iron stanchions are now fixed) is surmounted by a short scramble (there is a roundabout way, avoiding this climb and leading to the upper end of the chimney, which takes  $\frac{1}{4}$  hr. longer). Thence a gentle ascent of 10 min. leads (1 hr. from Planpraz) to the summit of the **Brévent** (2,525 m., 8,284 ft.), on which there is now a little Inn.

Amongst the numerous objects that attract attention the peak of Mont Blanc is pre-eminent. Those who have read with eager interest narratives of the ascent from Chamonix are anxious to follow, as they can here do, the whole course of the ordinary route from the Pierre à l'Echelle to the summit, whether by the Corridor or by the Bosses du Dromadaire, as well as the St. Gervais route from the Aiguille du Goûter onwards. After satiating the eye with the contemplation of the snowy range opposite, the traveller should not omit to examine the remainder of the panorama. The most prominent object on the N. is the Buet, a flattened, glacier-clad pyramid; more to the l., looking across the deep gorge of the Diosaz, is the Col d'Anterne, leading to Sixt, followed by the Tête à l'Ane (2,793 m., 9,164 ft.) and the shattered range of the Rochers des Fiz (2,769 m., 9,085 ft.), the whole mass, as it is in truth, a gigantic ruin on which the short period of human history has worked notable change in undermining many of its highest towers and battlements. To the S.W., above the Beaufort mountains, a snowy peak is seen in the far distance, and, comparatively near at hand, the Mont Joly (§ 11. Rte. H), a rival of the Brévent, rises beyond the Col de Voza.

A pedestrian reaching Chamonix from Sixt will do well to pass the Col d'Anterne (§ 17. Rte. D), then mount

to the top of the Brévent, and descend thence by Planpraz to Chamonix, a walk of some 9 hours. It is best to descend to Chamonix, as the view of Mont Blanc is thus before the traveller's eyes throughout the descent, while the heat of the sun, often inconvenient when ascending from Chamonix, is entirely avoided. If favoured by a fine afternoon the traveller may enjoy the marvellous evening view of Mont Blanc lit up by the sun in the western sky; and if he should have the further good fortune to conclude the descent by moonlight, when the valley of Chamonix is seen to its fullest perfection, he will have enjoyed a day which cannot be easily surpassed for grandeur and variety. (For the various passes over the ridge between the Brévent and the Belvédère, see § 17. Rte. E.)

10. *The Flégère.*—This is a very easy excursion, involving an ascent of  $2\frac{1}{2}$  hrs. only by a good mule path. A guide is not at all necessary. From Chamonix the high road towards Argentière is followed for 25 min. to the hamlet of *Les Praz*. Here, just opposite the end of the Glacier des Bois, the Arve is crossed by a wooden bridge. The ascent lies at first up a stony zigzag path, and then amidst pine trees, to an open pasture, on which are the *Praz* huts ( $1\frac{1}{2}$ – $1\frac{3}{4}$  hr. from Chamonix), where is a house with refreshments. Thence  $\frac{3}{4}$  hr.'s walk, for the most part through a forest composed of pine and larch, suffices to reach the **Flégère** inn (1,806 m., 5,925 ft., according to Mieulet's map, a height which is estimated by M.M. Vallot to be about 70 m.—230 ft.—too low). This inn has some beds, and is a convenient starting point for the exploration of the chain on the N., commonly called the Aiguilles Rouges.

The Flégère commands a general view of the Mont Blanc range, and of the entire valley of Chamonix, from the Col de Balme to the Col de Voza. As it is exactly opposite the



Mer de Glace, the cluster of pinnacles, the highest summit of which is the Aiguille Verte, is seen to greater perfection than from any other easily accessible spot near Chamonix. There is a mule path (branching off  $\frac{1}{4}$  hr. below the inn) which leads in a S.W. direction, by many ups and downs, to the Planpraz inn, on the way up the Brévent (2 hrs.), so that the return to Chamonix may be made by that way, with or without the further climb to the top of the Brévent.

11. *The Belvédère*.—This peak is the highest in the range between the Arve and Diosaz glens. The name of Aiguilles Rouges is often given to this range, but, according to MM. Vallot, to whom we owe the first careful account of this chain (see 'Annuaire du Club Alpin Français,' vol. xix. 1892), that name properly belongs only to the serrated ridges N.E. of the Belvédère. Thus the Belvédère is not the highest summit of the Aiguilles Rouges, while the name Aiguille de la Glière, given to it on certain maps, really belongs to a peak a good bit to the S.W. (See MM. Vallot's map, and the sketch of the real topography of this range given in § 17. Rte. E. 3. as the traverse of the peak from Sixt to Chamonix is one of the finest routes between those places.) The *Belvédère* (2,966 m., 9,731 ft.) commands a view which is rated by good judges as little, if at all, inferior to that gained from the Buet. It may be climbed from the Flégère inn in 4 hrs. past the refreshment booth of *La Floriaz*, the Lac Blanc, the upper edge of the glacier of that name, and the S. rock ridge.

There are a number of other excursions which may be made from Chamonix, but are more conveniently described in other routes. The Col de Voza, part of the 'Tour du Mont Blanc' (Rte. E), and the Col de Balme (Rte. H), are both well worth a visit even by those who may have no occasion to traverse them. The excursion to the Grands Mulets is no-

ticed in Rte. B. in connection with the ascent of Mont Blanc, and the ascent of the Buet in § 17. Rte. E, as one of the ways from Sixt to Chamonix. The Argentière glacier and its neighbourhood are described in Rte. L of this Section, and the Tour glacier in Rte. M.

## ROUTE B.

### THE ASCENT OF MONT BLANC.

The ascent of the highest mountain in the Alps long passed for an exploit of the first order, deserving of special record, and admitting, on the part of those who achieved it, of a style of high-flown description which gave a formidable idea of the difficulty of the performance. Such descriptions represented, for the most part in perfect good faith, the impression made upon the minds of travellers by phenomena new and imposing from the grand scale on which they operate, very much heightened by ignorance of their laws, which left the imagination subject to an ill-defined sense of wonder and terror. The same descriptions might, however, have served for the ascent of many other of the glacier-clad peaks of the Alps, and according as experience has made men familiar with the means and precautions required, and more accurate knowledge has enabled them to understand the obstacles to be overcome, and the dangers to be avoided, it is found that the ascent of Mont Blanc by the ordinary route is an expedition involving no peculiar difficulties, nor, when made in favourable weather, any appreciable risk. The shrewdness of the natives of the valley of Chamonix has led them to invest the ascent with as much importance as they can contrive to give it, and while they were able to obtain for a number of men ten times the

remuneration which would be considered sufficient for the same amount of labour and exposure at other seasons of the year, they were not likely to diminish the allowance of powder that is burned to celebrate each successful ascent that is made from their valley with Chamonix guides. Of late years the number of ascents has very largely increased, and the evil now to be guarded against is not so much undue appreciation of the difficulties as an underestimate, leading men to neglect needful precautions, and to dispense with the requisite amount of previous training. To guard against immediate danger, the guides are usually quite worthy of reliance, and if the object be simply to reach the summit, and come down again without bodily hurt, most Englishmen of active habits, who agree to pay the proper number of francs to the guides and innkeepers at Chamonix, may count on achieving their object, provided the weather be favourable, or they have the patience to wait until it becomes so. But men who desire not merely to accomplish what is considered by some as a feat, but to enjoy, in the true sense of the word, an expedition which brings them face to face with so many phases of the beautiful and sublime in Nature, must recollect that for that object some general and some special preparation is necessary. The amount of training of the muscles which will support without undue fatigue almost continued physical exertion, with but short intervals of rest, and little or no sleep, during 24 hrs. or more, is not generally obtained without several days or weeks of previous practice. This might be acquired on a Scotch moor as well as on the Alps, but it is only here that a man can gain that familiarity with the ice world which is essential to an intelligent enjoyment of its wonders and its beauties. The keenest observer, plunging suddenly into scenes where everything is new and unlike

previous experience, carries away but a confused and overcrowded series of impressions, instead of those indelible pictures that he might otherwise retain. At the least a traveller should begin by devoting several days to the exploration of the higher glaciers, however thoroughly trained he may otherwise be. It should not be forgotten that some persons are liable to suffer severely from the combined effects of rarefied air and unusual exertion at a great height. Apart from the difference of constitution in individuals, which can be ascertained only by trial, there is no doubt that habit has a great influence in making men insensible to this distressing affection. Those who have accustomed themselves to breathe the air at heights of 11,000 or 12,000 ft. rarely, if ever, feel inconvenience when they mount some 3,000 or 4,000 ft. above that limit, unless for reasons having nothing to do with the rarefaction of the air.

The form of the central portion of the Mont Blanc range has been partly indicated in the Introduction to this Chapter, and may be better understood by referring to a tolerable model than by verbal description. The highest summit, or *Calotte*, 4,810 m. (15,782 ft.) above the sea-level, lies in the range of peaks which overhang the Allée Blanche. It has been compared to a dome of snow irregularly cut away on the N. and S. sides, standing on a vast basement propped up by buttresses of rock, of which the most prominent are the *Mont Brouillard* and the *Aiguilles Blanche* and *Noire de Pé-térét*. If the range of Aiguilles that enclose the valley of Chamonix were continuous from the Aiguille du Midi to the Aiguille du Goûter, the summit of Mont Blanc would be completely shut out from that side, but between those two summits there is a wide opening through which two great glaciers descend into the valley of Chamonix. This opening corresponds to the main peculiarity in the

architecture of the mountain. From the central mass a mighty ridge stretches to the N.W., and by the comparative evenness of its outline presents a remarkable contrast to the jagged and bristling forms of the surrounding ranges. In this great ridge the first rocky and snowy prominences have the descriptive name of *Bosses du Dromadaire* (4,556 m., 14,948 ft., and 4,525 m., 14,846 ft.) The next noticeable feature is the huge rounded mass of the *Dôme du Goûter* (4,331 m., 14,210 ft.), while at its N. end, formed by the *Aiguille du Goûter* (3,843 m., 12,609 ft.), the ridge is cut away abruptly on three sides by steep slopes, after the fashion of the gable ends of old French roofs. Corresponding in some measure to this ridge, another, bolder in form, diverges from the central mass towards the N.N.E. Its two chief summits are the *Mont Maudit* (4,471 m., 14,669 ft.) and the *Mont Blanc du Tacul* (4,249 m., 13,941 ft.) Though separated from the last-named peak by a gap, the *Aiguille du Midi* (3,843 m., 12,609 ft.) seems to be the natural termination of this ridge, and to correspond in position, though not in form, to the *Aiguille du Goûter*.

In the angle between these converging ridges is the *Grand Plateau* (3,932 m., 12,901 ft.), a level space probably filled to an enormous depth with accumulated névé. Below this the great snow valley, lying within the angle, is divided longitudinally by a much smaller subordinate ridge, in great part covered with névé and glacier, but projecting through this envelope in the sharp peaks of the *Grands Mulets* (3,057 m., 10,030 ft.) and terminating in the *Montagne de la Côte*, which divides the Glacier des Bossons from the Glacier de Taconnaz. The latter originates in the névé that accumulates on the N. slopes of the *Dôme du Goûter*, and in the fold or ledge between it and the ridge of the *Grands Mulets*, while the *Bossons* gl. drains the much wider snow

valley between the latter ridge and that of the *Aiguille du Midi*.

Apart from the ways up Mont Blanc from the Courmayeur side (to be described below, under 3) there are but two main routes to the summit of Mont Blanc. The Chamonix route (that usually taken) lies along the E. base of the ridge extending from the top to the *Aiguille du Goûter*, by the ledge formed between it and the minor ridge of the *Grands Mulets*; by this route the N.N.E. ridge of Mont Blanc was gained at some point between the *Mont Maudit* and the summit, and then followed to the top of the mountain, but, as will be seen presently, it is now more usual to mount from the *Grand Plateau* to the N.W. ridge, thus joining the second main route. This second route, known from its starting point as the *St. Gervais* route, lies along the crest of the ridge extending from the summit to the *Aiguille du Goûter*. These two routes thus lead respectively up the final N.N.E. and N.W. ridges of the mountain.

Some sketch of the early history of Mont Blanc must be given here, but the reader is referred for many additional most interesting details to Monsieur C. Durier's classical work 'Le Mont-Blanc,' first published in 1877, and now in its fourth edition (1897).

Probably mentioned, under the name of 'rupes alba,' in the earliest extant document referring to Chamonix (1091: see Rte. A), it certainly appears under that of 'Montagne Maudite' on Mercator's Atlas (1594), and this name came to be commonly used, especially at Geneva, whence this unknown and much dreaded group could be seen. But with the arrival of the first tourists in the valley of Chamonix (1741-2) we find that the mountain is now called 'Mont Blanc,' this being probably the vague general name applied at Chamonix to the great snowy mass which dominates the valley. It was for many years later regarded with



respectful awe, and deemed quite inaccessible. The earliest step towards its conquest was made by Saussure, who after his first visits to Chamonix in 1760 and 1761 offered a liberal reward to the person who should first find the way to the summit.

But the first attempt, by Pierre Simond (one of Saussure's guides), by the way of the Géant gl., and later by that of Bossons, did not lead to anything. It was not till July, 1775, that the first serious attempt was made to scale the peak. Four Chamonix men, François and Michel Paccard, Victor Tissai, and Couteran, ascended by the Montagne de la Côte, and probably attained the edge of the Grand Plateau. There they were overpowered 'by the reverberation of the sun from the snow, and the stagnation of the air in the great snow valley.' The next attempt, in 1783, by J. M. Couttet, J. Carrier, and J. B. Lombard (all heard of later), was abandoned in the great snow valley, because one of the party was seized with an almost irresistible desire to sleep. Later in the same year Monsieur Bourrit (the most enterprising, but most unlucky, of these early climbers), with Dr. Michel Paccard, the village doctor, had the honour of making the first attempt by a traveller, but was driven back by a storm from his bivouac on the summit of the Montagne de la Côte.

In 1784 M. Bourrit learned that two hunters of La Gruaz (a hamlet at the entrance of the Miage glen, on the W. side of Mont Blanc), named François Cuidet and Gervais, claimed to have ascended the Aiguille du Goûter, and had found the snow-slopes 'so well aerated' that there was no risk of the suffocation caused by 'the stagnation of the air in the great snow valley.' He accordingly started with these two hunters, and also Couttet and Lombard, besides other guides and a dog, but having gained the foot of the Aiguille du Goûter was overcome by cold and fatigue. Cuidet and Couttet pushed

on, reached the Aiguille, and crossed the Dôme du Goûter, getting as far as the first rocks on the Bosses du Dromadaire, whence they were driven back by want of time and the rarefied air, though otherwise further progress would have been quite possible.

In September, 1785, Saussure, with M. Bourrit and the latter's son, made his first attempt, naturally selecting the way by the Aiguille du Goûter. The party spent the night in a hut which had been prepared at the foot of the Aiguille. On the next day they took the same route as that now followed, crossed the great couloir, and climbed some distance further up, but were compelled to return, after attaining a great height, by the quantity of fresh snow which lay on the edges of the rocks.

A few days previously Couttet and Jacques Balmat had been beaten back by a hail storm, when already on the Aiguille. Finally, on June 30, 1786, two of Saussure's guides, Couttet and Pierre Balmat, slept in the hut at the foot of the Aiguille du Goûter. On the following day they climbed the Aiguille, and reached the summit of the Dôme du Goûter. Here, by previous arrangement, they met another party, which had bivouacked on the Montagne de la Côte. This party consisted of three men (two already mentioned), Tournier, Carrier, and Fr. Paccard, together with a young fellow of 24, named Jacques Balmat, who was destined to win the prize. Balmat had previously attempted the mountain from the Géant gl., and from the Miage side, while in 1785 (as we have seen above) he had tried the Goûter ridge. In 1786 he had spent two nights out among the glaciers exploring, when, on his return to Chamonix, he found the three men just starting. He set out again with but little delay, and joined the others at their bivouac on the Montagne de la Côte. The two parties reached the first of the Bosses du Dromadaire, but the ridge was so narrow that it was judged

impracticable, and all returned to Chamonix, with a single exception. This was Jacques Balmat, who had been trying to get along the ridge astraddle, and on his descent found himself abandoned by his comrades. He managed to get down to the Grand Plateau, and late that afternoon (July 1) climbed up the snow slope to the S.W. of the double line of rocks now known as the Rochers Rouges, and so attained the N.E. shoulder of the final peak. But mist came on, so that, though the game was really won, he had to redescend to the Grand Plateau, where he spent a terrible night, his fourth consecutive night out of a bed. A few weeks later the same year, August 8, 1786, at 6.30 P.M., Balmat actually reached the summit for the first time by the route he had discovered. He was accompanied by Dr. Michel Paccard, a native of Chamonix and the village doctor, who had already tried the mountain in 1783, and is possibly identical with one of the men who had made the attempt of 1775, as in 1786 he was 29 years old.

The success of the undertaking greatly interested Saussure, who came at once to Chamonix. But very bad weather prevented any further attempt that year. Saussure in the spring of 1787 made a journey to the coast of Provence for scientific purposes, but even from the harbour of Toulon saw what he believed to be Mont Blanc. Meanwhile preparations for his ascent were in progress at Chamonix. On July 5 Balmat made his second ascent, accompanied by J. M. Cachat and Alexis Tournier. The third was achieved a month later by Saussure himself, who had with him Balmat and 18 other men. Starting on August 1, the first night was spent at the top of the Montagne de la Côte, and the second at a point a little below the Grand Plateau. On August 3 he at last reached the summit at 11 A.M., and remained there 4½ hrs., sleeping that night at

the N. foot of the Grands Mulets ridge, and regaining Chamonix on the fourth day. On August 9 an Englishman, Colonel Beaufoy, made a successful ascent, in which he was destined to be followed by many of his countrymen.

For a long time no change was made in the route followed by Balmat and Saussure (now known as that by the 'Ancien Passage'), except that it was found more convenient to pass the first night on the rocks of the Grands Mulets, rather than on the Montagne de la Côte, and to reach the bivouac by ascending the r. bank of the Bossons gl. to the Pierre à l'Echelle, and then crossing that glacier.

On August 20, 1820, a large party, including a Russian, Dr. Hamel, and two Englishmen, Messrs. Joseph Dornford and Gilbert Henderson, with eight guides, was cut in two by an avalanche, while ascending the steep slope just S.W. of the Rochers Rouges, and three guides thus lost their lives in the well-known great crevasse at the foot of that slope. This accident, the first of many on the mountain, suggested the expediency of a change of route. Accordingly, in 1827, Mr. (later Sir) C. Fellows and Mr. W. Hawes, with J. M. Couttet and several other guides, struck out a new way to the N.E. of the Rochers Rouges by the 'Corridor' and the 'Mur de la Côte,' and this was long followed, though now a days it has been pretty well given up in favour of that by the Bosses.

On July 31, 1855, Mr. (now Sir) J. H. Ramsay discovered a new route to the summit, though he was unfortunately obliged to retreat after having gained the Mur de la Côte. He slept at the foot of the Aiguille du Midi, with six Courmayeur guides, and climbed up the slopes of the Mont Maudit, descending by the opening on its W. to the head of the Corridor. A week later another English party, without guides, only succeeded in attaining the summit of

the Mont Blanc du Tacul, and this route was not *completely* made till it was taken on July 18, 1863, by MM. Maquelin and Briquet, of Geneva, with ten Courmayeur guides.

The English guideless party just mentioned was more fortunate in an attempt on Mont Blanc from St. Gervais. Starting from a hut built higher up on the Aiguille du Goûter than that of M. Guichard in 1854, they climbed the Aiguille and the Dôme. Thence, sending back their porters to care for two of the party who could not complete the ascent, the others, consisting of the Revs. C. Hudson, Grenville, and Christopher Smyth, Messrs. E. S. Kennedy and C. Ainslie, descended to the Grand Plateau, and reached the summit by way of the Corridor, without guides, on August 14, 1855. This ascent helped somewhat to emancipate travellers from the vexatious restrictions of the old Chamonix regulations, and the unreasonable expenses to which they were there subjected, but it left the route to the summit by the N.W. ridge still incomplete. Several attempts to supply the portion still wanting, and one intended to discover a new way by the Col de Miage, were made in 1856 by a party consisting of the Revs. F. J. A. Hort, J. Ll. Davies, and H. W. Watson, and Mr. F. Vaughan Hawkins, but were all defeated by bad weather. They are recounted by Mr. Vaughan Hawkins in the first series of 'Peaks, Passes, and Glaciers.'

It was not till July 29, 1859, that the practicability of the Bosses ridge, connecting the summit with the Dôme du Goûter, was finally established by a party consisting of the Revs. C. Hudson and G. C. Hodgkinson, and Mr. G. C. Joad, led by Melchior Anderegg. From the Grand Plateau they mounted the Dôme du Goûter, and then followed the ridge on to the summit. (It may be noted that Mr. Hudson's party had been anticipated twenty years before by a Chamonix man, eighty-four years of age, Marie

Couttet, surnamed Moutelet, who attained the summit alone, and was met descending by another party on the Mur de la Côte.) The first complete ascent by the new route was effected on July 18, 1861, by Messrs. Leslie Stephen and F. F. Tuckett, with Melchior Anderegg, J. J. Bennen, and P. Perren, who mounted direct from St. Gervais, thus achieving the undertaking commenced as far back as 1784. But the Bosses ridge was dreaded long after, so that it is said that it was never descended till July 5, 1869, when this was done by Mr. Coolidge, under the guidance of Christian Almer. Nowadays there is a hut at the commencement of the ridge, and it is the usual route from Chamonix.

Since 1861 many difficult routes have been forced up Mont Blanc from the Italian side, but it was not till 1890 that the true way up from Courmayeur was discovered. (For details, see 3. iv., below.) M. Kurz's Guide (in its French edition only) contains a pretty complete bibliography of works describing the ascent of Mont Blanc. One that has appeared since his book contains probably the most complete account of personal experiences on many of the routes up the peak, and may therefore be mentioned here—Dr. Paul Güssfeldt's 'Der Mont Blanc' (Berlin, 1894). For details as to all the eleven routes M. Kurz's work should be referred to.

1. *The Chamonix Route.*—From the hamlet of *Pras Conduits*, nearly opposite the village of Chamonix, a good mule path (with sign posts) mounts rather steeply through a pine forest, and then over pastures to the *Pierre Pointue inn*, 2,049 m., 6,723 ft. (2½ hrs. from Chamonix.) The track keeps at some distance from the Bossons glacier, which is separated from it by a deep ravine, often choked by the remains of the spring avalanches.

[20 min. from the inn, and accessible by a mule path, there is a rocky knoll known as the *Aiguille de la Tour*



(2,306 m., 7,566 ft.)—not to be confounded with the point opposite, called by that name on Mieulet's map—whence there is a very fine view over the neighbouring glaciers.]

From the inn there is only a foot path, which becomes steep and rough on approaching the base of the Aiguille du Midi, and passes beneath overhanging rocks, which sometimes discharge volleys of stones across the track. The *Pierre à l'Echelle* (so called from the ladder formerly kept there) is passed before the r. bank of the *Bossons* gl. is reached ( $\frac{3}{4}$  hr. from the inn). The upper part of this glacier is enclosed between lofty precipices, down which masses of ice are constantly hurled from the slopes of the Aiguille du Midi. On the opposite side rise the steep, dark rocks of the Grands Mulets, well seen in all views of this side of Mont Blanc, and even from the village of Chamonix. The *Bossons* gl. is generally easy to cross to its junction with the *Taconnaz* gl., as there is now a sort of path made by the porters who carry up provisions to the Grands Mulets inn. Ladders are not placed there now unless absolutely indispensable. The only difficulties in this traverse are usually found on the farther side, where the ridge of the Grands Mulets is continued under the ice, which is therefore broken up into *séracs*, and intersected by great crevasses. Easy snow-fields then lead to the W. foot of the **Grands Mulets** rocks (3,057 m., 10,030 ft.), on which, just above the glacier, is the little mountain inn (3,020 m., 9,909 ft.) where it is usual to pass the night before the ascent. It is  $2\frac{1}{2}$  hrs. or so from the *Pierre Pointue*, and is often the object of a day's excursion from Chamonix. (It is possible to go from either inn through the opening at the S.W. foot of the Aiguille du Midi to the *Géant* gl., but the pass, *Col du Midi*, is not easy, and certainly not always safe.)

The Grands Mulets is left at a very early hour in the morning, the

way being now well known to the guides. The advantage of such an early start is that the snow is usually in better order, and the fatigue of the ascent is proportionately diminished, while by reaching the top earlier there is a better chance of a clear view. On the other hand the traveller loses some of the finest effects when he makes nearly the entire ascent by the faint light emitted by the snow even on dark nights (supplemented by that of a flickering lantern), and the cold is usually severely felt by those who reach the upper slopes of the mountain soon after sunrise. About  $2\frac{1}{4}$  hrs. from the Grands Mulets there is a nearly level and uniform field of *névé* called the *Petit Plateau*, the S. end of which is exposed to avalanches falling from the *Dôme du Goûter*. This field is followed by a steeper slope (the *Grandes Montées*), traversed by a great crevasse, usually half choked by snow and ice, which leads to the **Grand Plateau** ( $\frac{3}{4}$  hr.), 3,932 m., 12,901 ft. This is a snow plain of considerable breadth, fully an hour's walk when the snow is soft. Here M.M. Martins, Bravais, and Le Pileur pitched their tent for several days in August 1844, when engaged in making scientific observations here, or on Mont Blanc, and the *Dôme du Goûter*.

From the Grand Plateau there is a choice of three routes to the summit, *c* being that now commonly taken.

(a) *Ancien Passage* (2 hrs.)—This lies to the r. or S.W. of the two parallel lines of rocks, the *Rochers Rouges*, which descend from the N.N.E. ridge of the mountain, and consists of steep ice or snow slopes, at the base of which is a huge crevasse (the 'Grande Crevasse'); but though this way is direct it is very much exposed to avalanches, and is now very rarely taken. It joins *b* on the N.N.E. ridge.

(b) *Corridor* ( $2\frac{1}{2}$ –3 hrs.)—This is the steep hollow or funnel, filled with snow, which runs up, on the

l. or N.E. of the double line of the Rochers Rouges, to a depression at its head, now known as the *Col de la Brenva* (4,333 m., 14,217 ft.), the loftiest pass in the Alps, save those between some of the peaks of Monte Rosa. Here the traveller obtains his first view of Italy, with the magnificent Brenva gl. below, and Monte Rosa and the Matterhorn on the eastern horizon. (*Mont Maudit*, 4,471 m., 14,669 ft., may be climbed hence in  $1\frac{1}{2}$  hr. by its S. ridge.) The way now turns to the S., and the steep snow slope or wall called the *Mur de la Côte* must be cut up till above the Rochers Rouges, where *a* is rejoined. A little below there is now a hut (4,508 m., 14,791 ft.) The slope becomes more gentle, and the isolated rocks of the *Petits Mulets* (4,690 m., 15,388 ft.) are passed before the summit is gained. It is on this highest ridge of the mountain that many strangers show symptoms of exhaustion, and this, added to a great storm, was the cause of the lamentable accident here in 1870, when three travellers and eight guides perished. Many of those who feel no more serious inconvenience move more slowly, and are conscious of a languor which is not felt under similar circumstances at a lower level. In some cases the sense of exhaustion is such that men find it necessary to halt after every twenty or thirty paces, and a certain degree of stupor comes on, which does not disappear till they have rested for some time on the summit. During the last part of the ascent the *Calotte* presents itself as a flattened dome of snow, gradually becoming steeper on either side, and at last contracted to a ridge. From the *Petits Mulets* to the top a time quite disproportioned to the shortness of the distance and the gentleness of the slope is required, and the first feeling of those who are told that they have reached the summit is often that of relief from a load of ungrateful labour rather than any keen sense of enjoyment.

(*c*) **Bosses du Dromadaire** (3 hrs.) —This is the usual route. From the Grand Plateau an ascent up snow slopes in a S. direction leads without any difficulty to the snowy depression just to the l. of the *Dôme*, whence a few minutes along the ridge brings the traveller to the *hut* (no longer provisioned), built here in 1890 by M. **Vallot**, at a height of 4,362 m., 14,312 ft. ( $1\frac{1}{2}$  hr.) The N.W. ridge is then followed across the two *Bosses* to the summit, but is much exposed to wind, though by no means so narrow as described by the early explorers.

The summit varies much in shape, being sometimes a dome, sometimes a sharp ridge. In 1893 M. Janssen had an Observatory built a few feet below the top, on the N. slope. On the S. the traveller will note a sort of snowy plain, at the further end of which rises the hillock dignified by the name of *Mont Blanc de Courmayeur* (4,753 m., 15,595 ft.) According to the express stipulation of the treaty of March 3, 1861, between France and Italy, regulating the frontier after the cession of Savoy, the political frontier runs round the S. edge of this snowy plain, through M. Blanc de Courmayeur, so that the whole of the highest summit of Mont Blanc itself lies in French territory.

To describe the view, if that were possible, would little serve the traveller's purpose. His power of identifying the individual features of the immense panorama will depend upon his personal acquaintance with each district that comes within his range of vision; and here he who has previously explored many parts of the Alps, and made many minor ascents, has an immense advantage over the new comer, who is simply bewildered by the enormous extent and complexity of the mountain ranges that are unrolled before him. Some slight idea of the extent of the view may be gathered from Herr Imfeld's panorama from the summit, published in outline with vol. xxx. of

the 'Jahrbuch' of the Swiss Alpine Club, and to be later issued in a more complete form.

2. *The St. Gervais Route.*—It has been already remarked that this route lies along the crest of the ridge connecting the Aiguille du Goûter with the summit of Mont Blanc.

The N.W. face of the Aiguille du Goûter is formed by a number of very steep parallel ridges of rock, with couloirs of ice or frozen snow between them. One of these couloirs, broader and more continuous than the rest, stretches from near the summit of the Aiguille to the French Bionnassay gl., which lies at the W. base of the ridge. None of the rocky ridges is practicable throughout from the base to the summit, and the main objection to this route arises from the necessity of passing across the great central couloir. At certain times, especially in hot weather or after a storm, this may involve some risk, especially to the man engaged in cutting steps in the ice, owing to the crumbling condition of the top of the ridge, whence stones are constantly detached to find their way into the couloir, down which they are discharged with formidable velocity.

The ascent may be made direct from St. Gervais by way of the hamlet of Bionnassay and the N. bank of the French glacier of that name, but more easily from the Pavillon Bellevue, above the Col de Voza (Rte. E). Turning to the S.E., a faint track leads along steep grass slopes round the S. flank of the *Mont Lachat* (2,111 m., 6,926 ft.) The *old route* traversed round the S. base of the ridge of *Les Rognes*, and then mounted in order to rejoin that now usually taken near the foot of the Aiguille. The *new route* (much shorter) mounts from the N.W. foot of *Les Rognes* to its E. crest, and crosses it towards the *Tête Rousse* (3,139 m., 10,299 ft.), which is left to the r. in order to mount to the small *Tête Rousse gl.*; this is

crossed to the foot of the great central couloir in the N.W. face of the Aiguille. The rocks on the r. bank of this couloir are climbed till it is traversed about half-way up (stones often fall here), and the rocks on the other bank ascended to the wretched wooden hut, 3,819 m., 12,530 ft. (now rarely used), 24 m. (79 ft.) below the top of the Aiguille. 4 hrs. or less suffice to go from the Pavillon to the foot of the Aiguille, which may be climbed, under ordinary circumstances, in  $1\frac{1}{2}$ – $2\frac{1}{2}$  hrs. more, according to the state of the rocks.

In fine weather the passage of the ridge connecting the Aiguille with the *Dôme du Goûter* and the summit of Mont Blanc offers no real difficulty, and it is not easy to point out any other route at nearly so great a height which involves so little labour either in ascending or descending. Fine weather is, however, indispensable, as at this height a moderate wind is unbearable, and clouds may make it impossible to follow the true direction. This alone explains the fact that the completion of this route, though so great a matter of interest, was so long delayed.  $1\frac{1}{4}$ – $1\frac{1}{2}$  hr. may be allowed from the Aiguille to the *Dôme*, and  $\frac{1}{2}$  hr. more to M. Vallot's hut, whence it is  $1\frac{1}{2}$  hr. by route 1 (from Chamonix) to the summit. The summit may, therefore, be gained in  $8\frac{3}{4}$ – $9\frac{1}{2}$  hrs. or so from the Pavillon Bellevue.

On the St. Gervais route the most laborious and difficult part of the expedition is encountered on the way up the Aiguille du Goûter. The ascent then commands distant views, continually increasing in grandeur and extent, and the summit of Mont Blanc is reached without fatigue. But the ascent by this route is long unless the wretched hut on the Aiguille be used. On the other hand, by the Chamonix route the ice scenery is far more striking, and the inn at the Grands Mulets is a good starting point, or even the Vallot hut



on the Bosses; the latter is, of course, far nearer the summit than that on the Aiguille, while the inn at the Grands Mulets, though more distant than either, is far more comfortable.

3. *The Courmayeur Routes.*—With the single exception of the 1863 route (mentioned in the historical notice of Mont Blanc towards the beginning of this Route), all the ways up Mont Blanc from Courmayeur lie up the steep Italian side of the mountain, by one or other of the great glaciers that stream down that side.

For the 1863 route it is necessary to sleep in a poor hut (formerly filled with ice, but now comfortable), 3,564 m., 11,693 ft., near the S. foot of the Aiguille du Midi, and about  $2\frac{1}{2}$ –3 hrs. from the Col du Géant, unless it is preferred to spend the night in that on the Col du Géant itself, and so lengthen the next day's journey. From the Midi hut the traveller must mount the crevassed slopes (or the rocks on their l.) on the N.W. face of the Mont Blanc du Tacul (4,249 m., 13,941 ft.), passing just below its summit (3 hrs.) The ridge is then followed for some time, then a very steep snow slope ascended to a point (4,360 m., 14,305 ft.), half-way up the N.N.W. arête of the Mont Maudit (3 hrs.), whence half an hour's easy walk leads to the head of the Corridor, or Col de la Brenva, where Route 1. *b.* is joined and the summit gained in  $1\frac{3}{4}$  hr. more. (It is possible, but much time is lost thereby, to force a route direct from the hut on the Col du Géant by a difficult couloir between the Mont Blanc du Tacul and the Mont Maudit, but the first party took about  $5\frac{3}{4}$  hrs. to the crest between these peaks.)

Apart from this route, and some fanciful variations which space does not allow us to mention in these pages, there are five other routes from Courmayeur up the Italian side of

Mont Blanc. These follow more or less five of the six great glaciers which flow down from Mont Blanc in a S. or S.W. direction. They may be here briefly indicated in topographical order, but none of them can be recommended to ordinary travellers, save iii., which is not free from the danger of falling stones, and iv., which is now the way commonly taken by those who make the ascent from Courmayeur.

(i.) *By the Brenva Glacier.*—This route was first made in 1865 by Messrs. G. S. Mathews, A. W. Moore, H. and F. Walker, with Melchior and Jacob Anderegg. It is, perhaps, the most dangerous and difficult route yet effected up the peak. It is necessary to bivouac 5 hrs. from Courmayeur on some rocks, then to traverse the very crevassed upper Brenva gl. to the foot of a great buttress, which is climbed by couloirs and a very sharp ice or snow arête to a snowy hollow above, whence either the Col de la Brenva (or head of the Corridor), 4,333 m., 14,217 ft., or the Petits Mulets (4,690 m., 15,388 ft.) may be easily attained. 10 or 11 hrs.' walking are required for the bivouac.

(ii.) *By the Fresnay Glacier.*—This route was discovered by Mr. Eccles, with M. C. and A. Payot, in 1877. It has this peculiarity, that from beginning to end it is absolutely independent of any other of the routes up Mont Blanc. The small *Châtelet* gl. must be crossed to gain that of *Brouillard* (whence the direct ascent to Mont Blanc has not yet been effected, despite several attempts), and then the difficult *Col du Fresnay* traversed to reach the steep upper slopes of the *Fresnay gl.* Another steep ascent leads to the opening between the *Aiguille Blanche de Pétérét*, 4,109 m., 13,482 ft. (best ascended hence) and *Mont Blanc de Courmayeur* (4,753 m., 15,595 ft.) This narrow ridge is then followed to the summit of the last-named peak, whence the top of Mont Blanc is

gained by an easy snow slope in  $\frac{1}{2}$  hr. more. The first party took 8 hrs. 50 min. (largely step-cutting) from a very lofty bivouac, above the Col du Fresnay, and many hours distant from Courmayeur.

(iii.) *By the Mont Blanc Glacier.*—This is the most easterly of the three great glaciers that flow down S.W. from Mont Blanc (see Rte. G) to join the Italian Miage gl. Mr. T. S. Kennedy, with J. Fischer and J. A. Carrel, accomplished the ascent by means of it in 1872, and it was long thought to be the best route from the Courmayeur side, despite the risk of falling stones. The previous night must be spent at the **Quintino Sella Club hut** (3,107 m., 10,194 ft.), above the right bank of the gl., and 7 hrs. from Courmayeur. The head of the Mont Blanc gl. is reached thence, and a great rock and snow arête followed to the Bosses ridge,  $\frac{1}{2}$  hr. below the summit ( $7\frac{1}{2}$  hrs. from the hut by this route). There are no great difficulties on this route, but stones often fall.

(iv.) *By the Dôme Glacier.*—This is the central of the three great glaciers flowing to the S.W. from Mont Blanc, and up it lies the now usual route from Courmayeur. There is an excellent shelter for the night in the shape of the **Dôme Club hut** (c. 3,200 m., 10,499 ft.), on the r. bank of the glacier, and about  $6\frac{1}{2}$  hrs. from Courmayeur. The Col de Miage (Rte. G) route is followed to the foot of the rocky spur between the *Dôme* gl. and the Italian Bionnassay gl. to the W. (5 hrs.) These are then climbed to some pastures, whence the hut is reached by crossing a snow field. The *E. branch* of the *Dôme* gl. was first *descended* from the Dôme du Gôûter in 1865, by Messrs. E. N. Buxton, F. C. Grove, and R. J. S. Macdonald, with Jacob Anderegg, J. P. Cachat, and P. Taugwalder, jr., and first *ascended* in 1868, on the way to the Dôme and so to Mont Blanc, by Mr. F. A. G. Brown, with Julien Grange, D. Chabod, and

J. F. Lalle. But a better way up the *W. branch* was struck out in 1890 by Signori A. Ratti, Grasselli, and Bonin, with J. Gadin and A. Proment, and this way is now always taken. From the hut this branch, which, though steep and crevassed, offers no extraordinary difficulties, is mounted to the gap at the N. end of the Aiguilles Grises ridge, and S. of the junction of that ridge with the great arête running up from the Col de Bionnassay ( $3\frac{1}{2}$  hrs.) In a few minutes the last-named ridge is gained about 200 ft. above the Col de Bionnassay (3,940 m., 12,927 ft.), and henceforth followed. It is narrow in one spot, but not remarkably so, though it is corniced. In this way the broad snow saddle just S.E. of the Dôme is gained in 2 hrs., and thence in 20 min. more the Vallot hut,  $1\frac{1}{2}$  hr. below the summit, which is thus about 7 hrs. or less from the Dôme hut under favourable circumstances.

(v.) *By the Italian Bionnassay Glacier.*—This is the most westerly of the three great glaciers flowing S.W. from Mont Blanc. It descends in an icefall, which must be climbed to join route iv. at the point where it strikes the Bionnassay arête. This route was taken in part by Messrs. Adams-Reilly and J. Birkbeck, with M. Croz, M. C. Payot, and M. Tairraz, in 1864, who gained the glacier above the icefall by a traverse from the Col de Miage, and also as far as the Dôme by M. Vignon in 1885, but it was not till 1889 that Signori Martelli and Gonella, with three friends and six guides, took it as a route up Mont Blanc. It is far more circuitous than route iv., which has, too, the advantage of a good Club hut.

## ROUTE C.

## THE CHAMONIX AIGUILLES.

It was pointed out in the Introduction to this Section that in the Mont Blanc range the characteristic form of sharp pinnacle which has received the name of Aiguille is to be seen in great perfection. The backbone of that range is composed, speaking generally, of protogine. This rock was for long a perplexity to geologists, but is now admitted to be a fairly coarse granite, in which, however, certain structures have been produced by pressure, followed by some mineral changes; in other words, the rock has assumed a slight foliation. To this structure the characteristic scenery of the Chamonix Aiguilles is due; their rock weathers into jagged teeth and spires, instead of into the huge 'tors,' or cuboidal blocks, like ruined masonry, which are more characteristic features of ordinary granite.

Historically the term 'Aiguille' is, not unnaturally, first used of the Dru (1742), but by 1785, at least, it was specially applied to the five which are *par excellence* the 'Aiguilles of Chamonix,' as they overhang the E. side of the valley—viz. *Midi*, *Plan*, *Blaitière*, *Grépon*, and *Charmoz*. Later (by the end of the eighteenth century) the name was given to many other peaks of the range, and it is said that at present nearly sixty points are so entitled. In this Section we include, for the sake of convenience, the score or so of peaks (a few of which do not bear the title of Aiguille) which rise round the Mer de Glace and its tributary glaciers—in other words, those between the mass of Mont Blanc itself and the Argentière glacier. (The rest of the Aiguilles will be more appropriately described in other Routes, in connection with the passes near which they are situated.)

The history of early mountaineering in the Mont Blanc range is the history

of repeated ascents of Mont Blanc. The first of the Chamonix Aiguilles (in the sense in which that name will be used henceforth in this Section) to fall was the *Midi*, in 1856, but most of the others were not conquered till the seventies, a few even holding out till the early eighties. This is doubtless due to the look of inaccessibility about most of these Aiguilles, which served to keep their admirers at their feet. For the sake of convenience, the Chamonix Aiguilles to be described in outline in this Section may be divided into three groups:—

1. *Those W. of the Montenvers.*—This head includes the five great Aiguilles—*Midi*, *Plan*, *Blaitière*, *Grépon*, and *Charmoz*. With the exception of the *Dru*, and the *Verte*, these are the best known, and for that reason of the greatest historical importance. On this group (besides the Guide of M. Kurz) the monograph (with a map) by MM. Vallot, in vol. xxi. (1894) of the 'Annuaire' of the French Alpine Club should be consulted.

2. *Those E. and S.E. of the Montenvers.*—These include the *Dru*, the *Moine*, the *Verte*, the *Droites* (4,030 m., 13,222 ft.), the *Courtes* (3,855 m., 12,648 ft.), the *Triolet*, the *Talèfre* (3,739 m., 12,268 ft.), the *Eboulement* (3,609 m., 11,841 ft.), and the *Leschaux* (3,770 m., 12,369 ft.) With three exceptions they all rise round the great Talèfre glacier, the easternmost feeder of the Mer de Glace; but four only (those not having heights above) need be described in these pages.

3. *Those S. of the Montenvers.*—This group takes in the *Grandes* and the *Pétites Jorasses*, the *Rochefort*, the *Mont Mallet*, the *Périades*, the *Aiguille du Tacul*, and the *Géant*.

Minute details as to the routes up all these peaks will be found in M. Kurz's Guidebook, mentioned in the Introduction to this Section, for the limits of space do not permit more than a general description in this work.



(i.) *The Aiguilles W. of the Mont-eners.*—First in topographical order comes the **Aig. du Midi** (3,843 m., 12,608 ft.), which was also the first of the Chamonix Aiguilles to be successfully attacked. As far back as 1818 a Polish gentleman, Count Matzewski, with six guides, reached the N. and lower summit (3,783 m., 12,412 ft.), and in 1856 the guides of Count Ferdinand de Bouillé scaled the higher peak (3,843 m., 12,608 ft.) The reason of these early attacks is probably due to the fact that the Midi stands immediately above Chamonix, close to the usual route taken on the ascent of Mont Blanc, while the great snow basin, now called the *Vallée Blanche*, at its E. foot, seemed to offer an even more direct route up Mont Blanc, though, as was seen in the last Route, this was only achieved in 1863, a party in 1855 having stopped when they had accomplished all the novel part of the route. The S. peak is that usually climbed, and may be gained in  $7\frac{1}{2}$  hrs. from the Monteners, or in  $3\frac{1}{2}$  hrs. from the Col du Géant. The ordinary route is from the Vallée Blanche by the N.E. arête, and the good firm rocks of the E. face. The *Aig. du Plan* (3,673 m., 12,051 ft.), first reached in 1871 by Messrs. Eccles and Tideman, is rarely climbed. It is gained by leaving the Col du Géant route at the foot of the séracs, then mounting by the *Plan* glacier, N. of the Petit Rognon, to the snowy gap to the W. of the peak, and then up the final rocks on the Chamonix side (7 hrs. from the Monteners). The ascent of the *Aiguille de Blaitière* (3,520 m., 11,549 ft.), unlike that of the two just described, is made on its N. side from the *Nantillons* glacier. From the snowy opening between the two points (gained by a rock ridge on the l. of the great snow or ice curtain falling to the Nantillons glacier) the lower summit, that to the N. (3,504 m., 11,497 ft.), the only one seen from Chamonix, is reached in  $\frac{3}{4}$  hr., but 1 hr. is required to scale

the much harder S. summit, first attained by Mr. E. R. Whitwell, in 1874 (7 hrs. from the Monteners).

The two remaining Aiguilles of this group are at its E. extremity, and their nomenclature has been a source of great confusion. Formerly they were both called Charmoz, being distinguished as the N. and S. Summits, and this is their name in Alpine history. But Herr Imfeld's map (which will, no doubt, fix the nomenclature of the range) has adopted the local usage, according to which the name Grépon (formerly given to the summit 2,868 m.—9,410 ft.—now called the Petits Charmoz—see Rte. A. Excursion 6), is given to the S. summit, the name *Charmoz* (with the prefix 'Grands') being reserved for the N. summit. The **Aig. de Grépon** (3,489 m., 11,447 ft.) is probably the most striking feature in the view from the Grands Charmoz, as it thence presents an extraordinarily precipitous and fantastic appearance, though rearing itself not very many yards away to the S. Any one who has seen it from that point can easily understand that it defied all attacks till 1881, when it was conquered by Mr. A. F. Mummery, with Alexander Burgener and Benedict Venetz. In shape the mountain may be compared to an upright tombstone. Like the Grands Charmoz, it has no well-defined top, the summit ridge resembling a great comb, with gigantic teeth sticking up. The last tooth but one to the S. is the highest point, but is only 5 or 6 ft. loftier than the northernmost tooth. Mr. Mummery and his guides climbed from the Nantillons glacier up the great couloir between the Grépon and the Charmoz to its head, then bore to the r. up a small couloir, in which ice is often found, clambered up a difficult rock chimney, passed through a hole on to the face overlooking the Mer de Glace, and so attained the N. tooth (August 3, 1881). On their return to Chamonix, with the mountain in full view, they

thought that the more southerly tooth looked higher. So on August 5, 1881, they repeated their former climb, traversed the whole summit ridge, and gained the real culminating point. Between the two summits there is an almost sheer drop of about 60 ft., which can only be passed by means of an extra rope. The highest summit was not again scaled till 1885, when M. Dunod, with François and Gaspard Simond, and Auguste Tairraz, stormed it by the S.W. arête, a route quite as difficult as that by the N. arête. By either route 8-9 hrs. are required from the Montenvers to the top.

The *Aiguille des Grands Charmoz* (3,442 m., 11,293 ft.) was also first climbed in 1880 by Mr. Mummery, with the same guides as in 1881. The ascent is easier than that of the Grépon, but it is none the less one of the most interesting rock climbs which can be made from the Montenvers. It is still rather doubtful if the S. most tooth but one or the central tooth is the higher, probably the former. Mr. Mummery from the Nantillons glacier climbed up the W. face to the N. most gap in the ridge, and then went along the crest to the central tooth. The S. peak is more easily gained by way of the great couloir between the Grépon and the Charmoz, then traversing the W. face in a N. direction till immediately below the highest point. The entire ridge may be traversed in either direction in 2 or 3 hrs., and this forms a delightful day's scramble. About 6 hrs. from the Montenvers are required to the summit.

(ii.) *The Aiguilles E. and S.E. of the Montenvers.*—In this group the Verte and the Dru are the most important from an historical point of view, but some of the other peaks offer great attractions to the active mountaineer. The ascent of the *Aiguille Verte* in 1865 broke the spell hitherto surrounding the more difficult of the Chamonix Aiguilles. Backed by the great mass of Mont

Blanc, the *Aiguille Verte* is often lost in the view from the Bernese Oberland and Zermatt mountains, though from a nearer standpoint—e.g. the Col de Balme—its size and beauty can be fully appreciated. Perhaps it looks grandest from the Jura, or from just above Geneva itself, whence, next to Mont Blanc, it is by far the most conspicuous object in the whole range. The conquest of the Dru in 1878 settled in the negative the vexed question whether the obelisk gazed at from the Montenvers by thousands of tourists was the real summit. It proved further that the real summit (or Grand Dru) is visible from Chamonix, appearing as a rocky point sticking out on the ridge of the peak now called the Petit Dru. The lower point was climbed a year later than the higher, and proved to be the more difficult, but the ropes and iron stanchions which now adorn both peaks have sensibly diminished the difficulties encountered by the early explorers.

The *Grand Dru* (3,755 m., 12,320 ft.) was conquered in 1878 by Messrs. C. T. Dent and J. W. Hartley, with Alexander Burgener and K. Maurer. Mr. Dent's long-continued and persevering efforts thus met with their due reward. No new way has since been discovered, save over the Petit Dru. From the *Charpoua* glacier it is necessary to climb by a couloir the rock curtain between the peak and the buttress of the *Aiguille Verte* nearly to, but to the l. of, the gap between those two points. By means of a ladder, placed across a deep gully, the first party got on to the mountain itself, traversed the S. face for a short distance, then forced their way up by some steep and difficult rock couloirs. The E. arête was struck a little way below the top (9-10 hrs. from the Montenvers to the summit).

The *Petit Dru* (3,732 m., 12,245 ft.) was first reached in 1879 by M. Charlet-Straton, with P. Payot and F. Folliguet. The route diverges

from that up the Grand Dru at the head of the Charpoua glacier, and never rejoins it. The W. ridge, whence the Montenvers is in full view, is next reached by an easy couloir, and followed to the point at which it abuts on the peak itself. Hence the magnificent precipice which forms such a striking object from the Montenvers is seen from top to bottom, at the distance of a mere stone's throw. A succession of steep and difficult chimneys remain to be climbed before the summit is attained in 10 hrs. from the Montenvers. This is a long and fatiguing expedition. The traverse from one summit to the other was first made by M. Dunod in 1887. It takes 3 hrs., as the wall of the Grand Dru above the gap between the two summits is exceedingly steep, so that 80 yds. of extra rope are required.

The *Aiguille Verte* (4,127 m., 13,541 ft.) was first ascended in 1865 by Mr. E. Whymper, with Christian Almer and Franz Biener. This party mounted a smaller couloir on the E. of the great one which runs up from the Taléfre glacier to the E. arête of the peak, crossed the great couloir, and were driven more and more to the l. till they gained the ridge falling towards the *Aiguille du Moine*, by which the summit was attained in 6½ hrs. from a bivouac on the rocks of the Couvercle. It is now more usual to mount the great couloir direct to the E. arête, 40 min. along which leads to the top. It is safer and better in every way, however, to climb straight up the rocks on the W. bank of the great couloir direct to the summit of the peak, or to strike the S.W. arête quite low down, and to follow it nearly in its entire length. Falling stones abound on this mountain, which is, therefore, but rarely ascended.

The *Aiguille du Moine* (3,413 m., 11,198 ft.) is not a specially difficult climb, and may be gained in 6 hrs. from the Montenvers by a gully in the S. rocky face, running from the Moine

glacier nearly to the top of the peak.

The *Aiguille de Triolet* (3,876 m., 12,717 ft.) stands on the outskirts of the district described in this Route, and commands a most magnificent view. It was first ascended in 1874 by Mr. J. A. Garth Marshall, with Joh. Fischer and Ulrich Almer, from the E. It seems probable that there are no obstacles which would defeat an attempt from the Col de Triolet, but it has not yet been done thence, so that at present this *Aiguille* cannot be reckoned among those accessible from the Montenvers.

(iii.) *The Aiguilles on the S. of the Montenvers.*— In this group the *Aiguille du Géant*, as a rock pinnacle which long seemed quite inaccessible, and the *Aiguille du Tacul*, one of the finest points of view in the whole district, are particularly worthy of note. As yet the loftiest of the peaks included in this group, though one of the most conspicuous from the Montenvers, the *Grandes Jorasses* (4,205 m., 13,797 ft.), like its neighbour the *Petites Jorasses* (3,658 m., 12,002 ft.), has only been climbed from the Italian side, so that they must be reckoned among the ascents to be made from Courmayeur.

The *Mont Mallet* (3,988 m., 13,085 ft.) is situated a little to the N. of the main watershed, on the ridge between the *Aiguille de Rochefort* and the *Aiguille du Tacul*, and is an admirable point of view. It was first attained in 1871 by Messrs. Leslie Stephen, Wallroth, and Loppé, with Melchior Anderegg and two Chamonix guides. The ascent takes 8 hrs. from the Montenvers, and is effected by way of the *Mont Mallet* glacier and the N.N.E. arête, gained from that glacier. Another, perhaps more direct, route is to gain the N. arête either from the *Mont Mallet* glacier, on the E., or from the *Périades* glacier, on the N.W. It is an interesting excursion to ascend from one glacier and to descend to the other. If time allows it is well worth while to follow



the ridge S. for 40 min. to the *Aiguille de Rochefort* (4,003 m., 13,134 ft.), whence the view over Italy is exceedingly fine.

The *Aiguille du Tacul* (3,438 m., 11,280 ft.) is famed for its marvellous view, as it rises in the very centre of this district, at the N. end of the great spur running N. from the *Aiguille de Rochefort*, between the *Géant* (or *Tacul*) and the *Leschaux glaciers*. It may be ascended from the N.W. by the ridge stretching up from near the *Tacul lake*, from the S.W. by the couloir running up to the ridge between the peak and *Les Périades* on the S., and from the E. by the *Capucin glacier*, between the peak and the *Capucin rocks*. 5 or 6 hrs. suffice to reach the summit from the *Montenvers*, and it is an excursion much to be recommended.

The *Périades* (3,491 m., 11,454 ft.) rises just S. of the *Aiguille du Tacul*, and can be gained from the *Montenvers*, by the rocks of its E. or W. face, in 6-7 hrs.

The *Aiguille du Géant* (4,014 m., 13,170 ft.) long defied all attacks, and was only finally conquered in 1882 by driving iron stanchions, for hand and foot hold, into the most difficult bits of rock. Now it is so festooned with ropes that for a party of competent mountaineers the ascent presents, under favourable conditions, no difficulty whatever. From the hut on the *Col du Géant* the would-be climber must bear N.E., and ascend over rocks and snow patches to the S.W. foot of the peak. A ledge, and then a chimney, lead round to the foot of the slabs on the N. called the 'Shoulder.' The first slab is overcome by means of a fixed rope, after which a short traverse to the l. lands the clamberer in another chimney, where he finds another rope to assist him. A difficult traverse leads back to the face overlooking the *Col du Géant*, and here once more fixed ropes are of great help, and lead straight up the steep slabs to the N. Summit ( $3\frac{1}{2}$  hrs. from the hut), which

is about 6 ft. lower than the S. Summit, gained thence in  $\frac{1}{4}$  hr. It is wise not to start too early from the hut, so as to give the sun time to warm the rocks, and to melt any ice which may have formed in the course of the preceding night on the fixed ropes.

The N. Summit was first reached, in July 1882, by the four Signori Sella, with J. J., J. B., and Daniel Maquignaz. Three weeks later Mr. W. W. Graham, with A. Payot and A. Cupelin, profited by the iron stanchions left by the first party to repeat the ascent, and went on to the higher S. Summit, the culminating point of the *Aiguille*, of which, therefore, this was the first ascent. Of late years, specially on the Italian side, the prefix 'Dent' has been given to this peak, but this term is unknown in the *Mont Blanc* district and in Alpine history, and the name '*Aiguille du Géant*,' or '*Le Géant*,' occurs in all the early writers, from Saussure onwards. It should be noted that the name '*Géant*' has always belonged to this peak, and has nothing to do, as might be supposed, with *Mont Blanc* itself.

#### ROUTE D.

##### CHAMONIX TO COURMAYEUR BY THE COL DU GÉANT AND OTHER PASSES FROM THE MONTENVERS.

The *Col du Géant* long ranked as the only pass across the range of *Mont Blanc*, and as the highest in the Alps. Recent explorers have, however, so much enlarged the list of practicable passes that this has had to yield to numerous competitors. It has, however, lost none of its attraction for the lover of grand scenery, and there are few excursions that, within the compass of a single day's walk, initiate the traveller so

thoroughly into the wonders and beauties of the ice world.

In a most interesting account of the passes in the Aosta valley, being a report made in 1691-4 by Filiberto Amadeo Arnod, an official of the duke of Savoy, mention is made of the then existing tradition of a passage from Courmayeur by the Mont Fréty glaciers to Chamonix, but Arnod's attempt in 1689 to force his way over failed because of the huge crevasses; the same reason was given in 1741 to Windham and in 1742 to Martel by their Chamonix guides for the abandonment of this old pass. It seems to have been certainly traversed about 1740 or so by one Ribel, a messenger, carrying letters from Geneva to Turin; but the first authentic passage, at least by a traveller, was that effected by an Englishman named Hill, with Marie Couttet and P. Balmat, in 1786. It was crossed twice in 1787 by Bourrit, then by Exchaquet, and became famous and well known after Saussure encamped there for seventeen days, July 3-19, 1788, making observations.

About a dozen other passes are now known by which the traveller may go from the Montenvers to Courmayeur, but, with three or four exceptions, they possess no advantages likely to recommend them to any save climbers seeking a variation on the usual way.

In taking the Col du Géant 2 hrs. are saved by sleeping either at the Montenvers Hôtel, on the Chamonix side, or at the Mont Fréty inn, on the Courmayeur side. There is also a Club hut, affording shelter for twenty persons, on the crest of the pass itself. Constant liability to change is the familiar characteristic of the glacier regions, and this especially holds good of the Col du Géant. In fine weather the expedition involves no risk other than those which everywhere in the Alps attend the neglect of well-known precautions. The accident which in 1860 cost the lives of three English travellers and

one guide might just as well have occurred in many places often visited by strangers.

From the Montenvers the way to the Col du Géant, as far as the junction of the Géant and Leschaux glaciers, is the same as that to the Jardin (Rte. A. Excursion 5). At this point it becomes necessary to bear S., and, leaving the Aig. du Tacul on the l., the traveller finds himself, in about  $2\frac{3}{4}$  hrs. from the Hôtel, face to face with the grand icefall of the *Géant* glacier, which has been likened to 'the foam of ten Niagaras placed end to end and stiffened into rest.' This great ice cascade exhibits on the grandest scale that peculiar condition of the ice for which Saussure's name, *séracs* (taken from a stage in the process of cheese-making), has been retained (see the General Introduction, article on Glaciers). The vast mass of névé that is accumulated in the basin, of which the highest summits are the Mont Blanc du Tacul (4,249 m., 13,941 ft.) and the Aiguille du Midi (3,843 m., 12,609 ft.) on the W., and the Aiguille du Géant (4,014 m., 13,170 ft.) on the E., descends through the comparatively narrow opening between the rocks of *La Noire*—one of the main buttresses of the last-named peak—and an island of rock, called the *Petit Rognon*, on the opposite side of the glacier. The usual route is to ascend by the W. side of the icefall, passing close by the Petit Rognon, though it occasionally happens that it is easier to go by the E. side, or even over the lower rocks of *La Noire*. But it should be borne in mind that on the E. side there is some danger of falling stones and avalanches. Soon after passing the icefall the great upper plateau of the Géant glacier is crossed, the rock known as *La Vierge* being left on the r., and by easy snow slopes the depression between the *Aiguilles Marbrées* on the N.E. and the *Flambeaux* on the W. is gained. This

is the **Col du Géant** (3,371 m., 11,060 ft.), attained in 6-7 hrs. from the Montenvers.

[For the **Aiguille du Géant** see Rtes. C and E, and for the **Tour Ronde** Rte. E.]

The view from the pass is very fine, so that the traveller who has left the Montenvers before daylight is amply repaid for his exertions if he is fortunate enough to have reached the top before clouds have gathered on the Italian side.

It does not, however, remind the traveller that he is standing on the main watershed of the chain of Mont Blanc. The fine group of peaks surrounding the **Aiguille Verte** does indeed preserve its familiar outline when seen from a few yards E. of the pass, but so dwarfed as not to be immediately recognisable. The great **Aiguilles W.** of the Montenvers too present a strikingly different appearance from the well-known Chamonix view. The immense glacier, which has just been traversed, stretches away to the N. in dazzling whiteness, blocked at the end by the **Dru** and the **Verte**, rising steeply from the glaciers at their feet. To the E. the rocky pinnacle of the **Aiguille du Géant** and the snowy mass of the **Grandes Jorasses** form an imposing foreground, while in the far distance the **Grand Combin** and the **Matterhorn** tower high above their neighbours, and every detail of the entire mass of **Monte Rosa** itself is distinctly seen. On the W. are the precipices of **Mont Blanc** himself, and those of his satellites, from the **Mont Blanc du Tacul** to the **Aiguille Blanche de Pétéret**, while the near view in this direction is completed by the obelisk of the **Aiguille Noire de Pétéret**. The portion of the horizon which perhaps attracts most attention is that lying to the S. **Courmayeur** and the green valleys of Italy lie just below the spectator, while the snowy peaks of the **Graians** and of the **Dauphiné Alps** fill up a most splendid panorama.

The reader of **Saussure's 'Travels'** will recall with interest the account of his seventeen days' residence on this spot. In spite of all that has been done in modern times, no more striking proof has ever been given of persevering devotion to the cause of natural science. The highest rocks, which are within a few feet of the actual **Col**, are almost exclusively composed of quartz, which forms veins in the protogine form of granite, that constitutes the main axis of the **Mont Blanc** range.

The excellent **Club hut**, lately rebuilt (to be replaced in 1899 by a small Inn now in process of construction), is a few feet below the pass, on the Italian side, and in summer is a favourite day's excursion for visitors at **Courmayeur**.

The descent towards **Courmayeur** may at first appear exceedingly long and steep, but there is no real difficulty. A ridge projecting from the face of the mountain at once presents itself as the natural and secure track. The ground falls away very steeply on either side of this ridge for the first few hundred feet, after which the path is easily followed down the broken ground and loose stones on the l. (or E.) of the ridge, as far as a small chimney, at the foot of the rocks, which is locally known as '**la Porte**.' Very shortly a mule path is reached, which leads down the grass slopes to the little **Mont Fréty inn** (1-1½ hr. from the **Col**). Hence the path zigzags down the mountain-side by a rather roundabout route, and in about ¾ hr. gains the level of the Italian **Val Ferret**, just above the village of **Entrèves**, about 2 m. by char road from **Courmayeur**.

More than one fatal accident has occurred on the route of the **Col du Géant**, but the most memorable was that in 1860, by which three English travellers and **Frédéric Tairraz**, one of their guides, lost their lives. This mishap was caused by a slip about ¼ hr. below the **Col**, on the **Courmayeur** side, in the steep couloir,



then filled with fresh snow, on the E. side of the ridge by which the usual track, above described, descends. The travellers were fatigued and inexperienced; the guides left the rock ridge for the slippery snow couloir, and further held in one hand the rope by which their travellers were attached. It is now agreed on all hands that three guides, in a properly roped party, knowing how to use an axe, could easily check the slip of three travellers on an even steeper slope than that on which this misfortune happened.

The *Col de Triolet* (3,691 m., 12,110 ft.) was crossed in 1864 by Messrs. Adams-Reilly and Whympfer. From the Monteners the route lies past the Jardin, then up the small *Courtes* glacier to the pass (6½ hrs.) This little glacier often has two great crevasses running right across it. Sometimes these may be turned by keeping well to the l. under the wall of the *Courtes*, and always by climbing up the small glacier arm on the r. of the rocks on the l. bank of the glacier, these rocks being then crossed to the upper part of the glacier, above the great crevasses. 'The descent commences with some steep and firm rocks for ¼ hr., followed by some steep slopes of névé, cut across by crevasses, and leading down to the N. branch of the Triolet glacier. The glacier is easy until the commencement of the icefall, when it must be quitted for the moraine on the l. bank' (A. A.-R., revised). In ¼ hr. more the *Club hut* (2,584 m., 8,478 ft.) is reached (1¾ hr. from the pass), but it is not easily seen, as it lies a little to the l. of the direct route, under a pointed overhanging rock at the head of a great grass and rock couloir. By this couloir the Val Ferret may be reached in about 1 hr. from the hut, and 2½ hrs. more suffice to gain Courmayeur by the path from the Col Ferret.

In 1865 another pass was crossed a little to the S. of that just described. This is the *Col de Talèfre* (11,430 ft.),

first traversed by Mr. Whympfer with Christian Almer and Franz Biener. It lies about half-way between the Aiguille de Triolet and the Aiguille de Talèfre. From the Jardin it is necessary to bear S.E., and make for a very noticeable bent couloir. It is much exposed to falling stones, but the rocks on its r. bank give access to the pass, reached in about 5 hrs. from the Monteners. Easy rocks lead down to the *Triolet* glacier (¾ hr.), on which the Col de Triolet route is soon rejoined. In fact, the routes of these two passes are for a considerable distance scarcely more than ½ m. apart.

A much more attractive pass is the *Col des Hirondelles* (3,465 m., 11,369 ft.), between the Petites and the Grandes Jorasses, which was first crossed, in 1873, by Messrs. Leslie Stephen, G. Loppé, T. S. Kennedy, and J. A. Garth Marshall, with Joh. Fischer, Ulrich Almer, and H. Dévouassoud. Mr. Stephen has published a delightful narrative of the expedition. The traveller looking from the Monteners at the grand view spread out before him naturally thinks that this pass ought to afford the shortest way to Italy. 'Indeed,' says Mr. Stephen, 'it would be the natural route for anybody intending to cross the Col du Géant by the light of nature. If you would make a bee-line from the Monteners to the nearest point of the Italian valleys, your route would take you straight across this Col, which is as obtrusive as the Théodule from Zermatt, or the Jungfrauoch from the Wengern Alp.' The fanciful name is derived from the fact that the first party found on the way the bodies of twenty poor swallows, which had been frozen to death, while trying to cross the range in this neighbourhood.

From the Monteners the way towards the Jardin (Rte. A. Excursion 5) is followed as far as the junction of the Talèfre and *Leschaux* glaciers. The last-named glacier is

then mounted nearly due S. to the foot of the wall between the Petites and the Grandes Jorasses. A wide couloir descends from the Col (which is close to the Grandes Jorasses) to the glacier. The bergschrund (which may give great trouble) at its base may be crossed, and the couloir itself mounted for a little way till it is possible to cross on the l. to a rocky rib between the great couloir and a smaller one on the E. (This small couloir can be climbed direct.) 2 hrs. are required to climb from the glacier to the pass, which may be reached in 6 or  $6\frac{1}{2}$  hrs. from the Montenvers. The view is not nearly as fine as that from the Col du Géant, but the face of the Grandes Jorasses is a splendid sight all the way up to the pass. The descent is made by the wild *Frébouzie* glacier, and it is well to bear in mind that it is scarcely possible to go too far to the l. when descending this glacier. The glacier is quitted on the l. bank, and a stony waste at its foot crossed before the level of the Val Ferret is attained, Courmayeur being reached in about 5 hrs. from the pass.

Such are the most interesting and characteristic passes between the Montenvers and Courmayeur. The routes across the others which have been forced over the range at various points are, to a great extent, identical in part with one or other of those described above, and the climbers who desire to traverse them will find all details in M. Kurz's Guidebook, often before mentioned. It may be said, however, that the scenery of the Brenva glacier, on the Italian side of the *Col de la Tour Ronde* (3,645 m., 11,959 ft.), S.W. of the peak of that name, 3,792 m., 12,441 ft. (which is hence easily attained in 40 min.), is very fine indeed, though it can be more conveniently seen by means of an excursion from Courmayeur than on the traverse of this long and lofty pass.

## ROUTE E.

## CHAMONIX TO COURMAYEUR BY THE COL DU BONHOMME. EXCURSIONS FROM COURMAYEUR.

Chamonix to Contamines,  $4\frac{1}{2}$ – $5\frac{3}{4}$  hrs. ;  
 Contamines to Mottets,  $6\frac{1}{2}$ – $8\frac{1}{4}$  hrs. ;  
 Mottets to Courmayeur,  $5\frac{1}{2}$  hrs. In  
 all,  $16\frac{1}{4}$ – $19\frac{1}{2}$  hrs.

Mountaineers bound from Chamonix to Courmayeur will, no doubt, in favourable weather traverse the range by one of the glacier passes described in Rtes. D, F, G, L, or M. Less adventurous travellers, however, desiring to avoid the difficulties and dangers of the High Alps, will make a long circuit (taking two or three days), either round the N.E. end of the range by Champex (Rte. I) or the S.W. extremity of the chain. The latter way is that described in the present Route, and is usually known as the 'Tour of Mont Blanc.' It is practicable for mules all the way, and in part (as far as Contamines) even for carriages. It is hence often made by ladies, who sleep at Contamines and Nant Borrant. Active pedestrians may accomplish the distance in two good days' walking, sleeping at Nant Borrant, and taking the short cut by the Col des Fours. Part of the long way is not very interesting, but the view from the Col de la Seigne, and the descent thence through the Allée Blanche, will always make that portion of the route very attractive to the true lover of nature. The path over the Col du Bonhomme has been so much improved that in moderately good weather a guide is not necessary; but when fresh snow has fallen, and the clouds lie low on the pass, it is almost impossible for any one (save a trained mountaineer, with good maps) not possessing minute local knowledge to find the true way. It is far better to make the journey in the direction here described than in the opposite sense.

The two chief places on the journey

are *Contamines* and *Mottets*, each of which may be reached by several different ways, the unusual routes being here but briefly indicated.

**Contamines** may be gained from Chamonix by four ways at least, three of which join at the village of St. Gervais, while the fourth is the most direct, and that usually taken by those making the 'Tour of Mont Blanc.'

1. *By St. Gervais*.—The *easiest way* is to drive from Chamonix down the Geneva road as far as Le Fayet (12 m.), whence another road makes a great zigzag and brings the traveller in 2½ m. to St. Gervais village, 5¼ m. by road below Contamines.

A *more interesting way* is to follow the same main road down to *La Griaz* (4 m.), whence another road (the old Geneva road) mounts to *Les Houches* (½ m.), 1¼ hr.'s walk from Chamonix. A mule path ascends from a hamlet a little further along the road, maintains first a S.W., then a N.W. direction, and leads to the *Col de la Forclaz* (1,556 m., 5,105 ft.) The view hence is less commanding and more limited than that by the other routes to be described. Near this pass there was discovered in 1852 a most interesting Roman inscription (dating from A.D. 74) on a stone built into a fence. It fixes the limits between the Ceutrones and another tribe (name uncertain), thus proving that an old Roman road traversed this pass. The stone is now preserved at *Les Plagnes*, near Le Fayet. The descent lies S.W. down pastures past *Mont Paccard* and through forests and by steep zigzags over meadows direct to the village of St. Gervais, which is thus attained in 4¼ hrs. from Chamonix.

Yet a third way is that over the *Col de Voza* (1,675 m., 5,496 ft.) The mule path from Les Houches is the same as that to the Pavillon Bellevue (see below) for 3 hrs., then bears r. to the pass (½ hr.) The descent can be made direct to *Bionnassay*, but it is in every way better to mount r. to the inn on

the ridge of the *Prarion* (½ hr.), which commands a view even more extensive than that enjoyed from the Pavillon Bellevue. The summit of the peak of the *Prarion* (1,968 m., 6,457 ft.) can be reached in ½ hr. more, and the view thus further extended. From the inn the mule path bears to the r., and by steep pastures soon joins that from the Col de la Forclaz; St. Gervais is attained by this route in 5½ hrs. from Chamonix.

As stated above, the *village of St. Gervais* (817 m., 2,680 ft.) may be gained by road in 2½ m. from Le Fayet. ¼ hr. to the N.W. by a steep path, in the narrow gorge of the Bon Nant, are the **Baths of St. Gervais** (633 m., 2,077 ft.), which are only ½ m. now from Le Fayet direct by road. They are picturesquely placed, and much frequented by French visitors; of the two principal springs one is warm and sulphureous, the other chalybeate. In the course of the night of July 11–12, 1892, a terrific stream of ice, mud, and water (the result of the bursting of a great accumulation of water in the small Tête Rousse glacier, on the W. slope of the Aiguille du Goûter) carried away the Etablissement de Bains (at least the two lower buildings), as well as many other houses, very many (150) persons also perishing. The old buildings at the bottom of the gorge have been repaired, but the fine new Etablissement is ½ m. from the entrance to this gorge, and the same distance from Le Fayet.

¶ About 1855 the village of St. Gervais was the resort of a band of Englishmen, who were occupied in forcing a route up Mont Blanc (see Rte. B) which should free travellers from the extortions of the Chamonix tariff. This route, however, has never become very popular, though still occasionally taken. The chief excursion from St. Gervais is the ascent of the *Mont Joly* (2,527 m., 8,291 ft.), on the S. A mule path mounts direct to the inn



at its N. foot, and only 1 hr. below the summit, which is gained in 4 hrs. from St. Gervais, or in rather less time from Contamines. The descent to Mégève on the N.W. (§ 11. Rte. H) is perfectly easy. The view from this mountain is considered by some good judges as even finer than that obtained from the Brévent. ]

The road from St. Gervais mounts through the *Montjoie* valley past (2 m.) *Bionnay*, at the entrance of the glen leading to the Bionnassay gl., and the Pavillon Bellevue (see below), and by the opening of that of Miage (for the pass of that name see Rte. G), to ( $3\frac{1}{4}$  m.) Contamines.

2. *By the Pavillon Bellevue.*—This route leads direct from Les Houches to Contamines, and is much frequented, as it has also a good mule path.

Les Houches is gained (as under 1) from Chamonix by road in  $1\frac{1}{4}$  hr. The path mounts thence almost due S. at first, and lies over pastures and through woods, with pretty views looking back. It rounds the base of a spur from the ridge on the S., and gradually leaving to the r. the path going to the Col de Voza, inclines to the l., so as to gain (2 hrs. from Les Houches) the mountain inn called *Pavillon Bellevue*. This is built at the W. foot of the *Mont Lachat* (2,111 m., 6,926 ft., accessible by grass slopes in  $\frac{3}{4}$  hr.), in a fold of the ridge parallel to, but considerably higher than, the Col de Voza, as it stands at a height of 1,781 m., 5,843 ft. (It is the usual starting point for the ascent of Mont Blanc by the St. Gervais or Aiguille du Goûter route—see Rte. B—but this is the only high climb that can be made hence.) The view of the valley of Chamonix and of the chain of Mont Blanc is a counterpart to that from the Col de Balme, at the other end of the valley (Rte. H), but is not as fine, for the Dôme du Goûter conceals the highest part of Mont Blanc himself. The mule path (for a short cut see

below) descends by grass slopes to the hamlet of *Bionnassay* ( $\frac{1}{2}$  hr.), and thence runs along the r. bank of the torrent to *Bionnay* ( $\frac{3}{4}$  hr.),  $3\frac{1}{4}$  m. from Contamines by the carriage-road from St. Gervais (see above), Contamines being thus gained in  $5\frac{3}{4}$  hrs.' walking from Chamonix. On the descent towards Bionnassay the view is bounded by the Mont Joly in front, with the church of *St. Nicolas de Véroce* at its base, while to the l. the ridge extending from the Aiguille de Bionnassay to the Col de Tricot, on the opposite side of the fine Bionnassay glacier, is the most conspicuous object in view.

[If bound for the Col or chalets de Miage (Rte. G) a traveller should from the Pavillon follow at first the track up the Mont Lachat, then descend to and cross the Bionnassay gl., whence a grassy glen leads up to the *Col de Tricot* (2,133 m., 6,998 ft.), 40 min. above the Miage chalets, which are  $2\frac{1}{2}$  hrs. from the Pavillon. ]

A pedestrian may reach Contamines in  $2\frac{1}{2}$  hrs. from the Pavillon by keeping to the l. a little before reaching the hamlet of Bionnassay, crossing the torrent by a wooden bridge, a little below the spot where it issues from the glacier, and then going across meadows past *Champel* to *La Villette*, joining the high road just below those huts.

**Contamines** (1,197 m., 3,927 ft.) lies at the W. base of the *Mont Joly* (2,527 m., 8,291 ft.), which may be thence ascended in 4 hrs. or less. In the opposite direction is the *Frasse* glacier (also called *Armanettes* gl.), lying in a grand amphitheatre crowned by the *Dôme de Miage* (3,688 m., 12,100 ft.), and the *Aiguille de Béranger* (3,431 m., 11,257 ft.), but now shrunk within dimensions apparently much smaller than its former limits. Over it lies the way by the *Col de Béranger* to the Trélatête glacier, either of the above-named peaks being easily reached from the pass. (For this excursion and the passes from the Trélatête glacier,

especially the short cut by the Col du Mont Tondu, see Rte. F.)

The char road from Contamines follows the r. bank of the Bon Nant, but must be left in  $\frac{3}{4}$  hr. where it crosses to the sanctuary of *Notre Dame de la Gorge*, frequented in August by many pilgrims. The Bonhomme mule path now mounts a steep and rough slope, crosses the stream by a stone bridge, and, traversing an Alpine pasture, reaches the chalets of *Nant Borrant* (1,457 m., 4,780 ft.),  $1\frac{3}{4}$  hr. from Contamines. The little mountain inn here is the ordinary halting place for those who spend one night only on the way from Chamonix to Courmayeur. There is a fine fall of the Bon Nant below the stone bridge, and a still finer one, rather higher, on the branch of the same stream coming from the Trélatête glacier, which is in sight from Nant Borrant.

Above Nant Borrant the path traverses pastures to the inn of *La Balme* ( $\frac{3}{4}$  hr.)

[Hence a path mounts W. across the *Enclave de la Fenêtre*, 2,263 m., 7,425 ft., which leads by the Haute Luce glen to Beaufort—§ 11. Rte. I.]

Here the massive rock tower called the *Tête du Bonhomme* (2,593 m., 8,507 ft.) comes into view, and to the l. the similar but rather lower summit known as the *Femme du Bonhomme*. The track now mounts through a narrow strait in the valley, and then, passing some vast moraines of ancient glaciers, ascends amid débris to the circular pasture basin of the *Plan Jovet* ( $\frac{1}{4}$  hr.)

[Above it on the E. are the takes and chalets of Mont Jovet, past which lies the way to the *Col d'Enclave* (2,686 m., 8,813 ft.), between the *Mont Tondu* and the *Tête d'Enclave*. Steep and very wearisome slopes of stones give access to the pass, which commands but a limited view, so that, though but  $2\frac{1}{2}$  hrs. are required from Plan Jovet to Mottets, the Col des Fours is to be preferred as a short cut, by reason of

the grand view from the *Pointe des Fours*.]

Having now passed beyond the region of tree vegetation, the valley assumes a wilder and sterner aspect. A short but steep ascent leads to another step in the valley, a plateau called (as early as 1663) the *Plan des Dames*, 2,056 m., 6,746 ft. ( $\frac{1}{4}$  hr.), where a large pile of stones marks a spot consecrated by a tradition of a great lady and her suite, who all perished in a snow storm. Another ascent, longer than the last, leads in about 40 min. to what appears to be the desired pass; but on reaching the summit (where there is a stone shelter hut), 2,340 m., 7,678 ft. ( $3\frac{3}{4}$  hrs. from Contamines), which lies between the *Tête du Bonhomme* and the ridge of *Les Bancs* (2,812 m., 9,226 ft.), it is seen that this pass crosses the watershed between the Arve and the Doron de Beaufort, and leads W. by the *Col de la Sauce* (2,012 m., 6,601 ft.) through the *Gitte* glen to Beaufort (§ 11. Rte. K. 1). It is still a distance of about 40 min. across barren stony slopes (on which a S.E. direction must be kept), usually flecked with snow, to the true pass. This portion of the route is much exposed to storms, and in threatening weather, or with fresh snow, it is highly imprudent for the ordinary traveller to pass here without a guide. The fate of two Englishmen who perished here in a snow storm in September 1830 is still quoted as a warning to travellers.

The true *Col du Bonhomme* (also called *Croix du Bonhomme*, from the great wooden cross which marks it), 2,483 m., 8,147 ft. (stone shelter hut), is the watershed between the basin of the Doron and that of the Isère. The view is not as extensive as might be expected, but though Mont Blanc is shut out by the heights on the l. of the Col, the superb peak (the second highest in the Tarentaise) of the *Mont Pourri* (3,788 m., 12,428 ft.) is full in sight.

The passage from the Col du Bonhomme (which, as observed above, divides the Doron and Isère basins) to the Allée Blanche or the valley of the Dora Baltea involves a great détour. The long gorge which opens out in the distance on the S. side of the pass leads from Chapieux, by a char road, in  $3\frac{1}{4}$  hrs. (9 m.) to the town of *Bourg St. Maurice*, in the Tarentaise, or upper valley of the Isère (§ 11. Rte. K). At Chapieux, 3,000 ft. below the Col, it is joined at an acute angle by the stream which flows from the W. side of the Col de la Seigne to the Isère. The mule track descends steeply on the S. to **Chapieux**, 1,509 m., 4,951 ft. ( $1\frac{3}{4}$  hr.), then reascends in a N.E. direction through a barren and dreary glen, the least interesting part of the whole 'Tour of Mont Blanc,' to **Mottets**, 1,898 m., 6,227 ft. (2 hrs.) But a *foot path* leads from the Col du Bonhomme by the *Col des Fours* (stone shelter hut) to Mottets direct without passing by Chapieux, and the pedestrian should not fail to take this short cut. This pass is 2,710 m. (8,891 ft.) in height, and in a few minutes the *Pointe des Fours* (2,719 m., 8,921 ft.), on the S., may be reached by skirting its base on the r. It commands a remarkable view of the S.W. side of the range of Mont Blanc. The Col des Fours takes 2-2 $\frac{1}{2}$  hrs. from the Bonhomme to Mottets, thus saving over an hour on the journey between those two places. The mule track is rejoined at the hamlet of *Les Glaciers*, or *La Ville*,  $\frac{1}{2}$  hr. below Mottets.

A steady ascent of  $1\frac{1}{2}$  hr. from Mottets brings the traveller to the summit of the **Col de la Seigne** (2,512 m., 8,242 ft.), where there is a stone shelter hut. Here, having toiled for the preceding 5 or 6 hrs. over a fatiguing and not very interesting way, he is rewarded by a view of extraordinary grandeur along the S.E. side of the range of Mont Blanc. The Italian counterpart of the valley of Chamonix is undoubtedly

more imposing and impressive than its Savoyard rival. The S.E. side of the Mont Blanc range includes, besides the actual summit, most of the highest secondary peaks, and between them there is but one opening, the Col de Miage, which can be considered as a break in the continuity of the ridge. To the l. of the spectator is the *Aiguille des Glaciers* (3,834 m., 12,579 ft.), and beyond it the *Aiguille de Trélatête* (3,911 m., 12,832 ft.) This is followed by the wide opening through which the Italian Miage gl. descends into the valley, and then the eye rests upon the central mass of Mont Blanc, here seen as a dome of snow, sustained by three enormous buttresses of rock. The nearest of these is the *Mont Brouillard* (4,053 m., 13,298 ft.); beyond this is the *Châtelet ridge*, between the Brouillard and Fresnay glaciers, and the third is crowned by the *Aiguilles Blanche* and *Noire de Pétérét* (4,109 m., 13,482 ft., and 3,780 m., 12,402 ft.), granite pinnacles of the boldest form, somewhat more detached than the others from the main mass; they long remain prominent among the most striking objects in view throughout the descent to Courmayeur. At the end of the long vista is the Col Ferret, and beyond it rise the snowy peaks of the *Vélan* and the *Combin*. To the r. the ranges of the Crammont and of the Mont de la Saxe, broken by the gap through which the Dora Baltea escapes to the S.E., run parallel to the greater chain of Mont Blanc. The valley between these ranges, whose whole length now extends at the traveller's feet, is properly called 'La Lex Blanche,' but it seems now impossible to change the received spelling, adopted by modern writers in ignorance of the true etymology. (See note to the Introduction to this §.)

In descending from the Col de la Seigne several rare plants may be gathered, and, amongst others, *Ranunculus parnassifolius*. Lower



down *Hugueninia tanacetifolia* and *Achillea macrophylla* are rather common.

¶ From the Col a path leads S.E. to the *Col des Chavannes* (2,606 m., 8,550 ft.) in 1 hr., whence the *Pointe de Léchaud* (3,127 m., 10,260 ft.) can be climbed in 2 hrs.; from the summit there is a difficult direct descent to Mottets. From the Col des Chavannes a walk of  $2\frac{1}{4}$  hrs. down the glen of the same name leads to *La Thuille*, on the Little St. Bernard road, § 14. Rte. G.]

About  $\frac{1}{2}$  hr. below the Col de la Seigne are the first huts, the *Upper Allée Blanche huts* (2,205 m., 7,235 ft.) Having left on the l. hand the *Estellette* gl., the more considerable *Allée Blanche* gl. now comes into view. Another hour leads down to the level of the *Lac de Combal* (1,940 m., 6,365 ft.) This lake is held back by a massive embankment of considerable antiquity, with sluices which regulate the outflow of the stream (thus enabling the natives to block the valley on the approach of an enemy), the principal source of the Dora Baltea.

¶ For the track hence to Courmayeur by the Col de Chécouri see the Excursions from Courmayeur, below, and for that to La Thuille, 5 hrs. by the Col du Baracon, see below under Mont Favre.]

Below the embankment the mule track crosses to the l. bank of the Dora and continues for nearly an hour between the stream and the enormous moraine by which the *Miage* gl. is concealed from view. This great glacier, sadly reduced from its former proportions, no longer stretches out so as nearly to cross the valley; it is only when the path has recrossed the stream, and entered upon the pastures near the mountain inn called the *Cantine de la Visaille* (1,653 m., 5,423 ft.), below its lower extremity, that it comes fully into view.

¶ This inn is passed by the usual route from Courmayeur up Mont Blanc, Rte. B. 3, and that to the Col de Miage. Rte. G. It is the most convenient starting point for the ascent of the *Aiguille de Trélatte* (3,911 m., 12,832 ft.), which may hence be attained in  $8\frac{1}{2}$  hrs. by the S.E. ridge. This peak was first climbed, and by this route, in 1864 by Messrs. Adams-Reilly and E. Whymper.]

The portion of the Allée Blanche extending hence to Entrèves is called also *Val Veni*. The pine forests which now clothe the slopes on the S. side of the valley, and the more luxuriant vegetation, present an agreeable contrast to the wild and somewhat dreary character of the scenery throughout the long journey from Nant Borrant. Advancing down the valley, and passing opposite the Aiguille Noire de Pétéret, the beautiful Brenva glacier comes into view. It is now, owing to having greatly shrunk, not so well worth examination as of old, but is briefly noticed below among the excursions from Courmayeur. At the point where this glacier once stretched across the valley, bridging the stream, and abutting against the rocks on the S. side, the path passes by the *Chapel of Notre Dame de Berrier* (or de la Guérison), a sanctuary much frequented by the peasants of Courmayeur. The path then winds round the base of the Mont Chétif, and reaches the spot where the Dora, now grown to a river, after uniting in the two torrents that descend from the Col de la Seigne and the Col Ferret the drainage of at least twenty glaciers, escapes through the portal opened to the S. between the Mont Chétif and the Mont de la Saxe. After crossing the Dora by a wooden bridge the path reaches the *Baths of La Saxe*, near which is the Hôtel du Mont Blanc, commanding a finer view than Courmayeur, and nearer most of the objects that may be visited thence. About 1 m. from the Baths (4 hrs.²

steady walking from the Col de la Seigne) is **Courmayeur**.

This is a large village, at a height of 1,224 m., 4,016 ft., much frequented in summer by visitors from Turin, who seek here mountain air, fine scenery, or the mineral waters, several springs of which exist near the village. Some English travellers have here discovered a rival to Chamonix. Though higher by 183 m. (600 ft.) than that village the climate is considerably warmer, but if in fine weather the days are hot the nights are always cool. Several of the excursions within easy reach may rival, if they do not excel, those equally accessible from Chamonix, and for a panoramic view of the Mont Blanc range the Crammont may well dispute precedence with the Brévent; but, owing to the peculiar conformation of that range, already alluded to, it is far more difficult from this side to gain access to the upper snow region, and aspiring mountaineers will probably continue to look on Chamonix and its neighbourhood as the best headquarters for the explorer of the chain of Mont Blanc. There have been some very good guides at Courmayeur, but all the best known are now dead.

Courmayeur stands at the natural termination of the Val d'Aosta, which, between Pré St. Didier and Entrèves, is called *Val d'Entrèves*, and the only easy access to it is by the carriage road from Aosta (21 m., traversed by the diligences in 5 hrs. up and 4 hrs. down: see § 14. Rte. G). The last 2 m. from Pré St. Didier are uphill, so that a pedestrian loses no time. The immediate neighbourhood of Courmayeur, not to speak of the surrounding mountains, produces some interesting plants, such as *Sisymbrium altissimum*, *Silene vallesia*, *Scutellaria alpina*, &c.

In appreciating the advantages and drawbacks of Courmayeur as headquarters for travellers, it is right to

say that the view from the village is far more limited than from Chamonix. The summit of Mont Blanc is concealed by the comparatively insignificant Mont Chétif (the highest point is not even visible from the Crammont), while none of the higher peaks, save the Aiguille du Géant, are in sight from Courmayeur.

In enumerating the chief excursions and ascents to be made from Courmayeur it may be observed that the district around it has been far less thoroughly explored than the neighbourhood of Chamonix, so that an active mountaineer may, doubtless, find out for himself many interesting, though little known, expeditions. The 'Guida' of Signori Vaccarone and Bobba should be consulted, while Signor G. Brocherel's 'Guida Illustrata di Courmayeur e Dintorni' (1895) contains much useful information.

1. **Glacier de la Brenva.**—This beautiful glacier descends from the uppermost shelves and plateaux of Mont Blanc directly to the Allée Blanche. It is known to have advanced very much at the beginning of this century, and attained its maximum about 1818 or 1819, for in the latter year the existing chapel of N. D. de Berrier (see above) was taken down, as the ice thrust up great boulders towards the chapel, and endangered its position, so that it was rebuilt higher up in 1821. Later the ice stream retired some way, but in 1846 came forward again. It has since shrunk up very much, so that in 1878 it was estimated that it was 1,000 m. (3,281 ft.) higher up the mountain than in 1846, though since that time it is reported to have advanced some distance. (See the map in no. 45 of the 'Bollettino' of the Italian Alpine Club, and accompanying article, as well as that in no. 50 of the same periodical.) The glacier thus no longer bars the valley, giving passage to the torrent through a vault under the ice, but a walk may well be taken to its lower portion. A mule

path leads through Entrèves and along the moraine on the l. bank to a small inn ( $1\frac{1}{4}$  hr.) The glacier may be traversed diagonally towards the base of the Aiguille Noire de Pétéret, which towers, in the most defiant fashion, above the middle region of the glacier. It is possible, and well worth the trouble, to approach very near its base, and beautiful as are many of the Chamonix Aiguilles none for grandeur surpass this. On its ledges, safe from the approach of human foot, the writer (J. B.) has counted thirty-seven chamois in a single herd. The best way to complete the excursion is to traverse the huge r. moraine, which formerly crossed the valley like an enormous railway embankment, at a point higher up where it will give less trouble, and then to descend an easy slope amid clumps of pines past the *Pertuis* huts, beyond which a bridge leads over the stream to the Col de la Seigne track, some way above the Chapel of N. Dame. (4 hrs. suffice for the round from Courmayeur and back.) Good walkers are strongly recommended to mount the steep and smooth rocks on the l. bank of the glacier to a point *above* the great lower icefall, so as to enjoy the magnificent ice scenery of the upper part of the glacier.

2. *Col de Chécouri and Miage Glacier.*—This is a very fine and easy round. The Dora is crossed opposite Courmayeur, and then a mule path passes through *Dollone*, and soon mounts the l. side of the ravine by steep zigzags to a little oratory perched on a rock. The way then lies over gently sloping pastures to the Col, 1,960 m., 6,431 ft. (2 hrs.), between the Mont Chétif and the Crammont. Hence, or better still from a rock to the r., there is a noble view of Mont Blanc and the Allée Blanche. A mule path leads S.W. along the mountain slope for a long distance, and commands superb views of Mont Blanc and the great glaciers opposite, especially of that of

the Miage, which is not otherwise well seen. It reaches the valley not far from the Lac de Combal ( $2\frac{1}{2}$  hrs. from the Col). The Miage gl. may be easily crossed (it is worth while to walk some way up it, to enjoy the grand surrounding scenery), the 'Jardin du Miage,' a grassy and wooded mound between two branches of the huge glacier, may be visited, and the Col de la Seigne path joined in (20 min.) by a bridge near the Cantine de la Visaille.

3. *The Crammont.*—The best known summit of the range separating the Allée Blanche from the valley of the Little St. Bernard is the **Crammont** (corrupted from Grand Mont), 2,737 m., 8,980 ft. Its position, exactly opposite the summit of Mont Blanc, is a counterpart of that of the Brévent in the valley of Chamonix. The view of Mont Blanc (though the highest tip is not seen) is at least as fine, and in addition the panorama includes the chief peaks of the Pennine and Graian Alps. The usual way up it requires a considerable détour, and is long ( $4\frac{1}{2}$ –5 hrs.), but not very fatiguing, though it is well to start very early, so as to avoid the heat of the sun during the ascent, and to gain time for a thorough enjoyment of the scenery. Mules may be taken to within 20 min. of the top, and a guide is not required. It is necessary to commence this expedition in a manner always distasteful to the mountaineer, by descending the Aosta high road as far as Pré St. Didier (2 m.). The Little St. Bernard road (§ 14. Rte. G) is then followed for  $\frac{1}{2}$  hr. to the entrance of the first tunnel, where the mule path strikes off to the r., and mounts gradually for 3 hrs., passing several chalets. On reaching the limit of the larch, which is here at 6,800 ft., the ascent lies chiefly up rather steep, parched slopes of grass, not very troublesome to mount, but requiring caution on the descent. Mules halt at the base of the last steep grassy slope. 4 hrs. suffice from



Pré St. Didier to attain the summit, consisting of slightly inclined slabs of rock, which on the side facing Mont Blanc project a little beyond the edge of the precipitous face of the mountain. Close to the summit is the *Saussure Club Hut*, built by the Aostan Section of the Italian Alpine Club, and named in honour of the savant who, by his two visits to the peak (1774 and 1778), made known its admirable position as a panoramic point of the first order. The view has been deservedly celebrated by all travellers who have been fortunate enough to reach the summit in favourable weather. If it be allowable to note a defect in the presence of a scene so magnificent, it may be said that the Mont Chétif and a portion of the lower portion of the Crammont itself prevent the eye from reaching the bottom of the Allée Blanche, and thus, though the height is considerably greater than that of the Brévent or of the Mont Chétif, the range of Mont Blanc is not here seen to spring out of a valley relatively so deep or so well defined.

A traveller proposing to take the Crammont on the way over the Little St. Bernard should on the way down bear r. from the *Chanton* huts, above the forest, by a good mule path, which attains the high road at the village of *Elevaz*, beyond the second tunnel.

There is a direct way up the peak from Courmayeur, for pedestrians only, and taking 4 hrs. up. It passes by the Vittoria spring, and the huts of *Praleuy* and of *Arp* (lower and higher), whence zigzags bring the climber to the base of the steep rocky N. face of the Crammont; this is scaled by an ascent of an hour or less, there being a little path constructed by the Courmayeur guides.

4. *The Mont Chétif*.—This point, also called *Mont Dollone*, and *Pain de Sucre* (2,343 m., 7,687 ft.), is the dome-shaped, isolated eminence which is conspicuous from Courmayeur, because it shuts out the view

of the main mass of Mont Blanc. The Col de Chécouri mule path (2. above) is followed nearly to that pass. Thence less than an hour (3 hrs. in all from Courmayeur) suffices to gain the summit, by keeping to the r., passing below some chalets, and going up grass and stones. The view is noble, and is nearly equal to that from the Crammont, while the summit is far easier of access.

5. *The Mont de la Saxe*.—This point rises N.E. of Courmayeur, and commands a view of the Grandes Jorasses, and its neighbours, which is even superior to that from the Crammont. It is a long ridge, the highest undulation in which is 2,358 m. (7,737 ft.) A mule path leads to the summit in 2½ hrs., ascending by the Col Ferret path to some chalets, and then mounting by the N. side past more chalets. Pedestrians save time by going a little way up the Chapy glen, and then mounting the S. slope of the mountain. By following the ridge in a N.E. direction the point called *Testa Bernarda* (2,534 m., 8,314 ft.) may be attained in an hour, and an even nobler view obtained.

6. *The Mont Cormet*.—This summit (2,476 m., 8,124 ft.) lies E. of Courmayeur, and is in position the counterpart of the Crammont. It may be reached in 3 hrs. by its W. slope, mules going as far as the *Tirecorne* chalets, beyond which are easy grass and rock slopes. It is easy to descend to Morgex, on the S.E.

7. *Col du Géant*.—This pass leads over to Chamonix, and has been already described in Rte. D. Those who do not intend crossing it may make an extremely interesting excursion to the summit (4½ hrs.), returning in the afternoon. Even if the *Mont Fréty* inn (2 hrs.) only is visited the excursion is worth making.

Among the *easier ascents* which may be made from Courmayeur are those of the *Grande Rochère* (3,326 m.,

10,913 ft.) and of the *Mont Favre* (3,259 m., 10,693 ft.) The former is the highest summit in the tangled ranges between Courmayeur and the Great St. Bernard, and may be climbed on the way from one of these places to the other (§ 18. Rte. B). It is reached from Courmayeur (? 8 hrs.) either by the Cols de Chapy and de Chambave, or by Morgex and the long Planavalle glen, and commands a most magnificent view. The *Mont Favre* (also called *Berrier Blanc*) is attained by way of the Lac de Combal and the *Col du Baracon* (from remains of old redoubts on the summit), or *du Berrier Blanc* (2,744 m., 9,003 ft.), on its N.W.—there is now a new mule path from Courmayeur to this pass, which traverses the Cols de l'Arp and de Youla—whence it is necessary to descend  $\frac{1}{4}$  hr. before attacking the mountain by its W. side (5 hrs. up from the Lac de Combal, or 8 hrs. from Courmayeur). The summit can be taken on the way to the Little St. Bernard, as the track from the Col descends direct to La Thuille. The local name is Berrier Blanc; the other was given to the point after it had been ascended by the celebrated geologist, M. Alphonse Favre, of Geneva. Possibly since it has been covered with a network of ropes the *Aiguille du Géant* (4,014 m., 13,170 ft.) may be counted among the easier ascents from Courmayeur, which it dominates (see Rte. C). The *Tour Ronde* (3,792 m., 12,441 ft.) may be also climbed from the Col du Géant (3 hrs.) by the easy rocks of its E. or N.E. ridges. From the peak it is easy to go down to the *Col de la Tour Ronde* (3,645 m., 11,959 ft.), on the S.W., and to descend thence to Courmayeur by a branch of the Brenva gl., the ice scenery being magnificent, but the way not always easy. For the ascent of the *Aiguille de Trélatête* (3,911 m., 12,832 ft.), from the Cantine de la Visaille, see above in the description of the Col

de la Seigne, and for that of the *Mont Dolent*, 3,823 m., 12,543 ft. (strongly recommended), from the Pré de Bar chalets or the Triolet Club hut, see Rtes. K and L. The routes from Courmayeur up Mont Blanc are described in Rte. B. 3, and the cross country tracks to the Great St. Bernard or to Bourg St. Pierre in § 18. Rtes. B and C.

Brief mention only can here be made of the principal **very difficult** and dangerous **climbs** in the neighbourhood of Courmayeur, the reader being referred for full details to M. Kurz's Guidebook, already cited in the Introduction to this Section. The *Grandes Jorasses* (4,205 m., 13,797 ft.), on the N.E. of Courmayeur, may be ascended in 6 hrs. from the **Club hut**, itself 5 hrs. from Courmayeur. A great couloir must be crossed on the way, in which, if the snow is in bad condition, there is considerable danger of avalanches. The W. and lower (by 9 m., 30 ft.) point was first attained in 1865 by Mr. E. Whymper; the E. and higher, first by Mr. Horace Walker in 1868. The remarkable needle (mentioned above) called the *Aiguille Noire de Pétérét* (3,780 m., 12,402 ft.), on the N.W. of Courmayeur, can be reached in 5 hrs. from a bivouac at a spot called the 'Fauteuil des Allemands' (4 hrs. from Courmayeur), but it is a difficult rock climb, and a couloir must be passed in which stones frequently fall, and cannot possibly be avoided. The first ascent was made in 1877 by Lord Wentworth (now the Earl of Lovelace). N.W. of the last-named peak, and on the same great ridge, is the *Aiguille Blanche de Pétérét* (4,109 m., 13,482 ft.) It is best gained from the depression on the N.W., which is on Mr. Eccles' route up Mont Blanc (see Rte. B. 3), and is only to be reached by a very long and difficult round from Courmayeur by the Brouillard and Fresnay glaciers. The summit was first attained (and by this route) in 1885 by Mr. (now Sir) H. Seymour King.

In 1893 Dr. Güssfeldt effected an even more difficult and dangerous route up the peak, by way of its precipitous E. face above the Brenva glacier, an expedition which is not likely to be often repeated, and which certainly cannot be recommended.

### ROUTE F.

#### CONTAMINES TO COURMAYEUR BY THE TRÉLATÊTE GLACIER.

The great Glacier of *Trélatête*, at the S.W. end of the chain of Mont Blanc, balances that of Trient, at the N. extremity of the same range. The two glaciers, therefore, have this point in common, that it is possible to traverse them from N. to S., while a double passage across the two ridges that bound each enables a traveller to make what is a short cut in point of distance, and thus avoid a long circuit round their base. Thus the Col de Béranger and the Col du Mont Tondu in the case of the *Trélatête* gl. answer to the Col du Tour, and either the Col du Trient or the Col d'Orny (for the Orny gl. is but an outflow of the Trient plateau) in the case of the Trient gl. But the *Trélatête* gl. has been much less visited than its N. rival. The most convenient spot for exploring this glacier is the little inn called the *Pavillon de Trélatête* (1,976 m., 6,483 ft.), on the N. bank of the gl., 2 hrs. distant by mule path from Contamines. (It may also be gained from Contamines by way of the Frasse gl. and the *Col de Béranger* (3,369 m., 11,054 ft.) to the *Trélatête* glacier, this route having the advantage that the *Dôme de Miage* may be climbed on the way to or from Contamines.)

The ascents most to be recom-

mended round the *Trélatête* gl. are those of the *Aiguille de Béranger* (3,431 m., 11,257 ft.) and of the *Dôme de Miage* (3,688 m., 12,100 ft.) The former summit may be reached, even by ladies accustomed to walking, in 4½ hrs. from the *Pavillon* by the gentle snow slopes of its S. face. The view is, however, even finer from the higher *Dôme de Miage*, best gained in 1 hr. from the Col de Béranger by its S. ridge; if coming from the *Pavillon* it is necessary from the *Trélatête* gl. to mount a snowy gully which leads to that ridge, ¼ hr. above the depression of the Col; but if approaching the Col by the Frasse gl. it is best to climb up from that gl. by a rock ridge which leads almost direct to the summit. The highest summit of the *Aiguille de Trélatête* (3,911 m., 12,832 ft.) is most conveniently attacked from the side of the Allée Blanche, but the *Tête Carrée* (3,752 m., 12,310 ft.) may be ascended from the *Pavillon* in 6 hrs. by the *Trélatête* gl. and the snow arête leading up from the Col about to be mentioned. The view thence is superb. Part of it may be enjoyed by mounting (no difficulty) the entire length of the *Trélatête* gl. to the pass at its head, called the *Col (dit) Infranchissable*, 3,345 m., 10,975 ft. (4 hrs.) (hence up the *Tête Carrée* in 2 hrs.), which commands a wonderful view of the W. face of Mont Blanc, streaming with glaciers, and seen above the deep hollow of the Italian *Miage* gl. (The descent to that gl. from the Col lies over very rotten rocks, exposed to falling stones, and passes by some abandoned miners' huts, but it is believed that the descent of this side of the pass has never yet been effected.)

The principal use (if it may be so called) of the *Trélatête* gl. is to afford a short cut from Contamines to the Col de la Seigne. This would naturally lie over the ridge which bounds the *Trélatête* gl. on the E. and S. But the two most direct



passes, the *Cols de Trélatête* and de *l'Allée Blanche* (both at the S. foot of the Aiguille de Trélatête), are only accessible on either side by such torn and difficult glaciers, or so steep a slope of ice, that, though experienced mountaineers may care to cross them, they are most certainly not short cuts in point of time. The *Col des Glaciers* (3,098 m., 10,165 ft.), S.W. of the *Aiguille des Glaciers* (3,834 m., 12,579 ft.), is easier, the ascent from the Trélatête gl. lying up the second tributary gl. to the pass ( $3\frac{3}{4}$  hrs.), and the descent to Les Mottets, skirting the rocky ridge between the two gls. on the other side, taking only  $1\frac{1}{2}$  hr. But the real short cut is over the **Col du Mont Tondu** (2,895 m., 9,498 ft.), an easy glacier pass lying just to the N.E. of the *Mont Tondu* (3,196 m., 10,486 ft.) It is said that by the Col du Mont Tondu no less than 5 hrs. may be saved between Contamines and the Col de la Seigne, but this seems an exaggeration. From the Pavillon the track along the r. bank of the Trélatête gl. is followed till an iron bar fastened to a rock face enables the traveller to descend to the lateral moraine, which is followed, and later the gl. itself, till above the icefall. Hence the way turns to the S., and an easy small glacier leads to the pass ( $2\frac{1}{2}$  hrs. from the Pavillon). The view is fine, but may be much extended by climbing either the *Pointe de la Lanchette* (3,088 m., 10,132 ft.), to the N.E. of the pass, or, better still, the *Mont Tondu*, to its S.W. (a good hour.) The Graian Alps from the Grivola to the Grande Casse are admirably seen from either point, while below are the gently inclined slopes of the great Trélatête gl., at whose head, and seen through the opening of the Col (dit) Infranchissable, rises the mass of Mont Blanc. The spectator can hardly realise that between that Col and the W. face of Mont Blanc there intervenes the deep basin of the Italian Miage gl., as the névé of the Trélatête gl. seems, by an effect of

perspective, to unite with that of the glaciers on the W. side of Mont Blanc. A steep face of rocks (in the reverse direction make for a point to the l. of a small rocky knob on the ridge) leads down from the Col du Mont Tondu to the *Lanchette* gl. The descent to Mottets ( $1\frac{1}{2}$  hr.) is easy, but if the Col de la Seigne be the point aimed at it is possible (though very rough) to bear away to the l. and to traverse a bit of the Gl. des Glaciers and many ravines before the Col de la Seigne is gained in  $2\frac{3}{4}$  hrs. from the Col du Mont Tondu.

#### ROUTE G.

##### CHAMONIX TO COURMAYEUR BY THE MIAGE GLACIER.

The only considerable breach in the range of Mont Blanc is that marked by the Col de Miage. It is true that the latest measurements make the Col du Géant about 17 ft. lower than the Col de Miage, but the two glaciers, both named **Glacier de Miage**, which descend N. and S. from the last-named pass, lie in hollows that are cut deeper and farther into the mass than any others. The ridge over which the pass lies has been truly likened to a dyke or causeway connecting the Aiguille de Bionnassay with the Dôme de Miage, and it is so steep on either side that two points, not quite 2 miles apart in a straight line, are separated by several hours of laborious climbing.

The **Col de Miage** was first visited by strangers with a view to the discovery of a new route to the summit of Mont Blanc rather than as a way from Chamonix to Courmayeur. But it is occasionally used as a pass by active mountaineers, while the usual route from Courmayeur up Mont Blanc traverses the Italian Miage gl.,

though it does not pass by the Col itself, as the old explorers expected. The earliest known passage of the Col was by some chamois hunters, about 1798, one of whom perished in a crevasse at the N. base of the Col. The first foreign traveller was Mr. E. T. Coleman, who has given an account of his passage in 1858 in his beautiful work 'Scenes from the Snow-Fields.' The difficulties on the S. side are perhaps the greater, though they are not really serious. Yet none of the recognised precautions and appliances of glacier-travelling should be omitted in whichever direction the pass is taken. If coming from the Chamonix side it is best to sleep at the Miage chalets; on the Courmayeur side the little inn called Cantine de la Visaille, near the foot of the Italian Miage gl., is the best resting place for a traveller.

The **Miage huts** are not far from the foot of the considerable French or N. Miage gl. The foot of the Bionnassay gl. may be reached from Chamonix in  $4\frac{1}{2}$  hrs. by the Col de Voza or the Pavillon Bellevue. The traveller must then cross the *Col de Tricot* (2,133 m., 6,998 ft.)—small *Inn*—over the long N.W. spur of the *Aiguille de Bionnassay*, and so go direct from the foot of the Bionnassay glacier to the Miage chalets ( $2\frac{1}{2}$  hrs.) These huts may also be gained from St. Gervais in 2 hrs., or from Contamines in  $1\frac{1}{2}$ –2 hrs. by way of the Miage glen. The ascent along the grass slopes and rock steps to the moraine on the r. bank of the Miage gl., and then along the moraine itself, is rather long and fatiguing. The upper level of the gl. is reached in about  $2\frac{1}{2}$  hrs. from the chalets, and the ridge to be traversed then comes into full view. Its appearance is like that of a gigantic dyke, 2,000 ft. in height, rising pretty steeply from the gently sloping névé of the glacier, and defended (as usual) by a bergschrund, which may sometimes offer difficulties. In the centre of the wall, just

below the lowest depression of the Col, a steep couloir extends from top to bottom of the slope. This couloir is the channel through which masses of snow and detached fragments of rock shoot to the base of the wall. It must therefore be carefully avoided. Besides the couloir, however, three rock ridges are seen to descend the wall leading up to the Col. The ascent is made in 2 hrs. by the easy rocks of the central one of these three ridges. The summit of the pass (3,376 m., 11,077 ft.) is but a few yards in width, and the view is chiefly interesting as the Col is one of the nearest points from which to study the grand W. face of Mont Blanc.

From the Col many attempts were made in 1856 and following years to attain the summit of Mont Blanc. But it was only many years later that even a part of this plan, the ascent of the Dôme du Gouiter, was achieved. In 1864 Messrs. Adams-Reilly and Birkbeck from the pass skirted the S.E. flank of the *Aiguille de Bionnassay* and descended on to the plateau above the great icefall of the Italian Bionnassay gl., whence they climbed up to the Dôme du Gouiter, attained in  $5\frac{1}{2}$  hrs. from the Col. In 1888 Miss Richardson took a much bolder and more direct route, gaining from the same plateau the S. arête of the *Aiguille de Bionnassay* (4,066 m., 13,341 ft.) at a point about 20 min. from the Col de Miage, and thenceforth following the *crest* of the ridge over the *Aiguille de Bionnassay* to the Dôme. This is perhaps the best route up the *Aiguille*, the E. ridge of which is extremely sharp and narrow, being a mere knife edge of ice.]

The S. or Italian Miage gl. is altogether on a grander scale than that on the N. side. It receives three considerable tributaries, flowing from the S.W. slopes of Mont Blanc. Of these the most westerly is the *Italian Bionnassay gl.*, descending from the ridge connecting the *Aiguille de Bionnassay* with the Dôme du Gouiter (4,331 m., 14,210 ft.), and up it leads

the now usual route to Mont Blanc from Courmayeur (see Rte. B. 3. v.) The central of the three is the *Dôme gl.*, and by it Mr. Buxton and his companions in 1865 effected an exciting descent from the *Dôme*, which has been vividly described in the 'Alpine Journal,' while in 1868 Mr. F. A. G. Brown ascended Mont Blanc by this way. The most easterly of the three glaciers is the *Mont Blanc gl.*, by which in 1872 Mr. T. S. Kennedy made a route to Mont Blanc, which offers no great difficulties, but is much exposed to falling stones. Each of these glaciers descends in a long and very steep icefall to the main stream of the Italian Miage gl., that of the most easterly being the most formidable.

To descend from the Col de Miage the traveller must bear well to the r., so as to gain (10 min.) the rocks on the r. bank of the small gl. descending from the Col. These are descended (many crystals *en route*) without serious difficulty in about  $\frac{3}{4}$  hr. to the surface level of the Miage gl. The view from below of the grand masses that enclose the small gl., and of the great horseshoe icefall by the side of which the descent has been effected, is very fine. The Miage glacier is easy to follow to the great moraine on the r. bank above the Lac de Combal ( $2\frac{1}{4}$  hrs.), whence a path leads in  $\frac{3}{4}$  hr. to the *Cantine de la Visaille* (1,653 m., 5,423 ft.), on the mule path coming from the Col de la Seigne. This is  $1\frac{1}{2}$  hr. from Courmayeur, which is thus gained in  $5\frac{1}{2}$  hrs. from the pass, or 10 hrs. from the Miage chalets. Rather less time is required for the passage of this Col if it be taken from the Courmayeur side.

## ROUTE H.

## CHAMONIX TO MARTIGNY.

A large proportion of the strangers who visit Chamonix either go or return by way of Martigny, in the Rhône valley, and have a choice of three routes. That first described is open only to pedestrians or riders, and the way is steep, but the views are finer than on the other routes. These are both traversed by carriage roads, but the Tête Noire road is passable for four-wheeled carriages, so that it takes most of the traffic, though the Salvan route is shorter, easier, and more picturesque. A good walker can (as is indicated below) combine bits of these routes in one day's journey.

1. *By the Col de Balme* (carriage road to Argentière, and from Trient, otherwise mule path; 7-8 hrs.)—It is better to take this route in this direction, as Chamonix is nearly 2,000 ft. higher than Martigny. In fine weather a guide is unnecessary, and, except on a clear day, the other routes are much to be preferred.

The road up the valley of Chamonix runs along the r. bank of the *Arve* till it crosses to the l. bank at *Les Praz*, whence branches off the path to the Flégère (Rte. A. Excursion 10). It then traverses a fine forest wherein stands the hamlet of *Les Tines* (hence to the Chapeau, Rte. A. Excursion 3), and mounts through a defile, shortly after issuing from which the Arve is again crossed, and soon *Argentière* (1,250 m., 4,101 ft.) is gained ( $1\frac{3}{4}$  hr.) This village lies near the lower end of the great glacier of the same name, the vast extent of which, however, cannot be guessed when it is merely seen from below.

☞ The Lognan inn, on its l. bank, may be reached by a bridle path in 2 hrs., and the excursion extended for 3 hrs. to the 'Jardin d'Argentière,' a worthy rival of the more famous spot



in the Talèfre gl. For the passes from the Argentière gl. see Rte. L.]

Above Argentière the valley is bare, the forests having been gradually destroyed by storms and avalanches, and perhaps still more by the carelessness of the inhabitants; but cultivation (as well as the char road, from which soon branches off that to 2. and 3.) extends as far as the hamlet of *Le Tour* ( $\frac{1}{2}$  hr.), near the termination of the Tour gl., the most northerly of the great glaciers flowing into the valley of Chamonix. (For the passes thence to Orsières and Trient see Rte. M.) Hence the ascent to the Col, passing the chalets of *Charamillon*, is continuous, but nowhere steep, lying up grass slopes, partly over lias, partly over the débris of a black, friable slate, a member of the Carboniferous series, which is more extensively developed in the parallel valley of the Eau Noire and of the Trient. The ridge which closes the valley of Chamonix on the N.E. is a prolongation of that separating the Tour and Trient glaciers. N.W. of the Col de Balme it rises into a peak of crumbling rock, the *Croix de Fer*, 2,344 m., 7,691 ft. (easily accessible in  $\frac{1}{2}$  hr. from the pass), whereon Herr Escher, of Zürich, was dashed to pieces by a fall in 1791, when attempting the ascent. On the summit of the **Col de Balme**, 2,201 m., 7,221 ft. (2 hrs. from Argentière), there is a stone marking the boundary between France and Switzerland, and close by a mountain inn. The view hence is justly celebrated, and in fine weather this route should always be preferred by those who approach Chamonix from the Vallais, as the effect of the grand range of Mont Blanc, seen from its nearest summit, the Aiguille du Chardonnet, to that of the Aiguille du Goûter, with the opposite range of the Aiguilles Rouges, is enhanced by the charm of surprise when it is suddenly unrolled before the eyes of the traveller who has come up from the narrow gorge of the Trient. To the N.E. over the Forclaz the range

of the Bernese Alps, between the Diablerets and the Jungfrau, forms a distinct portion of the panorama. It may be extended by ascending the Croix de Fer or the lower *Rolletta* (each  $\frac{1}{2}$  hr.) Some travellers sleep at the inn here, for the sake of seeing the sunrise, but the sunset effect is preferable, and it is quite possible to reach Chamonix the same night. (For the Col du Tour see Rte. M.)

[A pedestrian who does not fear to lengthen his day's walk may descend in 2 hrs. from the Col by a path past several groups of chalets, among which are those of *Jeurs*, to the Tête Noire inn, visit the *Gorges Mystérieuses*, and in  $1\frac{3}{4}$  hr. from the inn gain Finhaut, thus combining on the way to Martigny the most interesting parts of all three routes.]

The descent by the mule track from the Col towards the village of Trient is much steeper than the ascent from Argentière. The chalets of *Herbagères* (10 min. below the Col) command a fine view of the Trient gl., which closes the series of glaciers that drain the N.W. flank of the Mont Blanc range. The forest through which the steepest part of the descent lies by many zigzags has been thinned, and partly carried away by avalanches. At its base are some meadows ( $\frac{3}{4}$  hr.), through which flows the torrent from the Trient gl. The natural course hence to the Rhône valley would be to follow that torrent to its junction with the great river, and this in truth is the most interesting route (see 3, below); the shorter way crosses the low ridge E. of this plain and follows a nearly direct line down a lateral glen of the Dranse. In these meadows the l.-hand track leads to the village of Trient, but a pedestrian bound for Martigny direct should cross the torrent and ascend a steep slope, so as to join, at the corner of the longest zigzag, the road coming from the Tête Noire. In this way the **Col de la Forelaz** (1,520 m., 4,987 ft.) is attained in  $\frac{3}{4}$  hr. from the plain.

[Hence an interesting excursion may be made along the ice-tramway line to the foot of the Trient gl. ( $1\frac{1}{4}$  hr.), and then a path up the r. bank of the gl. taken; the gl. may be crossed  $\frac{1}{2}$  hr. above its end, and the return effected by the opposite bank—a 4 hrs.' round. It is possible to go up the r. bank of that gl. to the Col du Trient, and so in  $5\frac{1}{2}$  hrs. from the Forclaz to reach the Orny Club hut, Rte. M. From the Forclaz the beautiful view-point of the *Arpille* (2,082 m., 6,831 ft.), on the N., may be reached in  $1\frac{1}{2}$  hr., and the descent made direct thence in 3 hrs. to Martigny, the Tête Noire, Salvan, or Vernayaz. For the beautiful path from the Forclaz to the lake of Champex by Bovine see Rte. I.]

About  $\frac{1}{4}$  hr. below the pass there opens out a vista of vast extent along the course of the Rhône from Martigny to beyond Sierre, and even to the Balmhorn and Bietschhorn ranges. The uniform slope of the mountains on either side makes this and other views of the valley of the Rhône less interesting than they would otherwise be. The descent lies through a pleasant valley, tolerably well planted, and the change of climate is very marked on reaching the region of vines and chestnuts through which the road winds in many zigzags, joining that from the Great St. Bernard at *Le Brocard*,  $2\frac{1}{2}$  m. from Martigny-Ville. But pedestrians may descend direct ( $1\frac{1}{4}$  hr. from the Forclaz) to *Martigny-Combe*. The road passes through *Martigny-Bourg* and under an avenue of fine plane trees to *Martigny-Ville*, 1 mile farther on ( $1\frac{3}{4}$  hr. from the Forclaz to the railway station).

2. *By the Tête Noire* (good char road;  $7\frac{1}{2}$ –8 hrs.)—A line drawn from Servoz to Vernayaz, in the Rhône valley, through the valley of the Diosaz and that of Vallorcine marks a depression parallel to the valley of Chamonix, from which it is separated by the range of the Aiguilles Rouges and the Brévent. N.

of Argentière this barrier subsides to a low ridge, traversed by a road, which turns off close to that village, crosses the Arve, and ascends over rough ground, past the hamlet of *Trélechamp*, to the *Col des Montets*, 1,445 m., 4,741 ft. ( $\frac{3}{4}$  hr.) After a slight descent the valley of *Vallorcine*, sometimes called the *Val de Bérard*, opens on the l. near the hamlet of *La Poyaz*, and allows a glimpse of the snowy summit of the Buet.

[A fine waterfall, the *Cascade de Bérard*, may be reached in  $\frac{1}{2}$  hr. by a mule path. It lies on the way through the Val de Bérard, by which the ascent of the Buet is commonly made, and better deserves a visit than many of greater celebrity. The Eau Noire here breaks through a mass of huge granite blocks piled together in the wildest confusion, and springs over a ledge 50 ft. high into a dark basin. For the way to Sixt over the Buet see § 17. Rte. E, and for that to Finhaut and Salvan § 17. Rtes. F and I.]

The Arve, and also the Eau Noire, are crossed before an easy descent leads ( $1\frac{1}{2}$  hr. from Argentière) to the hamlet of *Vallorcine* (1,250 m., 4,101 ft.), the last village in France. A massive stone bastion has been raised to protect the village church from the destructive force of the avalanches, to which the village is much exposed. A little farther the road crosses to the r. bank of the Eau Noire, and soon after reaches the *Hôtel de la Barberine* ( $\frac{1}{2}$  hr.), near the junction of the Barberine torrent with the main stream.

[Another fine waterfall, that of the *Barberine*, much higher, but less singular than that of Bérard, lies about  $\frac{1}{2}$  hr. off. For the passes through the Barberine glen to Sixt, Champéry, Finhaut, and Salvan see § 17. Rtes. F and I.]

The defile of the Eau Noire through which the road now runs has been compared to the Via Mala, but is perhaps more beautiful in its details, though on a less grand scale. It lies

between the *Perron* and the *Beloiseau*, above the l. bank, and the N. spurs of the Croix de Fer range, above the r. bank. A bridge over the Eau Noire marks the Swiss frontier (just across which is the *Hôtel Suisse du Chatelard*), and  $\frac{1}{4}$  hr. from the Barberine inn the bifurcation of the Trient and Salvan roads is reached at the burnt *H. Royal du Châtelard*. That to Trient crosses to the r. bank of the Eau Noire, and passes by a tunnel, called *Roche Percée*, through a projecting buttress of rock, before gaining ( $\frac{1}{2}$  hr.) the *Hôtel de la Tête Noire*, which commands a very beautiful view. (Near here there are the *Gorges Mystérieuses* of the Trient, which are worth a détour of 20 min., while from them a path leads up in 1 hr. to Finhaut, high above the other bank of that stream.) The junction of the Eau Noire with the Trient is not seen by this route, as the road turns out of the defile, and, entering the valley of Trient, is carried nearly at a level through a pine forest at a considerable height above the stream. The village of *Trient* is reached after crossing the Trient stream in  $\frac{3}{4}$  hr., and thence some zigzags, on the longest of which the Col de Balme route falls in, lead up to the *Col de la Forclaz* ( $\frac{1}{2}$  hr.) The way thence to Martigny has been described above.

3. *By Salvan* (char road; 8 hrs.)—The glen of the *Trient*, which descends from the Tête Noire to Vernayaz, near Martigny, offers a more interesting route than that by the Tête Noire. As the torrent flows in a deep ravine it is impossible to follow it, so that the road runs high above its l. bank, along very picturesque and well-wooded slopes on which stand many villages.

The road leaves that to the Tête Noire at the burnt *Châtelard* hôtel (4 hrs. from Chamonix), and mounts in zigzags to the terrace above the torrent. It then turns to the N.E., and after a descent attains the prettily situated village of *Finhaut*

(locally called 'les Fins Hauts'), 1,237 m., 4,059 ft. ( $1\frac{3}{4}$  hr.), whence there is a fine view of the Trient gl., of the Aiguilles Rouges, etc.

[*Finhaut* is coming into fashion as a health resort, and many pleasant excursions not involving the use of the rope may be made from it as a centre. The ascents most to be recommended are those of the *Six Jeur*, 2,056 m., 6,746 ft.,  $2\frac{1}{2}$  hrs., of the *Beloiseau* (2,638 m., 8,655 ft.), 4 hrs., and of the *Fontanabran* (2,697 m., 8,849 ft.), 5 hrs. For the way to Sixt or Champéry by the Col de la Gueula and the Barberine glen, see § 17. Rtes. F and I.]

A short ascent from *Finhaut* leads to a point whence Mont Blanc is seen over the Col des Montets. A steep descent through a forest (8 zigzags) then brings the traveller to the hamlet of *Triquent*, 994 m., 3,261 ft. ( $\frac{3}{4}$  hr.) (Hence the romantic *gorges of the Triège* may be visited, wooden bridges giving access to the ravine, in which are pretty cascades.) Very soon after the road crosses by a lofty bridge the *Triège* torrent, coming down from the *Emaney* glen. The scenery here has been compared to that of the *Pantenbrücke*, in the *Linththal* (Glarus). The road now runs nearly at a level to *Salvan*, 925 m., 3,035 ft. ( $\frac{1}{2}$  hr.) This has of recent years become a much-visited spot, especially by families from French-speaking Switzerland. It is charmingly situated on a green terrace.

[Many excursions can also be made from here. It is a pleasant walk of 2 hrs. to the *Creuse chalets*, on the W., whence there is a fine view of Mont Blanc. The great excursion is that to the *Salanfe hollow*, at the foot of the *Dent du Midi*. This may be reached from *Salvan* by a path up the *Sallanche gorge* ( $2\frac{1}{2}$  hrs.), but it is much more interesting to go by way of the *Col d'Emaney* (2,427 m., 7,963 ft., 4 hrs.), from which the *Luisin* (2,786 m., 9,141 ft.) is accessible in  $\frac{3}{4}$  hr., the view thence being



very fine. The highest point of the *Dent du Midi* (3,260 m., 10,696 ft.) is best reached in 4 hrs. from Salanfe, where there is a small inn in summer, and many other climbs may be made from the same centre. See § 17. Rte. H. Full details will be found in the excellent work by Monsieur Wagnon, 'Autour de Salvan,' 2nd edition, 1895.]

Soon after quitting Salvan the road reaches the edge of a steep descent, which is effected through a small valley, under the shade of chestnut and walnut trees, by a series of 43 bold though short zigzags. The Rhône valley is attained at the mouth of the gorges of the Trient, where is the village of *Vernayaz* ( $\frac{3}{4}$  hr.), on the main railway line from St. Maurice to Brieg (§ 21. Rte. A), 3 m. from Martigny.

#### ROUTE I.

##### CHAMONIX OR MARTIGNY TO ORSIÈRES BY CHAMPEX.

At the extreme N.E. end of the Mont Blanc chain rises the *Catogne* (2,599 m., 8,527 ft., a summit of surprising boldness, though of moderate height. It is separated from the main mass of the Mont Blanc range by a hollow in which lies the exquisite **Lake of ChampeX**. This may be easily taken on the way to Orsières either by a traveller who has reached the Forclaz from Chamonix, but does not wish to descend to Martigny, or by one who desires to avoid most of the dusty high road from Martigny to Orsières. The route is a very interesting and agreeable one, and of late years the neighbourhood of the Lake (around which are several inns) has become a favourite resort of families from French-speaking Switzerland.

(a) If coming from *Chamonix*, the traveller should take a path from the Forclaz (see last Rte.), which starts close to the little inn, and ascends gradually, amid pastures and pine trees, to a point below the *Pointe de Bovine*, 2,174 m., 7,133 ft. ( $1\frac{1}{4}$  hr.), between the chalets of *La Giète* and those of *Bovine*. Hence there is a most magnificent view, which reaches to the E. end of the Lake of Geneva, and includes many of the Bernese Alps, the Diablerets alone being hidden in the long line between the Buet and the Finsteraarhorn. The Grand Combin group stands out splendidly on the r. The Signal may be reached in a few minutes, but the view is not so fine thence as from the little col before Bovine, on issuing from the forest. Beyond Bovine the path winds round a corner of the mountain, bearing to the r., and then descends by steep zigzags to cross the *Durnant* torrent high up by a plank bridge, and later the torrent from the Lake of ChampeX, in order to gain the saw mill of *Mariotty* ( $1\frac{1}{2}$  hr. from Bovine), where this path joins that described under b.

(b) A traveller coming from *Martigny* must follow the high road towards the Great St. Bernard (§ 18. Rte. A) as far as the hamlet of *Les Valettes* (about 4 m.), a little below Bovernier. Hence he can take the zigzag char road which mounts in  $\frac{1}{4}$  hr. to the entrance to the fine Gorges of the Durnant (see § 18. Rte. A), and then either go through them by a foot path, or mount high above the r. bank of the Durnant by a mule path, which is later joined by the path from the gorges ( $\frac{1}{2}$ – $\frac{3}{4}$  hr.) The mule path passes through a fine forest of larches, and makes two successive steep ascents before reaching *Mariotty* ( $1\frac{1}{4}$  hr.)

It then passes along the edge of a forest, amid beautiful scenery, crosses the low wooded ridge which holds in the lake, and attains its E. shore ( $\frac{3}{4}$ –1 hr.).

This secluded lake (1,470 m., 4,823 ft.), fringed with pine forest, and backed by the noble group of the Grand Combin and its neighbours, is one of the most exquisite spots in the Alps. But the inns and bustle in the height of summer rather spoil the scene for lovers of nature.

[There are many pretty walks around this charming place, such as that to the *Arpette* glen. The *Catogne* (2,599 m., 8,527 ft.) itself can be climbed in 3 hrs. by the great couloir of débris in its S.W. flank. A favourite excursion is to go in 3¼ hrs. by the *Col de la Breya* (2,409 m., 7,904 ft.) to the Orny Club hut (see Rte. M) to sleep. The next day a pleasant round of 9 hrs. back to Champex may be made thence by crossing the *Col des Plines*, then ascending the *Portalet* (3,345 m., 10,975 ft.), and descending W. of the Pointe des Plines to the Saleinaz gl. This is crossed to its r. bank, and the return made past the Saleinaz Club hut to Praz de Fort, taking a little path which mounts from the high road beyond Ville d'Issert and so leads home.]

The descent from the lake is rapid, and the traveller gains the road in the Swiss Ferret valley (Rte. K), a few minutes before entering *Orsières* (a short hour from the lake).

### ROUTE K.

#### ORSIÈRES TO COURMAYEUR BY THE COL FERRET.

Char road from Orsières to the Swiss Ferret chalets, and from Feraché to Courmayeur (its completion is projected); mule path over the Col. 8½-9 hrs.

The line of depression extending parallel to the crystalline range of Mont Blanc from the Col de la Seigne to Orsières is partially interrupted by

a ridge which connects the Mont Dolent with the minor range of schistose carboniferous strata stretching through the Grand Golliaz to the Grande Rochère. Over this ridge lies the *Col Ferret* (or Grand Ferret), passable for mules, and frequented by those who make the tour of Mont Blanc, and who wish to take the most direct route from Martigny to Courmayeur, though, since the completion of the carriage road on the Swiss side of the Great St. Bernard, that pass is probably now the shortest route between the two places named.

[Two other passes cross the same ridge further N.W. and S.E. The *Petit Ferret* (2,489 m., 8,166 ft.), or the Pas de Chantonet, is nearer the Mont Blanc range, but is steeper and shorter than the Grand Ferret, while it is not so much frequented by strangers, as it is not passable for mules, and the view from it is inferior. The *Col du Ban d'Arrey* (2,695 m., 8,842 ft.) lies to the S.E. of the Grand Ferret, and is also not passable for mules, but it is convenient for a traveller coming from the Great St. Bernard by the Col de Fenêtre and bound for Courmayeur direct. See § 18. Rte. B.]

The valleys on either side of the Col Ferret are known as the *Val Ferret*, and may be best distinguished as the Swiss and Italian Val Ferrets respectively. The view from the Col is in clear weather very interesting, but in other respects the scenery of this route is not quite equal to that of the other low passes in the neighbourhood of Mont Blanc.

From Orsières the char road runs along the l. bank of the Dranse, soon passing the junction of the Dranse de Ferret with the Dranse d'Entremont, which descends from the Great St. Bernard. The principal hamlet in the Swiss Val Ferret is *Ville d'Issert* (¾ hr.) This glen contains many hamlets, and appears fertile and well planted with fruit trees; but although it presents an agreeable contrast to those who descend into it from the glaciers de-

scribed in other Rtes. the scenery is not of a very striking character. The second hamlet after Ville d'Issert is *Praz de Fort* ( $\frac{1}{4}$  hr.), close to which the stream from the Saleinaz gl. joins the Dranse.

[Hence it is  $4\frac{1}{2}$  hrs. up to the new and finely-placed *Saleinaz Club hut*, see Rte. M.]

Beyond *Branche* the two small glaciers of *Planereuse* and of *Treutz Bouc* are seen hanging over the W. side of the valley, and the road (now fit for small charrs only), which since Praz de Fort has kept to the r. bank, mounts more rapidly to *La Fouly*, 1,594 m., 5,230 ft. ( $2\frac{3}{4}$  hrs.' walking from Orsières), a group of chalets where there was formerly an inn. Nearly opposite, in a forest of larches, is the opening leading up to the *La Neuvaz gl.* (For the way to the *Col d'Argentière* see Rte. L.) About  $\frac{1}{2}$  hr. further on are the *Ferret chalets* (1,693 m., 5,555 ft.), where the char road comes to an end, and where there is now a small inn. (A little before reaching them the steep zigzag path to the *Petit Ferret* turns off to the r., rejoining the main track at the *Pré de Bar* chalets, on the other side of the *Col.*) At the *Ars* huts ( $\frac{1}{4}$  hr. beyond) the tracks to the *Col de Fenêtre* for the Great St. Bernard (§ 18. Rte. B), to the *Col des Planards* for *Bourg St. Pierre* (§ 18. Rte. C), and to the *Col du Ban d'Arrey* (mentioned above) turn off from the *Ferret* path. This path mounts over the remains of a great landslide which in 1776 destroyed some of the *Peulaz* huts, where the track bears S.W. The way lies among Jurassic limestone rocks, small patches of which, the remains of extensive deposits, removed by denudation, are found overlying the carboniferous strata that surround the crystalline mass of Mont Blanc. The last part of the ascent is steep, and about  $1\frac{3}{4}$  hr. is required from the *Ferret* huts to reach (5 hrs. from Orsières) the *Col Ferret* (2,533 m., 8,311 ft.), a depression in the ridge extending from the *Mont Dolent*

(3,823 m., 12,543 ft.) to the *Grand Golliaz* (3,240 m., 10,630 ft.) The view extends along the Italian Val Ferret, and up the *Allée Blanche* to the *Col de la Seigne*. The *Grandes Jorasses* is partly hidden by the *Mont Gruetta* spur, but every detail of the *Mont Dolent* and *Triolet* gls. can be seen, as well as the fine peaks which overhang them; the chief of these is the *Mont Dolent* (3,823 m., 12,543 ft.), where the Swiss, French, and Italian frontiers meet, and which is easily climbed from the chalets of *Pré de Bar* or the *Triolet Club hut* (Rte. L). To the E. the *Mont Vêlan* and to the N.E. some of the *Bernese peaks* are seen.

The Italian Val Ferret is far wilder and more rugged than the Swiss glen of the same name. Avalanches and bergfalls have destroyed most of the timber, and ruined pastures and chalets. One of the most considerable on record destroyed on September 12, 1717, a group of chalets near the base of the *Triolet gl.* The track lies over soft slaty soil, in which the rains cut deep trenches, and for some distance is carried along the l. bank of the valley at a great height above the torrent, passing a cross which serves to guide those who approach the *Col* from *Courmayeur*. The first chalets are those of *Pré de Bar*, 2,060 m., 6,759 ft. (less than  $\frac{1}{2}$  hr. from the pass), just at the foot of the steep descent from the *Col.* (For the pass hence to the *Argentière gl.* see Rte. L.) Several other groups of chalets are passed on the way down the valley. Near those of *Sagivan* the way to the *Triolet gl.* and *Club hut* (Rte. D) turns off. Lower down are the huts of *Feraché* (here begins the char road), *La Vachey*, *Pra Sec*, and *Planpansier*. The stream is crossed at *La Vachey*, but below *Planpansier* the road returns to the l. bank, and, passing under the *Mont de la Saxe*, reaches *Courmayeur* in  $3\frac{1}{2}$ -4 hrs. from the *Col.* 5 hrs. or more are required when the start is made from *Courmayeur*.



## ROUTE L.

CHAMONIX TO ORSIÈRES BY THE  
ARGENTIÈRE GLACIER.

The **Argentière glacier**, one of the greatest and certainly one of the most beautiful glaciers of the chain of Mont Blanc, descends nearly at right angles to the valley of Chamonix. It lies between the route extending from the *Aiguille de Triolet* (3,876 m., 12,717 ft.), through the *Courtes* (3,855 m., 12,648 ft.) and the *Droites* (4,030 m., 13,222 ft.) to the *Aiguille Verte* (4,127 m., 13,541 ft.) on one side, and that which includes *Mont Dolent* (3,823 m., 12,543 ft.), the *Tour Noir* (3,836 m., 12,586 ft.), the *Aiguille d'Argentière* (3,907 m., 12,819 ft.), and the *Aiguille du Chardonnet* (3,822 m., 12,540 ft.) on the other. The older maps of the glacier, all based on the Sardinian map, represent the range between the Chardonnet and the Tour Noir as separating the Argentière glacier from the head of the Tour glacier, while a second range, whose highest summit has been called the Pointe des Plines, divides the latter from the Saleinaz glacier. Such was the supposed topography of the ridge bounding the Argentière glacier on the N.E. as late as 1862. In that year Mr. A. Adams-Reilly crossed the Cold'Argentière, and was so much struck by the discrepancies between the existing maps and the appearance of this ridge that he resolved to make a serious attempt to ascertain their origin and the true state of things. In the following year he therefore returned to Chamonix with a good theodolite, and after commencing his work on the Argentière glacier was led to undertake a general map of the range of Mont Blanc, in the course of which he determined the position of about 200 points, the only trustworthy materials he had being Principal Forbes' map of the Mer de

Glace and the Dufour map for the small bit of the chain lying in Swiss territory. The result of this survey proved that the Pointe des Plines of previous maps was simply the name given to the Aiguille d'Argentière, when seen from the Saleinaz glacier, and that the secondary range had no separate existence. Principal Forbes says of Mr. Reilly's discovery, as shown on his map, 'To state its chief result in a single sentence, two mountains, each 13,000 ft. high, and standing on the old maps  $1\frac{1}{2}$  mile apart, were pulled together and made one; while a snow field of some 4 square miles in extent was annihilated.' Thus the Tour glacier has really but half the length assigned to it on the older maps.

The best starting point for any expeditions in the ridges surrounding the Argentière glacier is now the little **Lognan inn** (2,043 m., 6,703 ft.), situated on the l. bank of the Argentière glacier, and overlooking the very fine icefall. It may be reached in 2 hrs. by a mule path from the village of Argentière, or in 3 hrs. from Chamonix by way of the Chapeau track and a very pretty path past the Pendant huts. The mule path continues for about 20 min. beyond the inn, when it is necessary to follow the moraine on the l. bank to its furthest extremity, and then the edge of the glacier until well above the icefall. In this way the upper plateau of the glacier is reached in about  $1\frac{1}{2}$  hr. from the inn. This is the real starting point for all the expeditions (save the Mont Dolent) to be described in this Route. It is extraordinarily flat and of great extent, while it is surrounded on all sides, particularly on the S. and W., by a barrier of precipices. The range between the Aiguille Verte and the Aiguille de Triolet is, for the most part, bare rock, save where it is streaked by snow couloirs. By means of the rocks on the side of one of these gullies the only pass ever forced across this formidable range was

effected in 1894, the *Col des Courtes*, at its S.E. extremity, leading to the Talèfre basin, while the Courtes and the Aiguille Verte have each been once scaled, in 1876, from this side by very steep and dangerous routes. On the opposite side of the glacier there descends from between the Aiguilles du Chardonnet and d'Argentière the Chardonnet glacier, leading up to the Col du Chardonnet. The Col d'Argentière is near the S.E. corner of the glacier, while the Col du Mont Dolent leads over the ridge at its very head. It is well worth the while of those who do not propose to cross any of the high passes leading from this glacier to visit the upper plateau of the Argentière glacier, an easy and interesting excursion.

It is possible to gain Orsières from the Argentière glacier by three passes at least, all leading into the Swiss Val Ferret. These are the Col du Chardonnet and the Col du Tour Noir, both giving access to the Saleinaz glacier, and the Col d'Argentière, by which the La Nevaz glacier is attained. A fourth pass, the Col du Mont Dolent, may be best described in this Route, though it brings a traveller to the very head of the Italian Val Ferret, and so leads to Courmayeur rather than to Orsières.

1. *By the Col du Chardonnet.*—This is the most important and useful of all these passes, and is that most frequently traversed, as it affords a fine route towards Zermatt. It lies between the Aiguilles du Chardonnet and d'Argentière, and was first crossed by Messrs. Adams-Reilly and Brandram in 1863. From the upper plateau of the Argentière glacier the main glacier is crossed to the foot of the Chardonnet glacier, which descends from the pass ( $2\frac{1}{4}$  hrs. from the Lognan inn). It is necessary to mount some way by the huge moraine on the r. bank of that glacier, and then by the ice to the Col (3,325 m., 10,909 ft.), reached in 2 hrs. from the foot of the lateral glacier.

The descent lies down the rocks on the l. of a great steep snow slope, the upper snows of the Saleinaz glacier being reached in about  $\frac{1}{2}$  hr. Orsières may now be gained by one of three routes.

a. That usually taken up to 1894 is to pass through the striking *Fenêtre de Saleinaz*, 3,264 m., 10,709 ft. (Rte. M), at the N.W. corner of the glacier, to the Tour glacier, whence the Col du Tour route (Rte. M) is followed down the Orny glacier, and Orsières reached in 5 hrs. from the Col du Chardonnet. In 1864 Mr. A. W. Moore, with Christian Almer, went from Lognan to Orsières by this route in  $7\frac{1}{2}$  hrs.' walking, a *tour de force*. (It is a pleasant one day's excursion from the Lognan inn to Chamonix or the Montenvers to cross the Col du Tour on reaching the Tour glacier by the route described, and so regain the Arve valley.)

b. From the upper snows of the Saleinaz glacier it is possible to descend direct through the great icefall of that glacier, but this requires good guides and plenty of time.

c. There is another route which will doubtless now be the popular one. This leads from the new *Saleinaz Club hut*, 2,691 m., 8,829 ft. (see Rte. M), on the r. bank of the glacier of that name, and at the N. foot of the Pointe de Planereuse, which stands high above the icefall just mentioned. A track, with some steps cut in the rock, and fixed chains, leads down the polished rocks on the r. bank of the Saleinaz glacier, then crosses the moraine and torrent below to the l. bank, reaching the Col Ferret path near Praz de Fort, and by it Orsières, in  $2\frac{3}{4}$  hrs. from the hut.

The *Aiguille d'Argentière* (3,907 m., 12,819 ft.) may be gained from the Col du Chardonnet by the N.W. arête, but it is best to climb from the Chardonnet glacier by rocks or a snow couloir direct to that arête, where it rises to form the rocky and

lower W. summit, the higher being gained after a traverse on the N. side of the ridge connecting the two peaks (6 hrs. from Lognan). It was by the last-named route that the first ascent was made, in 1864, by Messrs. Adams-Reilly and Whymper. It is possible also to attain the top from every other side. The view is exceedingly fine. The *Aiguille du Charbonnet* (3,822 m., 12,540 ft.) was first reached in 1865 by Mr. Robert Fowler, with two Chamonix guides. It is best reached by way of the highest snowy gap in the N.W. arête, which may be attained from Argentière in 6 hrs. by the r. bank of the Argentière gl. (1 hr. additional, if passing by Lognan, on the l. bank) and the small glacier on the W. of the peak, more than 3 hrs. being required thence to the summit.

2. *By the Col du Tour Noir.*—There are two gaps, separated by the *Aiguille de la Neuvaz*, 3,731 m., 12,241 ft. (wrongly called Darrey on several maps), between the Aig. d'Argentière and the Tour Noir. The ascent to either from the Argentière glacier lies up the lateral *Améthystes* glacier, and is easy (4½ hrs. from Lognan). The descent from that close to the Tour Noir has not yet been effected, but is said to present no great difficulties. That (3,541 m., 11,618 ft.) nearer the Aiguille d'Argentière has been crossed but once in either direction, and is not recommended, as the great slope on the Saleinaz side offers very great difficulties and dangers. It was first crossed from the Lognan side in 1864 by Messrs. H. B. George and R. J. S. Macdonald, with Christian Almer and Melchior Anderegg. The descent to the Saleinaz glacier lay down a perilously steep slope, about 350 m. (1,148 ft.) high, and composed mainly of hard ice, so that it cost 6½ hrs. of severe and dangerous work, followed by a clear fall of 30 ft. over the lip of a bergschrund, to gain the Saleinaz glacier. The second party—Mr.

H. G. Fordham and M. John Jacquot, with Justin Bessart and Aulet, in 1890—took exactly the same time to cut up this slope from the Saleinaz glacier. This passage must, therefore, be reckoned as one of the greatest *tours de force* ever made in the Alps, the first party having crossed it by mistake for the Col d'Argentière, owing to the badness of the then existing maps.

From the Saleinaz side the routes are as described under 1. above.

3. *By the Col d'Argentière.*—This pass lies immediately S. of the Tour Noir, and affords a route from Lognan to Orsières which is far more circuitous than the two passes already described. It was discovered first by Auguste Simond, and first reached from Lognan on August 1, 1860, by Messrs. F. F. Tuckett and W. Wigram, under Simond's guidance, a thick fog and constant snow avalanches forcing the party to give up the idea of descending on the Swiss side. It was first crossed in 1861 by Mr. Stephen Winkworth, with Auguste Simond, his son François, and Tobie Simond. 'The ice stream (now called the *Tour Noir* glacier) from the Col d'Argentière descends in a mass of irregular séracs, alternating with slopes of névé, from a snow ridge guarded on the N. side by the Tour Noir, and on the S. by the serrated ridge of the *Aiguilles Rouges du Dolent* (3,691 m., 12,110 ft.), leading up to the Mont Dolent. The stream is bounded on the l. side (ascending) by a buttress of the Tour Noir, and on the r. by two masses of rock which crop out from the glacier like the Grand and Petit Rognons' (A. A.-R., revised.) From the higher portion of the great upper plateau of the Argentière glacier the ascent is made by the r. bank of the Tour Noir glacier, where it is least crevassed, the pass (3,516 m., 11,536 ft.) being attained in about 5 hrs. from the Lognan inn. It commands a magnificent view towards the E., in which the Grand Combin,



the Dent Blanche, and the Weiss-horn are conspicuous.

From the Col the summit of the *Tour Noir* (3,836 m., 12,586 ft.) can be reached in  $1\frac{3}{4}$  hr. by climbing along the crest of the S. arête to the foot of the final peak, then traversing the S.E. face by a level and very narrow ledge, till it is possible to climb up direct to the top. The first ascent was made by this route, in 1876, by M. E. Javelle and Mr. F. F. Turner. M. Javelle's description of the expedition is given in his 'Souvenirs d'un Alpiniste,' and is often reckoned as one of the best Alpine papers ever written.]

The slope on the Argentière side of the Col is not very steep, but the sheer descent on the opposite or E. side is positively startling. The early explorers effected a descent down the couloir immediately below the pass, or by a difficult circuit under the rocks of the *Tour Noir*. It has, however, been found best to mount the rocks on the N. of the pass for a short distance—500 ft. or so—and then to descend E. by the crest of the rocky spur which forms the r. boundary of a small lateral glacier, finally taking to that glacier in order to reach the considerable *La Neuvaz* glacier. This glacier unites the several ice streams flowing from this part of the range, and itself flows about due E. to the Swiss Val Ferret.

Hence the easy pass of the *Col de la Grande Luis* (3,379 m., 11,086 ft.) leads from its N. affluent to the Saleinaz glacier, there being no special difficulties *en route*.]

The l. bank of the *La Neuvaz* glacier must first be gained, then at its end the torrent crossed to its r. bank, over the wearisome moraines on which the traveller goes down to the *La Neuvaz* huts ( $5\frac{1}{2}$  hrs. from the pass). A path soon brings him to the Col Ferret route at the *La Fouly* huts (Rte. K), and this is followed henceforth to Orsières.

This pass is best taken from the

Swiss side. From the *La Fouly* huts a great part of the route to the Col may be traced.

The *Col du Mont Dolent* lies over the ridge at the extreme head of the Argentière glacier, between the Mont Dolent on the N.E. and the Aiguille de Triolet on the S.W. It was first crossed in 1865 by Mr. Whymper, with Christian Almer, M. Croz, and F. Biener. On that occasion about 23 hours were taken from Courmayeur to Chamonix, as no less than 7 hrs. were consumed in cutting down the great ice couloir leading to the Argentière glacier. The foot of this couloir may be gained over the easy Argentière glacier in about 4 hrs. from Lognan. It has since been shown that the best way thence to the pass is up the steep but firm rocks on the r. bank of the great couloir, only 2 hrs. being required. The pass is 3,543 m. (11,625 ft.) high. The descent on the Italian side is by easy rocks and a snow couloir to the *Pré de Bar* glacier (called Mont Dolent glacier by Mieulet's map). It is then necessary to bear well to the l. and to round the base of the spurs of the mountain, till the Petit Ferret path is gained ( $3\frac{1}{4}$  hrs. from the pass), close to that pass and 20 min. above the *Pré de Bar* huts. If coming from the Italian side it is possible to start from the Triolet Club hut, on the l. bank of the Triolet glacier, traversing thence over the S.E. ridge of the *Monts Rouges* in order to gain the *Pré de Bar* glacier.

The ascent of the *Mont Dolent* (3,823 m., 12,543 ft.) is strongly recommended, as it commands a very fine view. The frontiers of France, Italy, and Switzerland meet on its summit. It was first ascended in 1864 by Messrs. A. Adams-Reilly and Whymper. It is best to start from the Triolet Club hut, and to gain the *Pré de Bar* glacier, as described above. The traveller should then cross that glacier in a N. direction and by a short ice wall gain the snowy gap in the S.E. arête (or a depression to

the r. of this gap, by means of very steep rocks). From the snowy gap it is best to keep below the crest of the ridge till it is possible to gain the first top, a short way below the true summit (5 hrs. from the Club hut, or 6 hrs. from the Pré de Bar chalets).

### ROUTE M.

#### CHAMONIX TO ORSIÈRES BY THE TOUR GLACIER.

The **Tour glacier**, which is the most northerly of the great glaciers that flow into the valley of Chamonix, affords access to three considerable glaciers on the Swiss side of the chain. Two of these—the glaciers of Orny and Saleinaz—descend into the Swiss Val Ferret; the third flows into the Trient glen. A rough idea of the relative position of these four glaciers, which occupy the high valleys at the N. extremity of the range of Mont Blanc, may be formed if we first fix our attention on the extensive field of névé, called the *Plateau du Trient*, lying E. of the Aiguille du Tour. This is drained by two glaciers which flow at right angles to each other—the *Glacier du Trient*, descending to the N., and the *Glacier d'Orny*, to the E. The angle formed by these glaciers lies within another right angle, formed in its turn by the *Tour* and *Saleinaz* glaciers; but while the two first-named start from the same level, the upper part of the Tour gl. lies at a great height above the Saleinaz gl. S. of the Aiguille du Tour there is an opening—the *Col du Tour*—in the ridge forming the E. boundary of the Tour gl., and this gives easy access to the Trient plateau, whence the *Cols du Trient* and *d'Orny* (really only the heads of those glaciers) lead down the ice fields of

the same name. The Trient plateau is connected with the Saleinaz gl. by the *Fenêtre de Saleinaz* and the *Col des Plines*, while the *Fenêtre du Tour* affords direct means of communication between the Tour and the Saleinaz gls. This plateau, therefore, is the most important feature of the topography of these regions, especially as, thanks to the energy of the Swiss Alpine Club, there are good Club huts at the head of the Orny and Saleinaz glens, so that travellers may now easily visit a district which early explorers found it difficult to examine, owing to its distance from all human habitations.

The *Glacier du Tour* may be easily reached from the village of Argentièrè by a goat path which mounts by steep rocks and grass to the moraine on the r. bank of the glacier; and this point may also be gained direct from the inn on the Col de Balme by keeping along the S.W. slope of the frontier ridge. It is best to bear well to the l. on the glacier, so as to avoid the crevasses in its middle region; but there is no difficulty, and the **Col du Tour** (3,280 m., 10,762 ft.), S. of the *Aiguille du Tour* (3,540 m., 11,615 ft.), is attained in 5 hrs. from either starting point. It was crossed for the first time in 1858 by Mr. (now Sir) Alfred Wills, who in the previous year (like Principal Forbes in 1850) had traversed the same ridge more to the S., and nearer the Petite Fourche.

[Principal Forbes' pass is the *Col Blanc*, separated from the Col du Tour by the snowy mound of the Tête Blanche; Sir A. Wills gained the Col Blanc direct from the Tour gl., his predecessor having first tried in vain to descend to the Saleinaz gl. by the Col des Fourches, just at the N. foot—despite the Siegfried map—of the Grande Fourche.]

The view may be extended by mounting the S. and highest summit of the *Aiguille du Tour* (3,540 m., 11,615 ft.) by way of its E. face and N.E. ridge (1 hr.), and no traveller

should before undertaking the direct descent to Orny omit to make a 20 min. détour to the very remarkable Fenêtre de Saleinaz (see below).

Should the traveller be bound for Trient and the Forclaz he should bear from the Col N.E. across the Trient plateau, to the *Col du Trient* (2,982 m., 9,784 ft.) and the r. bank of the Trient gl., by which his destination may be reached in 3 hrs. from the Col du Tour. A party bound for the Saleinaz Club hut should soon turn S.E. to the easy Fenêtre de Saleinaz (see below) if it has not preferred to go direct from the Tour gl. to that of Saleinaz by the rather harder *Fenêtre du Tour*, 3,355 m., 11,008 ft. (first crossed in 1867 by Mr.—now Sir—F. and Mr. W. H. Pollock.)

Most travellers, however, desire to go from the Col to Orsières by Orny. The direct course lies due E. (making a slight curve to the r. to avoid the hollow), and on reaching the slightly convex summit (*Col d'Orny*, 3,119 m., 10,233 ft.) of the Trient plateau a fine distant view of the Bernese Alps gives an unexpected interest to the pass. Thence the descent lies down the Orny gl., and a path along the crest of the moraine on the l. bank leads down to the *Orny Club hut*, 2,688 m., 8,819 ft. (1½ hr. from the Col du Tour.) There are really two huts here near the ruined chapel; the new one is the larger and the most comfortably fitted up. Hence there is at sunset a very striking view of the Grand Combin. Orsières is 2 hrs. distant by the moraine, the Combe d'Orny, and the hamlet of *Prassony*, while the Lake of Champex (Rte. I) may be reached in 2 hrs. by the *Col de la Broya* (2,409 m., 7,904 ft.), the route to which quits that to Orsières at the first little plain (that of *Plan de l'Arche*), and crosses the ridge bounding the Combe d'Orny on the N. Both paths are now marked out by patches of green paint.

[The *Orny Club hut* is a good centre from which to make several

ascents. The easiest is the *Pointe d'Orny*, 3,274 m., 10,742 ft. (1 hr.) That of the *Portalet* (3,345 m., 10,975 ft.), just opposite, may be made in 4 hrs. by a great couloir in its N.E. slope, but better in 2¾ hrs. by way of the Col des Plines; this is the best point whence to study the singularly intricate topography of this part of the Alpine chain. Rock-climbers may turn their attention to the *Aiguille de la Varappe*, 3,520 m., 11,549 ft. (5 hrs.), or the *Tête Biselx*, 3,512 m., 11,523 ft. (5 hrs.), the two highest summits of the Aiguilles Dorées, E. of the Fenêtre de Saleinaz. (There is a difficult descent from the former peak direct to the Saleinaz gl., achieved in 1893 by Mr. V. A. Fynn, who in 1892, with Mr. Murphy, traversed the whole ridge of the Aiguilles Dorées from the Varappe to the point above the Col des Plines.) The *Petite Fourche* (3,507 m., 11,506 ft.) at the S.W. corner of the Trient plateau, can be climbed from the Col du Tour by following the ridge all the way (3½ hrs. from Orny), but the *Grande Fourche* (3,610 m., 11,844 ft.) is best gained by an interesting though not difficult climb in 4 hrs. from the Saleinaz Club hut by way of its rocky S.W. face.]

To cross from the Trient plateau to the Saleinaz gl. and the Saleinaz Club hut there are two main passes. The *Col des Plines*, 3,243 m., 10,640 ft. (the S. gap is the better of the two), may be gained from Orny in 1½ hr., and the descent to the other Club hut, keeping W. of the Pointe des Plines, effected in 1¼ hr. The *Portalet* (3,345 m., 10,975 ft.) can be climbed (from the S.) on the way (1¾ hr. extra). But the *Fenêtre de Saleinaz* (3,264 m., 10,709 ft.), W. of the Aiguilles Dorées, affords by far the most striking route from one hut to the other, or even the most interesting descent from the Col du Tour to Orsières. It is a narrow opening in the shattered range of aiguilles which fences in the S. side



of the Trient plateau, and may be reached in 20 min. from the Col du Tour, or in 2 hrs. from Orny by way of the plateau. The scene exhibited from this singular gap (well named by Sir A. Wills the *Fenêtre de Saleinaz*) is remarkable not for the distant view, but for the grand range of crags and aiguilles that enclose the head of the Saleinaz gl. The most prominent points are the Grande Fourche, the Aiguille d'Argentière, the Aiguille de la Neuvaz, the Tour Noir, the Grande Luis, and the Darrei (see below). A short descent down easy rocks, a steep snow slope, and a small glacier leads from the Fenêtre to the névé of the Saleinaz gl. About  $\frac{1}{4}$  hr. from the pass the traveller bound for the Club hut must bear to the l. across the rocky spur coming down from the Aiguilles Dorées and traverse a sort of tunnel in order to reach by easy snow slopes the foot of the Pointe des Plines. From these slopes a fine view is gained of the range of the *Aiguilles Dorées*, just on the N. They consist of a succession of ruddy yellow pinnacles of great height, whose natural colour is enriched by their exposure to the full blaze of day, and they have therefore been happily named by Principal Forbes. From between the gaps in this range small tributary glaciers and ice couloirs stream down, and by contrast heighten the effect of the scene. The l. lateral moraine of the Saleinaz gl. is crossed, and then that gl. itself, so as to mount by a slope of stones (traces of a path) to the Club hut (25 min. from the gl., or  $1\frac{1}{2}$  hr. from the Fenêtre). (The Fenêtre is a link in the high-level route from Lognan by the Col du Chardonnet to Orny and Orsières, 6-7 hrs. from Lognan to Orny. See Rte. L.) From the hut the best way (the path is marked out in red paint) down to the Swiss Ferret valley is to pass below the E. end of the small *Evole* gl., which overhangs the hut, and then, keeping at the foot of the great rock towers of the *Clochers*

*de Planereuse* (2,810 m., 9,220 ft.), to descend on the r. bank of the gl. over smooth rocks (iron chains and some steps cut in the rock), finally (far below) crossing the moraine and stream from the gl. and passing through a forest on the l. bank of the latter till the valley is reached at *Praz de Fort* (Rte. K). Orsières is thence reached by the Col Ferret road in  $2\frac{3}{4}$  hrs. from the hut.

The **Saleinaz Club hut** (2,691 m., 8,829 ft.) is just at the N. foot of the Pointe de Planereuse, and having been only built in 1893 has all the latest and most improved fittings for such erections. It is an admirable centre whence to climb the neighbouring peaks, and it may be doubted whether, with the exception of the Montanvers (which is an inn), there is any other house in the range whence so many fine high peaks may be directly scaled. The E. and highest summit of the *Darrei* (3,515 m., 11,533 ft.) may be gained by the N. slope and the N.E. ridge in 3 hrs. from the hut, and commands a very interesting panorama, especially to a topographer. The *Grande Fourche* (3,610 m., 11,844 ft.) is accessible from the S.W. (4 hrs.), the *Grande Luis* (3,504 m., 11,497 ft.) by the N.W. ridge ( $2\frac{1}{4}$  hrs.), the *Aiguille de la Varappe* (3,520 m., 11,549 ft.) by a difficult climb from the S. (5 hrs.), the *Aiguille d'Argentière* (3,907 m., 12,819 ft.) by the great gully in its E. face (6 hrs.), and the *Aiguille du Chardonnet* (3,822 m., 12,540 ft.) by way of the Col du Chardonnet (6-7 hrs.) As we have seen, the traveller can go from the hut to the Trient plateau by the Fenêtre de Saleinaz, or by the Col des Plines, and to the Tour gl. by the Fenêtre du Tour, while the Cols de la Neuvaz and the Col de la Grande Luis lead over to the La Neuvaz gl., so that the La Fouly huts, in the Val Ferret (Rte. K), may be thus attained from the Club hut in 6 or 7 hrs. A pleasant variation on the descent to Praz de

Fort by the usual path through the Saleinaz ravine is to mount slightly S.W. from the hut in 50 min. to the *Col de Planereuse* (3,034 m., 9,955 ft.), just S.W. of the *Pointe de Planereuse*, 3,153 m., 10,345 ft. (accessible hence in  $\frac{3}{4}$  hr.), and then to go down by the Planereuse gl. to the ruined chalets of that name, whence a path strikes off to the N.E. through a thick forest and descends to the Saleinaz huts in the Val Ferret ( $3\frac{1}{2}$  hrs. from the Col),  $1\frac{1}{4}$  hr. from Orsières.

In concluding the description of the range of Mont Blanc, wherein the achievements of many ardent mountaineers have been very briefly noticed, the Editor (J. B.) may be permitted to make a single remark. Experienced travellers in the High Alps do not require, and would not heed, his advice; but those who have not learned by considerable practice to cope with all the difficulties of ice-travelling and rock-climbing, and who are not assured that their companions and guides are equally prepared, should be warned that many of these expeditions involve very serious risk—risk that, in regard to some of them, can be but partially averted by skill and experience. Of the glacier passes that have been enumerated none but the Col du Mont Tondu, the Col de Miège, the Col du Géant, the Col de Triolet, the Col du Chardonnet, the Col du Tour, the Fenêtre de Saleinaz, the Col de Planereuse, and a few minor ones can be recommended to any but mountaineers of some experience, even when undertaken with favourable weather and trustworthy guides.

## SECTION 17.

## SIXT AND CHAMPÉRY DISTRICT.

It has been remarked in the Introduction to Section II that the limestone ridges lying between Chambéry and the valley of the Arve form an extension to the S.W. of the geological formations which characterise the range of the Bernese Alps. The connection is orographical as well as geological, and the range of the Dent du Midi, the Buët, and the Rochers des Fiz supplies the link between them. It will be observed, as something more than an accidental coincidence, that a nearly continuous line of valley extends from Grenoble to the Rhône near Martigny, and nearly follows the line of separation between the Secondary and the older rocks. This line of depression is marked by the Isère from Grenoble to Albertville, and by the Arly thence to Mégeve. Descending to the Arve, and partly following that stream to Servoz, it then mounts along the Diosaz torrent to the Col de Salenton, and, following the Eau Noire and the Trient, reaches the Rhône near Martigny.

In the present Section we include the district lying, roughly speaking, between the line of the Arve, Eau Noire, and Trient on the W., S., and S.E., the Rhône on the E., and the Lake of Geneva on the N.

The continuous range of limestone uplifted against the N.W. edge of the granitic peaks which form a chain traversing the whole of Switzerland and Savoy is cut through by the Rhône at St. Maurice, and by the Arve at Cluses. While in general it is a single chain, here it is double, for the soft Jurassic strata, which elsewhere are usually worn away to a slope, here rise in the *Buët* (3,109 m., 10,201 ft.), the *Pointe de Tanneverge* (2,982 m., 9,784 ft.), and *Tour Sallières* (3,227 m., 10,588 ft.), and form the E. watershed of the Giffre; on the other hand, the much harder,

and more recent, Cretaceous limestones form the range of the *Rochers des Fiz* (2,793 m., 9,164 ft.), *Vaudru* (2,672 m., 8,767 ft.), *Dents Blanches* (2,682 m., 8,799 ft.), and *Dent du Midi* (3,260 m., 10,696 ft.) This outer chain is cut through by the Giffre in the gorge of Les Tines, just below Sixt. The lower ridges, though occasionally parallel to the main range, are for the most part very irregular in their form and direction, a circumstance which, perhaps, contributes to the variety of scenery for which the district is remarkable.

The basin of **Sixt**, 14 m. long and 4 or 5 wide, is enclosed between the two chains mentioned above, and forms the W. or French bit of the more Alpine part of the district. It is remarkable for the strong contrasts between its varied and rugged limestone peaks and precipices, and its rich meadows and luxuriant forests. The whole of it is included in that portion of Savoy neutralised in 1815 by the Congress of Vienna. The Swiss or E. bit of the Alpine part of the district consists mainly of the valley of Illiez or **Champéry**, which lies outside of, and parallel to, the outer limestone range; it comprises also a triangle of high uplands, buttressed in on the S.E. by a band of granitic peaks which overlook the Salvan-Vernayaz branch of the road to Chamonix. The mountaineering centres, therefore, are *Sixt* (757 m., 2,484 ft.), *Salvan* (925 m., 3,035 ft.), and *Champéry* (1,052 m., 3,452 ft.) Sixt has, perhaps, the finest scenery, Champéry undoubtedly the largest inns, and Salvan certainly the best guides. The grand panoramic views gained from the Buet and the Dent du Midi will always attract a large number of travellers, as either summit can be reached without danger or difficulty by any moderately active walker.

The larger half of the area included in this Section forms the **Chablais**, which lies N.W. of a line drawn from Cluses through Samoëns and Champéry

to Monthey, is wholly subalpine. Its mountains are tame, and, although rich in pasturage and woodland, it offers much smaller attractions to the mountaineer than to the pedestrian. The rugged range of the Dents d'Oche, above the E. end of the Lake of Geneva, deserves a visit.

For minute details as to the ranges described in outline in this Section see in general Joanne's 'Savoie' (large edition, 1895), and Schaub and Briquet's 'Guide Pratique de l'Ascensionniste sur les Montagnes qui entourent le Lac de Genève' (3rd edition, 1893). For *Sixt* in particular consult J. F. Albanis Beaumont's 'Description des Alpes Grecques et Cottiennes' (1806), vol. ii. Part ii. Chapter iv., and Sir Alfred Wills' "'The Eagle's Nest' in the Valley of Sixt' (1860); for *Salvan*, Wagon's 'Autour de Salvan' (2nd edition, 1895); and for *Champéry*, Claparède's 'Champéry et le Val d'Illiez' (3rd edition, 1893), Rambert's 'Ascensions et Flâneries' (new edition, 1888), and Javelle's 'Souvenirs d'un Alpiniste' (3rd edition, 1897).

#### ROUTE A.

#### GENEVA TO SIXT BY TANINGES OR SAMOËNS.

There are good carriage roads from Geneva to Samoëns, *either* by Annemasse, St. Jeoire, and Taninges, *or* by Annemasse, Cluses, and the Col de Châtillon. Most travellers will, however, use the steam tramway from Annemasse to Samoëns, or the railway to Cluses, on the Chamonix line (§ 16. Rte. A). A few tracks for pedestrians from Cluses to Samoëns and Sixt are also indicated.



1. *By St. Jeoire.*

	M.
Bonne . . . .	9½
St. Jeoire . . .	16¼
Taninges . . . .	24¼
Samoëns . . . .	31

Steam tramway to Samoëns, 31 m., about 3 hrs.; thence good carriage road to Sixt, 4 m. A carriage from Sixt meets every train in summer.

From Geneva the traveller may reach Annemasse (3¾ m.) either in ¼ hr. by the Chamonix railway (§ 16. Rte. A), which starts from the Eaux Vives station, on the S. bank of the Rhône, or in 40 min. by steam tramway, which starts from the Cours de Rive. Both lines pass by *Chêne Bourg*.

From Annemasse the new steam tramway runs S.E. past *Bonne* and *Pont de Fillinges* (for the road thence to Thonon see Rte. L. 1) to **St. Jeoire**, a small town on an affluent of the Risse. It was the birthplace of Sommeiller, one of the chief engineers of the Mont Cenis Tunnel.

[Hence there is a tramway in 5 m. to *Marignier*, a station on the line to Chamonix, and a beautiful carriage road over the Col de Jambaz to Thonon (Rte. L. 2).]

[The *Môle* (1,869 m., 6,132 ft.), an isolated conical peak, commanding a very fine panorama, rises just S. of St. Jeoire, between it and Bonneville. It may be ascended from St. Jeoire in 4 hrs. by way of the Char huts, or in rather less time by La Tour, the Bovère huts, and the *Petit Môle* (1,518 m., 4,981 ft.), where is a small inn (built by the French Alpine Club), ¾ hr. by a good zigzag path below the highest point. The shortest way up the Môle (3½ hrs.) is from Bonneville (§ 16. Rte. A).]

The tramway bears gradually E., runs along the N. side of the narrow gorge through which the Giffre escapes to join the Arve at Marignier, and passes by *Mieussy*, before reaching

**Taninges** (641 m., 2,103 ft.), a little town situated on the Foron,

just above its junction with the Giffre. (For the fine carriage roads to Thonon see Rtes. L and M.) It is picturesquely placed in view of the Buet, the most conspicuous object throughout the valley of the Giffre. ¼ hr. S.E. of Taninges is the former Carthusian nunnery of *Mélan*, founded in 1292 by Beatrice, lady of Faucigny, but now used as a school. The line runs along the N. bank of the Giffre past *Verchaix*, the scenery becoming more and more Alpine as it nears

**Samoëns** (759 m., 2,490 ft.), in the midst of charming scenery. (For the ways to Thonon see Rte. M.) The fall of the *Nant Dant* (210 m., 689 ft., in height) is only 20 min. off, and is worth a visit. The ascent of the *Rochers de Criou* (2,250 m., 7,382 ft., 4 hrs.), on the N.E., or of its highest point, the *Pointe Rousse* (2,577 m., 8,455 ft.), is specially recommended. For the walk by the Croix de la Porte to Sixt see 3. below.

The carriage road to Sixt runs along the r. bank of the Giffre through *Vallon*, in the plain, to the mouth of the narrow defile of *Les Tines*, through which the Giffre forces its way from the basin of Sixt. Near its entrance, but on the opposite bank, is seen the picturesque chapel of *Notre Dame des Grâces*. The Giffre has cut its way through the limestone range, forming a grand gorge. When this has been traversed the fine peaks that enclose the valley of Sixt come successively into sight, especially as the road approaches

**Sixt** (35 m. from Geneva), which the mountaineer will probably make his headquarters. For a full description of Sixt and its neighbourhood see Rte. C.

2. *By Cluses and the Col de Châtillon*.—Cluses is 29¼ m. distant from Geneva by the railway to Chamonix (§ 16. Rte. A). A carriage road runs thence over the *Col de Châtillon* (862 m., 2,828 ft.) in 6¼ m. to Taninges, where the steam

tramway described above is rejoined. The road rises steeply from Cluses (1,200 ft. in  $4\frac{1}{4}$  m.) to the Col, near which are the village and ruined castle of the same name. Hence there is a charming view over the Arve, Giffre, and Reposoir valleys. The descent to Taninges (725 ft. in 2 m.) is less steep than the ascent from Cluses. If coming from St. Jeoire it is possible to go from Marignier by a direct road, which keeps above Cluses, nearly to the summit of the Col de Châtillon.

3. *By Cluses and Foot Paths.*—Pedestrians have a choice of several agreeable routes from Cluses over the hills between the Arve and Giffre valleys.

Leaving the new high road 10 min. from Cluses, the old road leads in 1 hr. to the Col de Châtillon. Thence a side road runs S.E. past the hamlets of *St. Sigismond* and *La Frasse* to (5 m.) *Arâches*, keeping at a level of about 3,000 ft., with a succession of charming views before the eyes. It is then necessary to bear S.E. to the *Col de l'Airon*, and descend by *Vercland* to *Samoëns* (9 hrs. from Cluses by this route).

From *La Frasse* the traveller can cross the ridge N.W. of the Col de l'Airon, and then traverse by paths in an E. direction a succession of spurs to the grassy knoll on which stands the *Croix de la Porte* (1,525 m., 5,003 ft.), directly overlooking Sixt. The village lies at his feet, backed by the *Pointe de Tanneverge*, while all the branches of the Sixt valley are well seen. The main Gers track must be left 10 min. from the *Croix*, in order to take a path which through beech woods rounds the hillside above the hamlet of *Entre Deux Nants*, and then descends to and crosses the Giffre at *Faix*,  $\frac{3}{4}$  m. by road from Sixt. 8 hrs. are required from Cluses to Sixt by this beautiful route.

## ROUTE B.

## CLUSES, SALLANCHES, OR SERVOZ TO SIXT.

Between Cluses and Servoz, in the Arve valley, there extends, on the E. and N., a great band of limestone precipices, forming three sides (each 5 m. in length along the parapet) of a square which projects like a bastion from the base line Magland-Sixt. After passing Cluses the pedestrian bound for Sixt must (unless he rounds the bastion on the E. by the Col d'Anterne, Rte. D) pass these precipices twice, or evade them through one of the three breaches made by streams. These occur, one at *Flaine*, and two on the Sixt side, by the *Gers* and *Salles* glens. The breach at *Flaine* is choked up by a dam of old débris, forming a lake which drains underground to the Arve. The E. portion of the upland thus enclosed is the valley of *Salles*, famous for its rich pastures. W. of this stretches the remarkable limestone waste called the *Désert de Platé* (see 2. below). The starting points for the pedestrian in the Arve valley are Cluses, Sallanches, Servoz, or even *St. Gervais*.

1. *From Cluses by the Flaine and Gers Glens.*—At the *Château de Bellegarde*, about 5 m. from Cluses, and 1 m. beyond Magland, a path leaves the Arve valley at the bridge over the *Arche* torrent, and mounts E. to the steep, wooded hollow called the *Creux de l'Arche*. Here it bifurcates. The *l.-hand* path ascends to the hamlet of *Pernant*, and then along the N. bank of the N. and E. branches of the *Arche* past the *Vernant* lake to a pass, 2,100 m., 6,890 ft. (called Col de Flaine on the French  $\frac{1}{80000}$  map, but better named *Col des Grands Vents*), N. of the *Signal des Grands Vents* (2,203 m., 7,228 ft.), and descends to the *Gers* glen; here at the lake it is joined by the track (1 hr. longer) by *Flaine*. The *r.-hand* path mounts by the

S. bank of the Arche past *La Colonnaz*, and by zigzags in fine pine woods to the picturesque *Lac de Flaine*, formed by a gap choked up by débris, and drained by a subterranean channel ( $3\frac{1}{2}$  hrs. from Cluses).  $\frac{1}{2}$  hr. higher are the *Plaine Joux* huts.

[Hence a track leads N. to the Col des Grands Vents, already described. The *Croix de Fer* (2,317 m., 7,602 ft.) may be reached from these huts in 2 hrs. by the E. ridge, and the *Tête* or *Pointe Pelouse* (2,475 m., 8,120 ft.) in  $2\frac{1}{3}$  hrs.; the latter commands a fine view of the Mont Blanc range, and in 1 hr. or so the traveller can descend from the top to the Gers or the Salles huts.]

From *Plaine Joux* a gradual rise by a faint track in an E. direction leads to the pass (c. 2,150 m., 7,054 ft.) on the N.W. of the *Pointe Pelouse*, which is called Col de Platé by the  $\frac{1}{100000}$  French map, but should properly bear the name of *Col de Flaine*. An easy slope on the N. brings the traveller down to the *Lac de Gers*, in the glen of the same name, where the path from the Col des Grands Vents falls in.

[The pretty *Gers* valley belongs to *Morillon*, W. of *Samoëns*, either place being reached by a char road past the *Croix de la Porte*.]

Steep bridle paths on either bank of the stream lead from the huts at the N. end of the lake to Sixt, which is reached by this route in 8 hrs. from Cluses.

2. From *Sallanches* by the *Désert de Platé*.—The *Désert de Platé* is an extensive plateau of bare limestone, traversed by fissures and furrows in every direction, and resembling a petrified glacier or sea. Such plateaux are common features in limestone districts, being known in German as *Karrenfelder*, and in French as *lapiaz*. They are very wearisome to walk over, though curious to look at. The following routes pass on the outskirts of the *Platé* waste, as to which the monographs by MM. Chaix and J.

Briquet in the periodical 'Le Globe' (Geneva) for August 1895 should be consulted.

(a.) By the *Cheminée* and *Col de Monthieux*.—From St. Martin (separated only from *Sallanches* by an old bridge, once celebrated for its view of Mont Blanc) it is necessary to mount N. through *Reninge* and over the fine forest slopes to the *Arpay* huts, where a path turns to the r., ascending the *Haon* ravine, above the torrent which enters the *Arve* valley by the well-known *Cascade d'Arpenaz* (§ 16. Rte. A). Hence an ascent of about 40 min. through pine woods leads to the *Vers Haon* (or *Véron*) huts ( $1\frac{3}{4}$  hr. from St. Martin), which lie in a bay under the upper precipices, up which the only way is by a chimney, through which access is gained to the *Monthieux* sheep pastures. These pasturages terminate in the *Col de Monthieux*, between the *Croix de Fer* on the N., and the *Pointe du Colloney* on the S. These rise on the outer margin of the *Désert de Platé*, and are both easily accessible from the pass. To gain Sixt it is best to make straight over the N. rim of the *Désert*, either to the *Col de Flaine* (the most direct course), or to the low precipices overhanging the *Salles* glen, so reaching the huts in that valley, which are  $2\frac{1}{2}$  hrs. from Sixt by the *Portetaz* route (c. below). This way takes 8 hrs. from *Sallanches* to Sixt.

(b.) Over the *Aiguille de Varens*, or the *Pointe du Colloney*.—This is the mountaineer's route. The *Aiguille de Varens* (2,488 m., 8,163 ft.) immediately overhangs St. Martin and *Sallanches* on the E. From *Sallanches* the *Varens* huts, which lie close under the *Aiguille*, but on the S. side of the square of which it is the corner, may be reached in 3 hrs. by way of *Juillard* and *Bay*. A path leads thence direct up grass and shale slopes to the *Barme Rousse* huts, whence the summit may be gained in 2 hrs. by a short rock climb. A



traverse path leads from the top in  $1\frac{1}{4}$  hr. to the Platé huts, on the Portettaz route (*c.* below). The **Pointe du Colloney** (2,692 m., 8,832 ft.), the culminating point of the Platé group, and so fittingly crowned by a great cairn, can be gained from Sallanches in 5 hrs. by the Col de Monthieux (the easiest way), or in about the same time by following the route to the Aig. de Varens as far as the hollow at the E. base of that summit, then crossing the spur at the head of this hollow, traversing under the peak, and going up the N.E. ridge. It is easy to descend in about  $1\frac{1}{2}$  hr. to the Platé huts, on the Portettaz route (*c.* below).

Both peaks command superb views of the Mont Blanc range, and could be taken in one day by an active climber.

(*c.*) *By the Escaliers de Platé and the Portettaz.*—The **Escaliers de Platé** are a staircase for cattle, laboriously built up the face of the cliffs of the S. spur of the Pointe de Platé. They lead to a bleak basin where are the Platé huts (3-3 $\frac{1}{2}$  hrs. from the Arve valley).

They may be approached from various points in the Arve valley between Sallanches and Servoz. Below the tier of limestone cliffs (broken only by the ruins of the historic landslip of 1751) stretches a long terrace, gently sloping upwards from the hamlet of *Villy*, above St. Martin, to the alp of *Ayer*, above Servoz. It is raised above the valley on steep slopes, clothed in vineyards where the sun strikes through the opening of the St. Gervais valley opposite, elsewhere in dense forests. The terrace is itself, in its lower portion, covered with meadows, fields, and orchards. Beyond the stream flowing from the Platé cirque it offers a succession of level meadows, ringed by beech and fir woods, which frame most beautiful views of Mont Blanc and the Servoz valley.

A cart track mounting from immediately opposite St. Gervais-les-

Bains leads up past *Passy* (famous for its Roman inscriptions, now built into the walls of the church, and for its fruit, which is sent even to the Paris markets). A light carriage can be taken without difficulty as far as the bridge over the *Marlioz* torrent. The cart track continues through forest to the *Plaine Joux*, a superb view-point, whence an easy foot path leads to the Ayer huts, on the Col d'Anterne route (Rte. D). A cart track on a much lower level leads from Chedde direct to these huts, passing within 100 yards of one of the most romantic tarns in the Alps, formed by the great landslip. The tarn is marked, but the road is not, on the French map. A direct foot track from the Plaine Joux to Servoz passes by this tarn.

The route from *Sallanches* to the *Escaliers* is to mount direct from St. Martin to the terrace, and then to follow the upper cart tracks and foot paths that traverse it until, just before reaching the torrent near *Assy*, a broad path climbing steeply upwards is met. From *St. Gervais* the traveller, immediately after crossing the Arve, should leave the Chedde road and take a lane to the l. Arrived at the bottom of the hillside, he may either follow the very beautiful road through *Passy*, or climb more directly by meadow paths until he rejoins it on the terrace near *Assy*.

From *Servoz* it is best to take a boy to show the rather obscure trail to the *Plaine Joux*. Thence follow the slightly descending cart road to the enchanting meadow known as the *Pré Coutens*. From its upper end a sledge track leads up the l. bank of the *Marlioz* torrent, and joins the *Assy* track near the foot of the cliffs.

It is obvious that these approaches admit of being used in conjunction as excursions from the Arve valley, or afford a high-level descent from the Col d'Anterne to St. Martin and Sallanches, which commands a series of pictures hardly equalled in the Alps. It should also be noted that

these routes are better taken from Sixt than in the reverse direction.

Having reached the *Platé* huts by one or other of these routes it is only necessary to mount straight N. to the *Portettaz*, 2,384 m., 7,822 ft. (40 min.), which is seen from the huts. It is the l.-hand one of two gaps in the brown rock ridge N.E. of the huts. Hence there is a very fine view, though this may be extended by climbing in 1 hr. to the top of the *Pointe de Platé* (2,553 m., 8,376 ft.) The track leads over pastures to a N.E. direction from the *Portettaz* to a gap in the low cliffs that overlook the *Salles* glen, by means of which the *Salles* huts (1,890 m., 6,201 ft.) are gained. These are 2½ hrs. from Sixt by a path which passes through a grand defile between great precipices. The stream makes three fine waterfalls, and in one place the path is blasted through the rock. The third fall, *La Pleureuse*, springs from the junction of the Lower Cretaceous with the Jurassic strata, and here the old path from Chamonix over the *Collet d'Anterne* falls in (Rte. D). 30 min. below is the beautiful *Rouget* waterfall, which descends in two bounds on its way to join the *Giffre Haut*. In 20 min. more the *Pont de Salles* is crossed to *Salvagny*, 20 min. from Sixt by char road.

7-9 hrs. are required from the *Arve* valley to Sixt by this route.

3. From *Servoz* by the *Col du Dérochoir*.—This is the shortest way from *Servoz* to Sixt, about 6½ hrs. only being required. *Servoz* (see § 16. Rte. A) is on the old road from *Sallanches* to *Chamonix* being 7½ m. from *Chamonix* and 9 m. from *Sallanches*. From *Servoz* the *Col d'Anterne* mule path (Rte. D) is followed to the *Ayer* huts. Hence the path runs N.W. up grass, shales, and débris, the remains of the great rock fall of 1751, when something like a hundred million tons of cliff are said to have fallen down. The fall filled the valley with such a cloud of dust that it was rumoured a volcanic outburst had

taken place, and the savant *Donati* was sent from *Turin* to ascertain the nature of the catastrophe. The relics of this great fall reach to within 200 ft. of the lowest gap (2,238 m., 7,343 ft.) in the ridge, but it is easier to aim at a point further W., and about 200 ft. higher, following a band on the rocks. The descent to the *Salles* huts (2. c. above) is straightforward and gradual.

## ROUTE C.

### SIXT AND ITS NEIGHBOURHOOD.

The chief, or church, hamlet of the valley of Sixt is locally called 'l'Abbaye,' from the religious house founded there in 1144 by *Ponce* of *Faucigny*, son of the lord of *Faucigny*, and brother of the bishop of *Geneva*. As the abbey of *Abondance* was becoming overcrowded, *Ponce* led a colony thence to Sixt and placed it under the same rule, that of *Austin* Canons Regular. It was secularized in 1793, and the seventeenth-century buildings are now used as an hôtel, one of the most interesting of its kind. In the churchyard is buried *Albanis Beaumont* (d. 1811), who long lived here, and in 1806 published a full account of the valley.

*Sixt* is beautifully situated at a height of 757 m. (2,484 ft.), just above the junction of the two *Giffres*, and under the cliffs of the *Criou*, with a southern aspect. The *Giffre Bas* and the *Giffre Haut* drain the two main branches of the valley. The *Giffre Bas* flows S.W. from the grand amphitheatre of precipitous peaks that enclose the chief arm of the valley, called the *Fer à Cheval* and *Fond de la Combe*. The *Giffre Haut* descends to the N.W. from the hollow of *Les Fonds*, at the foot of the *Buet*, receiving affluents from the

Anterne, Salles, and Gers glens. Few places in the Alps offer greater attractions to the mountaineer who can dispense for a time with snow and ice, by reason of the variety and beauty of the scenery in the neighbourhood. First brought to the notice of travellers by the works of Albanis Beaumont, and of Sir Alfred Wills (mentioned in the Introduction to this Section), it has since become more widely known, particularly among the Genevese, for whom it is very easy of access. The valley is specially famed for its waterfalls, and remarkable for its precipices, its rich and wide-spreading pastures, and its fine forests, with luxuriant undergrowth. Pasture land is, indeed, so abundant that some of the 'alps' have been sold, and others are but half used, while arable land in the valley commands a fancy price.

It will be convenient to describe the excursions to be made from Sixt under three heads—easy walks, fine points of view, and higher peaks.

#### I. Easy Walks.

(a) *The Fer à Cheval*.—This is the first and obligatory excursion at Sixt, especially if it is not intended to cross any of the rather laborious passes from the head of the glen (Rtes. F. and G). It is a very fine specimen of the *cirques* which are more common in the limestone districts of the Pyrenees than in those of the Alps. Its floor is girt about with beech woods, while its cliffs are for the most part inaccessible, and so form the political frontier. A char road leads from the village along the r. bank of the Giffre Bas to the *Pont d'Eau Rouge* (1 hr.), 5 min. beyond which it comes to an end at a little inn, recently enlarged. The mule path (passable also for carts) runs in  $\frac{1}{4}$  hr. to the *Croix de Pellys*. The r.-hand track leads hence to the hamlet of *Les Pellys*, and the l.-hand one to the chapel of *Entre Deux Nants* (10 min.), whither every May the inhabitants of the valley make a pilgrimage in memory of the dreadful

landslip of 1602, which destroyed the village of that name, killing 157 persons. A few minutes further is a little level spot, called *Plan des Lacs*. This is the centre of the **Fer à Cheval**, a semicircular hollow surrounded by precipitous walls of rock, which are surmounted by a range of snow-seamed peaks. The highest of these (the actual summit is invisible) is the *Pointe de Tanneverge* (2,982 m., 9,784 ft.), seen on the l.; the point seen to the r. is the *Tête Noire* (2,139 m., 7,018 ft.), a great spur of the Grenairon. A series of waterfalls, issuing from the small glaciers that lie under the ridge, descend the face of the precipice, and add to the singularity of the scene. Above the first range of precipices, on a shelf of the mountain range scarcely noticed from below (on the way to the Col de Tanneverge, Rte. F), are some Alpine pastures, which, though geographically belonging to Sixt, are yet so difficult of access on this side for animals, that shepherds from Salvan, on the other side of the range, long ago occupied them, and they are still held by the commune of Salvan, though the  $\frac{1}{80000}$  French Government Map (here contradicting the Swiss map) oddly makes them part of Sixt still. Beyond the Fer à Cheval the narrow and gloomy *Fond de la Combe* (Rte. G) extends for about 4 m. to the N.E., enclosed between rugged and precipitous mountains, over which lead the passes described in Rte. G. below. It is so well walled in on either side that the hay which is cut on the ledges of these mountains, often reached by a perilous climb, is commonly made up in bundles, and rolled over the precipices, to be gathered anew on the lower slopes, where it may have lodged. As in Switzerland, fatal accidents not uncommonly befall these bold 'Wild-heuer.'

(b) *The Gers Glen*.—It is a pleasant walk of 3 hrs. up the *Gers* glen to the pretty lake of that name, there being a bridle path all the way.



(Hence the *Tête Pelouse* (2,475 m., 8,120 ft.), a very fine point of view, can be ascended in  $2\frac{1}{2}$  hrs. by easy slopes; it can also be reached from the Salles or the Flaine glens, Rte. B.) In the same excursion a traveller may include a visit to the *Croix de la Porte*, 1,525 m., 5,003 ft. (accessible direct from Sixt in  $2\frac{1}{2}$  hrs.), a cross standing on a wooded knoll which forms the N. end of the Grands Vents ridge, and overlooks Sixt, on the N.E. The return may be made by the very beautiful char road through beech woods from the Gers huts to the road between Samoëns and Sixt. Pedestrians may find many other tracks.

(c) *The Rouget and Pleureuse Waterfalls*.—These are both in the Salles glen, described in Rte. B.

(d) *The Les Fonds Hollow*.—This is a much to be recommended excursion. It is fully described in Rte. D.

## 2. Fine Points of View.

(a) *The Collet d'Anterne*.—This point (1,799 m., 5,902 ft.) may be reached in 3 hrs. from Sixt. Over it passed the old route from Sixt to Chamonix (Rte. D). The return may be made by the rock shelf of *La Verrière* and the *Signal d'Anterne* (2,076 m., 6,811 ft.) to the *Grasses Chèvres* pastures and so to Les Fonds.

(b) *The Croix de Commune*.—This is an admirable spot whence to view the precipices of the Fer à Cheval. There are many charming ways to it. The best, perhaps, is to follow the Fer à Cheval route (1. above) to the hamlet of Les Pellys ( $1\frac{1}{4}$  hr.), and thence to mount S.W. through woods to the *Commune* huts ( $1\frac{1}{2}$  hr.). The cross (1,932 m., 6,339 ft.) is  $\frac{1}{2}$  hr. from the huts, above and to the l. of them. The return to Sixt may be made past the *Mouillette* huts, by a path which descends through Passy to the stone bridge over the Giffre. This round will take 5–6 hrs. from Sixt and back.

(c) *The Pointe de Sambet*.—From Sixt it is best to follow the road to

the Fer à Cheval for  $\frac{1}{4}$  hr., then take a path to the l. through the woods, which passes the *Lower Salvadon* huts ( $1\frac{1}{2}$  hr.). When within  $\frac{1}{4}$  hr. of the Upper Salvadon huts (1 hr. further on) it is necessary to keep straight up to the E., and so gain the top (2,234 m., 7,330 ft.) in  $1\frac{1}{2}$  hr.

## 3. Higher Peaks.

(a) *The Vaudru, or Les Avaudrues*.—The route of the Pointe de Sambet is followed through the Salvadon glen, the Upper huts being gained in  $2\frac{3}{4}$  hrs. from Sixt. The top (2,672 m., 8,767 ft.) is thence reached in  $2\frac{1}{4}$  hrs. by means of the ridge between it and the Sambet, and some steep rocks at the end.

(b) *Pointe de Tanneverge* (2,982 m., 9,784 ft.).—This peak is most easily reached by its S.E. ridge in 2 hrs. from the Col de Tanneverge (Rte. F). There is a more interesting way from the Croix Moccand (2 hrs. below the pass) to the S.E. ridge. This short cut saves  $\frac{3}{4}$  hr., but requires local knowledge, as three traverses to the r. on the triple rock band of the peak are required.

A very long way (useful only when traversing the peak to or from Champéry) is that from the Col de Sagerou (6 hrs.), discovered in 1864 by Sir Alfred Wills. It is best to spend the previous night at the Vogealle chalets or the Salanfe inn. From the Col the Mont Ruan gl. is gained by climbing up the middle of a steep rock face, and then traversing in a S. direction till a gully (or better the rocks on its r.) leads up a great rock spur, coming down from the Mont Ruan, to the *Prazon* gl., by which the summit is attained without any further difficulty.

(c) *Mont Ruan*.—This peak (3,078 m., 10,099 ft.) is best attained (as pointed out in Rte. F) from the Barberine Club hut on the S., or the Salanfe inns on the N. If it be desired to reach it from Sixt it is necessary from the Col de Sagerou to follow the way just described to the Mont Ruan gl. (at the foot of which

Jacques Balmat, the couqueror of Mont Blanc, lost his life in September 1854, while searching for gold) and the spur between it and the Prazon gl., from the top of which, keeping an E. direction over snow, the summit is gained in  $4\frac{1}{2}$  hrs. from the Col.

(d) The *Buet* (3,109 m., 10,201 ft.) is fully described in Rte. E, below.

(e) **Pointe de Salles** (2,494 m., 8,183 ft.)—This is the magnificent summit which dominates Sixt on the S. It may be easily ascended in 2 hrs. from the Salles huts by grass slopes and stones. Lovers of rock-climbing will prefer to make the ascent from the E. (perhaps sleeping at the Anterne huts), which takes about 6 hrs. from Sixt. It is necessary to gain by nicely-stepped grass slopes the N. arête, just N. of a deep notch cut in it. The N. ridge is climbed first on its W., then on its E. side, the W. slope being finally regained again after passing through a sort of tunnel. Hence a ledge enables the climber to circle round a great rock cirque, beyond which a gully leads to the easy part of the W. face, not far from the summit.

The Pointe de Salles is really the N. end of the great precipices of the Fiz range. The highest point of these is the *Tête à l'Ane* (2,793 m., 9,164 ft.), which may be gained in 1 hr. from the Pointe de Salles along the crest of the ridge, and naturally commands a more extensive view.

## ROUTE D.

### SIXT TO CHAMONIX BY THE COL D'ANTERNE.

Mule path ;  $9\frac{3}{4}$  hrs.

This is a walk that can be most highly recommended, as there is an excellent mule path the whole way,

while the views obtained at various points *en route*, especially from the Col d'Anterne and the Col du Brévent, have few rivals in the Alps. Töppffer's famous account of the Col d'Anterne is known to lovers of Alpine literature.

Leaving Sixt by the new stone bridge over the Giffre Bas, the char road mounts gradually across the lower slopes of one of the buttresses of the Grenairon to *Salvagny* ( $1\frac{1}{4}$  m.), the other chief village in the valley of Sixt. Immediately after leaving Salvagny the foot path crosses the wide channel of the *Nant Sec*. This can be converted by half an hour's heavy rain into the bed of an impassable torrent, for the curious fan-shaped slabs of rock (many acres in extent) which lie above it on the slopes of the Grenairon serve as a collecting ground for the rain. Beyond the torrent it is necessary to follow the l.-hand path, which ascends 1,000 ft. to the *Croix d'Espérit* ( $\frac{3}{4}$  hr.), passing through pine forests with lovely moss and fern growth.

【The r.-hand path leads to the Pont de Salles and Pleureuse waterfall (see Rte. B. 2. c), and marks the direction of the old mule path across the Col d'Anterne. This strikes up a sloping shelf of pasture under the grand precipices of the N.W. buttress of the Pointe de Salles, passes the *Collet d'Anterne* (1,799 m., 6,902 ft.) (3 hrs. from Sixt), and then ascends gradually over the Plateau d'Anterne past the Anterne huts, to join the new path near the Lac d'Anterne.  $4\frac{3}{4}$  hrs. are required from Sixt to the Col d'Anterne by this track, now but little used.】

From the Croix the path leads horizontally for  $\frac{3}{4}$  m. through fir woods, with fine glimpses of the Salles glen and the Rouget waterfall, to the *Sélire* huts. Opposite is the fine fall of the Anterne torrent, called *Joux Bas*, and on the r. is the great cliff of the *Collet d'Anterne*, the curved strata on the W. side of which

form the gorge called *Les Faucilles*. In  $1\frac{1}{2}$  hr. from Sixt two groups of the *Frassettes* huts are passed, and then a grassy knoll is reached, whence a striking view of the precipices of the Buet is obtained. On a wooded mound above the fork of the main stream is seen the 'Eagle's Nest.' This is the summer residence of Mr. Justice Wills, who built it in 1859. From this knoll the path in 10 min. reaches the bridge over the stream at the foot of the mound on which lie the **Fonds chalets**, and in 10 min. more the huts (1,381 m., 4,531 ft.) are gained ( $1\frac{3}{4}$  hr. from Sixt). 5 min. beyond, a branch path to the l. marks the way to the Buet (Rte. E. 1), but the traveller bound for the Col d'Anterne must continue by the mule path at a level S.E. to the bridge over the Fonds torrent. Hence it mounts in zigzags in a W.S.W. direction to the (50 min.) *Grasses Chèvres* (1,707 m., 5,601 ft.), a shoulder of rich pasture with 3 or 4 ruined huts on it. This commands views of great beauty down the valley, and is clothed, from a height of 5,400 ft. down to the Giffre Haut, on the N., and the Anterne torrent on the W., with magnificent forests of fine timber, remarkable for the richness of the undergrowth. The path doubles back again S.E. up the grassy shoulder to the 'Signal' or '*Bas du Col d'Anterne*' (2,076 m., 6,811 ft.),  $3\frac{1}{2}$  hrs. from Sixt.<sup>1</sup> This is the abrupt edge of the rolling moorland of Anterne (*Plateau d'Anterne*), over which the path runs level to a point overlooking the *Lac d'Anterne* (2,040 m., 6,693 ft.), a dark blue tarn which lies in a hollow to the W., 200 ft. below the spectator. On the way from the Plateau to Servoz the track passes in succession the Mesozoic and Carboni-

<sup>1</sup> The *Carte Vicinale* ( $\frac{1}{100000}$ ), published by the Ministry of the Interior in 1888, marks the mule path as going from the Grasses Chèvres up the rock shelf of *La Verrière*, and past the Anterne huts to the lake. There is a track this way, but no mule path.

ferous formations, and the geologist will be pleased to find fossils in greater abundance than is usual in the High Alps. The Col d'Anterne (2,263 m., 7,425 ft.) is reached in 25 min. from the lake by a gradual ascent ( $4\frac{3}{4}$  hrs. from Sixt).

Here a magnificent view of the whole chain of Mont Blanc bursts suddenly on the eyes of the traveller. Mont Blanc himself, 11 miles distant, lies right *en face*, the rounded summit in the immediate foreground being the *Pointe Noire de Pormenaz* (2,334 m., 7,658 ft.) On the l. is the Brévent range, stretching away northwards to the Aiguilles Rouges, and making a dark foreground to the great Chamonix Aiguilles from the Midi to the Verte. On the r. the chain of Mont Blanc trends away to the S.W., while to the W. rise the hills round Albertville.

From the Col the mule path descends for 10 min., when it branches. Here the ways to Chamonix and to Servoz divide.

(a) *To Chamonix*. — Take the l.-hand branch which passes by the *Moëde* chalets, crosses the Diosaz torrent 1,700 ft. below the Col, and after passing the *Arlevaz* huts ( $1\frac{3}{4}$  hr. from the Col) mounts steeply to the *Col du Brévent* ( $1\frac{1}{2}$  hr.), 6,975 ft., some way to the N.E. of the peak of the Brévent. Hence it descends steeply to the inn of Planpraz,  $\frac{1}{2}$  hr. (§ 16. Rte. A. no. 9), and follows the steep zigzags down to Chamonix (1 hr.), which is thus reached in  $9\frac{3}{4}$  hrs. from Sixt by a most lovely route.

The whole *Diosaz valley*, above the gorge at its lower end, is open moorland; the rock is granite on the Aiguilles Rouges and Brévent side, as well as over the whole of the *Pointe Noire de Pormenaz*. This joins the limestone of the Col d'Anterne-Buet range at the bottom of the valley. The Trias and Lias are represented by two comparatively thin bands, whose outcrop is on the steep N.W. declivity of the valley. Near the junction of the Carboniferous strata



with the Trias fossil plants are abundant. In 1861 Sir Alfred Wills, guided by Auguste Balmat, found unusually fine specimens on the slopes above the Moëde chalets. About an hour above the Arlevaz huts are some extremely fine examples of former glacial action. The 'roches moutonnées' are most typical, and the longitudinal scoring of their sides is in most wonderful perfection. The main direction of the glacial flow from the Aiguille Verte across the Brévent range is clearly shown. To any one interested in the subject the Lac Cornu (Rte. F. 4) and its surroundings are well worth a visit.

(b) *To Servoz.*—Take the r.-hand path, which runs due W. under the towering precipices of the Rochers des Fiz, till near the *Ayer* huts, high above the r. bank of the Diosaz. Leave these to the r., and descend S. to the hamlet of *Le Mont*, either directly, or by a less steep way past the village of *La Côte* (a slight détour). In a few minutes more Servoz is reached ( $2\frac{3}{4}$  hrs. from the Col d'Anterne, or  $7\frac{1}{2}$  hrs. from Sixt). Hence it is  $7\frac{1}{2}$  m. by carriage road to Chamonix (Rte. 16. A.).

The traveller bound to St. Gervais or Sallanches may traverse by a level path from the chalets of *Ayer* to the Plaine Joux, and thence descend to Passy by a most agreeable and shady cart track (see Rte. B. 2. c).

## ROUTE E.

### SIXT TO ARGENTIÈRE OR CHAMONIX BY THE BUET OR THE AIGUILLES ROUGES.

It is a remarkable fact that, for topographical reasons, there is not a single direct passage from the Sixt valley to that of Chamonix. Between them lies the deep-cut glen of *Diosaz*,

while at the N. head of that glen rises the Buet, a descent from which leads not to the Arve, but to the Trient valley. Thus two passes, or a peak and a pass, must be traversed by a traveller on his way from Sixt to Chamonix. Many travellers will prefer to take the mule path over the Cols d'Anterne and du Brévent, described in the last Rte. But in fine weather an active walker should not fail to take the Buet or the Belvédère on his way, while there are various passes in the range (commonly called the Aiguilles Rouges range) running from the Buet to the Brévent which may attract those who like more unfrequented tracks.

1. *By the Buet.*—The **Buet** (3,109 m., 10,201 ft.) is the highest point in the ranges between Sixt and Chamonix, and, as its ascent offers no difficulty, it attracted the attention of all the early travellers who explored the neighbourhood of Sixt or of Chamonix. It was, in fact, the third snowy peak in the Alps to be conquered by man, the Rochemelon, near Susa, in the fourteenth century, and the Titlis, in 1739 or 1744, having been its only predecessors. In 1770 the brothers Deluc ascended the Buet from the Sixt side, and in 1775 Bourrit discovered a new route from the Pierre à Bérard, by which in the following year Saussure himself reached the summit. On the other hand the Buet has a more unenviable notoriety as the scene, in 1800, of the first recorded fatal accident to a traveller in the High Alps, Monsieur F. A. Eschen (who is commemorated by a monument near the bridge over the Diosaz, close to Servoz) having then lost his life in one of its crevasses. Hence the Buet deserved to have its early history written, and this has been done by Mr. D. W. Freshfield in the 9th volume of the 'Alpine Journal.'

Most mountaineers who visit both Sixt and Chamonix take the Buet on their way between those two places. But, as this is a long day of 10 or 11 hrs., it is usual to sleep at the

little inn at Les Fonds ( $1\frac{3}{4}$  hr.) if coming from Sixt, or at the Pierre à Bérard inn, if coming from Chamonix. There is also in this way a better chance of obtaining a good morning view from the summit. The ascent is, considering the height of the mountain, very easy, and a single guide is sufficient for a party of several travellers moderately well used to mountain expeditions. The usual route just avoids the Col de Léchaud and the Col de Salenton, so that, if the weather should appear unfavourable for the ascent, the traveller may reach Chamonix direct by these passes (see 2. below). The ordinary route up the Buet mounts from Sixt by the Fonds glen, and descends to Chamonix by the Pierre à Bérard inn and Argentière.

From Sixt the chalets of Les Fonds are reached in  $1\frac{3}{4}$  hr. by the Col d'Anterne mule path, described in the last Rte. Five minutes beyond them it is necessary to leave the mule path for a track which crosses and recrosses the Fonds torrent, then mounts steeply by zigzags up the more southerly of two brushwood-covered ridges which descend from the *Beaux Prés* pasture basin, just below the *Col de Léchaud*. This basin is gained in  $1\frac{1}{2}$  hr. from les Fonds, and the pass (2,283 m., 7,490 ft.) is 35 min. further on by grass and shale ( $3\frac{3}{4}$  hrs. from Sixt). The way up the Buet bears N. (avoiding the pass) across the basin, and mounts N.W. up the edge of the highest grass slopes to a bare hump where the spur of *Les Carres* joins the main S.W. ridge. Here the remains of the *Baux glacier* are traversed for a short distance, then the main S.W. ridge regained by a stony bank, and followed past the small *Cabane Pictet* (230 ft. below the summit) and the cairn to the top, about 2 hrs. from the *Beaux Prés*. (It is possible to follow the ridge, or its E. face, from the Col de Léchaud to the top in about  $2\frac{1}{2}$  hrs.)  $5\frac{1}{4}$ –6 hrs. are thus required from Sixt.

☐ Two more direct routes, fit only

for good climbers, may be briefly indicated. One mounts from the point at which the Buet track leaves the Chamonix mule track, 5 min. from the Fonds huts, through fir woods, and past the buttress of *Les Carres*, to the 'Cheminée de Daniel,' and up this to its junction with the main S.W. ridge at the hump noted above. The other by the Belleface pastures and the 'Couloir de la Lionne' leads up to the *Baux glacier*.]

The beauty and grandeur of the panorama from the Buet can scarcely be exaggerated, though some competent judges rank that from the *Belvédère* as little, if at all, inferior. The height of the Buet (3,109 m., 10,201 ft.) raises it above the nearer ranges, yet leaves in full grandeur the great mass of *Mont Blanc*, rising 1,700 m. (5,578 ft.) above the spectator. To the mountaineer who approaches *Mont Blanc* from the N. the ascent of the Buet from Sixt has the great advantage of giving him at once the most complete general view of the entire range, and by descending to Chamonix he will be able to fill in the details of a picture that will remain ineffaceably impressed on his memory.

The descent towards Chamonix is usually made by the S.E. face to the Pierre à Bérard inn, a route always chosen for the ascent from that side. It starts from the cairn, a little below the summit on the ridge running down to the Col de Salenton, and lies over easy snow and shale to the Bérard glen, striking the route from the Col de Salenton about 300 ft. below that pass. After descending about 1,800 ft., the traveller reaches a curious rock, naturally broken into ledges which form convenient seats, called the '*Table au Chantre*,' a name given to it in honour of Bourrit, who made the first ascent from this side in 1775, and who was Precentor of the former Cathedral church of Geneva.  $\frac{1}{2}$  hr. below this ( $1\frac{1}{2}$ – $1\frac{3}{4}$  hr. from the top, 3 hrs. up) is the *Pierre à Bérard* (1,930 m., 6,332 ft.), a huge detached rock. Near it is a little inn.

(For the Col de Bérard and the route up the Belvédère, see 3. below.) Hence a mule path is carried down the side of the mountain above the l. bank of the *Bérard* torrent, till, after passing a grove of larches, it reaches a little grassy plain. Lower down the track winds amidst huge blocks of protogine, passes first near the fine Bérard waterfall (crossing here to the r. bank), and then reaches the hamlet of *La Poyaz*, where it bears r. and joins the frequented high road from the Tête Noire to Chamonix (1 hr.) (§ 16. Rte. H), close to the watershed between the Eau Noire and Arve valleys. This point is 4 m. from Argentière, or 10 m. from Chamonix.

[A harder route is to descend from the S.E. arête of the Buet to the gl. on the N., and so go through the *Entre les Eves* glen to the high road.]

If bound for *Vallorcine* or places beyond, bear l. at La Poyaz to the high road. *Finhaut* may be reached from the top of the Buet over the peak of the *Cheval Blanc* (2,841 m., 9,321 ft.), the *Col du Vieux*, and the *Col de la Gueula* (Rte. F), a fine but long route. Another very fine but long route to Chamonix is to descend from the Buet to the Col de Salenton by the S.E. ridge (or to any spot between that Col and the Col de Léchaud), then to follow a faintly marked track to the *Barme* hut, and thence *either* to cross by the Lac Cornu (4. below) or, more directly, by the *Col de la Flégère*, further N., and to the S. of the Aig. de la Glière of the French map, to the Flégère path, and so to Chamonix, or to continue from Barme along the path till, at the Arlevaz huts, the Col du Brévent (Rte. D) mule path is joined and followed over that pass to Chamonix (6-7 hrs. from the Buet); in both cases the two finest views of the Mont Blanc range are combined in one day's walk. If bound for *Servoz* it is necessary to go down the Diosaz valley to the *Villy* and the *Écuelle* huts, on the r. bank, striking the Col

d'Anterne path (Rte. D) near the Col, and following it henceforth (5 hrs. from the Buet to Servoz).

2. *By the Cols de Léchaud and de Salenton.*—The route from Sixt to the former pass (2,283 m., 7,490 ft.),  $3\frac{3}{4}$  hrs., has been described above. There is a tarn on the Col, but no track from the Beaux Prés basin onwards by this route. From the pass 1 hr. is required to the Col de Salenton. The traveller should bear a little to the l. along the ridge, descend steeply on grass for 500 ft. to the very head of the Diosaz valley, and then make for the hollow trough at the junction of the granite and the limestone, and so mount to the *Col de Salenton* (2,475 m., 8,120 ft.) A little way below the Col the Buet route is joined, and the inn at the Pierre à Bérard (see above) reached (1 hr.) over snow and shale. From the second pass it is necessary to bear well to the r. in order to avoid glacier-worn rocks below.

3. *By the Belvédère.*—This peak (2,966 m., 5,731 ft.), which commands a view inferior only, if at all, to that from the Buet, is the highest summit of the range between the Diosaz and Arve valleys, commonly called the *Aiguilles Rouges*. The topography of this range has been strangely misrepresented on the maps, and the article (with a sketch map) by MM. Vallot, in the 'Annuaire du Club Alpin Français,' vol. xix. 1892, pp. 12-28, should be consulted. The name 'Aiguilles Rouges' seems to be properly confined to the serrated ridge N.E. of the Belvédère. Referring for details to this article, it need only be said here that the maps agree as to the height of the Belvédère, but the  $\frac{1}{80000}$  map calls it 'Aiguilles Rouges,' while the  $\frac{1}{100000}$  map names it 'Aiguille de Glière,' the latter name really belonging to a peak some way further S. It is now best known by the name of 'Belvédère,' which it thoroughly deserves, as it is a very fine view point. It can easily be crossed from Sixt to



Chamonix, it being best to sleep at Les Fonds or at the Flégère inn. From Sixt the Col de Léchaud ( $3\frac{3}{4}$  hrs.), must be gained as described above. Thence it is necessary to descend 900 ft., and then to cross a long spur which hides from sight the Col de Bérard (2,563 m., 8,409 ft.), N.W. of the peak. The traverse from one Col to another takes  $2\frac{1}{4}$  hrs., and lies over grass and gneiss hummocks. (The Col de Bérard is reached from the Pierre à Bérard inn in 1 hr., so that that inn can be taken as a starting point for the ascent.) The N.W. ridge, which at first is very steep, is easy to follow to the false top, and thence is a very narrow causeway, with one hard bit. The summit ( $1\frac{1}{2}$  hr. from the Col de Bérard) is crowned by a small stone hut.

The descent lies down the easy, though steep and narrow, rocky S. arête, which is left a good way down in order to go along the upper edge of the *Glacier Blanc*, by which a stony hollow is reached. After passing the *Lac Blanc* the traveller gains the Flégère inn (2 hrs. from the summit), the route having been in a S.E. direction after leaving the S. arête.  $9\frac{1}{2}$  to 10 hrs. are required from Les Fonds to Chamonix over the Belvédère.

From the spur on the way between the Cols de Léchaud and de Bérard, mentioned above, it is easy to keep S. along the W. base of the Belvédère, and then to mount by a small glacier in an E. direction to the r.-hand notch close under the *Aiguille de la Floriaz*, 2,888 m., 9,475 ft., of MM. Vallot's map (2,902 m. on the  $\frac{1}{50000}$  map, the only one which marks it, though giving the name to a lower peak to the S.W.) From this pass, which may fitly be called *Col de la Floriaz*, an easy descent leads to the stony hollow gained on the descent from the Belvédère, and so to the Flégère inn in  $7\frac{1}{2}$  hrs. from Les Fonds.

4. *By the Lac Cornu and the Col de la Glière.*—This is a beautiful walk, while to the geologist the re-

markably fine specimens of glacial action to be seen near the lake will prove of very great interest. Coming from Sixt it is easiest to follow the Col d'Anterne mule track as far as the Arlevaz huts, and then to strike E. up grass and glacier-worn rocks to the *Lac Cornu*, 2,275 m., 7,464 ft. (4 hrs. from Les Fonds.) (If coming from the Col de Léchaud, keep r. past the Villy and Barme huts (or S.E. direct from the latter by glaciated rocks) to the Arlevaz huts.) The lake is a beautiful clear mountain tarn, and round it there are fine echoes. In 35 min. the pass in the ridge on the E. is gained. It is N. of the peak called *Aiguille Pourrie* by all the maps, including that of MM. Vallot. A great snow bed and a stony descent lead to the Flégère path below the inn, Chamonix being reached in 3 hrs. from the lake, or 7 hrs. from Les Fonds.

#### ROUTE F.

##### SIXT TO SALVAN AND MARTIGNY.

The principal summits of the mountain chain between the Buet and the Dent du Midi are all formed of Jurassic limestone, and constitute a range which is, roughly speaking, parallel to the two chief valleys that enclose it—the Val d'Illiez on the W. and the Vallée du Trient on the E. Several tributary glens descend nearly due E. from this range. The most northerly of these is that of *Salanfè*, traversed by the Sallanche torrent, which, after forming the well-known waterfall of Pissevache, joins the Rhône near Vernayaz; the middle one, that of *Emaney*, is watered by the Triège, which flows past the Emaney huts to join the Trient at Triquent; while the most southerly, bending gradually to the S.E., is traversed by the *Barberine* torrent,

which joins the Eau Noire (the true source of the Trient) a little below the village of Vallorcine. The lower course of the Barberine forms the frontier between Switzerland and France; otherwise the basins watered by these three streams lie entirely on the Swiss side of the chain.

There are three passes leading from Sixt to the Barberine glen, all of which converge at the **Emosson huts** (1,774 m., 5,820 ft.), in its middle reach. Hence a path leads over the *Col de la Gueula* (1,945 m., 6,381 ft.) direct to Finhaut and Salvan, thus avoiding the sharp rise and rough descent above the r. bank of the river gorge in French territory. Of course the easiest route from Sixt to Salvan and Martigny is over the Cols de Léchaud and de Salenton to Pierre à Bérard (Rte. E), and then by the high road from Chamonix to either place. But the three passes to be described are far more interesting.

1. *By the Col de Tanneverge* (10 hrs. to Salvan).—From Sixt the road to the Fer à Cheval must be followed as far as the little inn beyond the Pont d'Eau Rouge (1 hr. 5 min.), and then the path to the hamlet of *Les Pellys* (Rte. C. 1. a. above). This hamlet is just at the foot of the precipices on the r. of the beautiful waterfall of *La Méridienne* (easily recognised, as it springs from the middle of the mountain face, at the junction of the Lias and Jurassic formations). The track mounts hence on the l. of the waterfall by narrow ledges, with good hand holds, up the l.-hand side of a shallow black gully, leading upwards. This is the *Pas Né*, or *Pas Noir* (2¼ hrs. from Sixt). Above it, very steep grass slopes must be climbed with care to the N. end of a narrow band of shale, along which a level traverse of 1 hr., between the lower precipices enclosing the Fer à Cheval and those of the *Pointe de Tanneverge* itself, leads to the upper pastures at the *Croix Moccand*, 1,367 m., 4,485 ft. (2¼ hrs.) This marks the political

frontier, for the pastures hence to the Col are, as pointed out in Rte. C. politically Swiss, though geographically part of the territory of Sixt, whence access is too difficult for animals.

It has been maintained, on the strength of a document of 1307, that they passed at that date to the men of Salvan, but it seems more probable, from the boundaries set forth in that charter, that the deep basin of *Vieux Emosson* is really meant, though this is not absolutely certain.]

Hence the pastures are mounted towards the ridge at their E. end. It is possible to cross it at the lowest point (2,497 m., 8,193 ft.), but this involves a great traverse round to the r. on the other side. It is, therefore, best to cross a notch S. of the point marked 2,577 m. on the Swiss map, some way S. of the lowest depression (2 hrs.)

From the Col the ascent of the *Pointe de Tanneverge* (2,982 m., 9,784 ft.) may be effected in 2 hrs. See Rte. C. 3. b.]

From the gap near 2,577 m. (8,455 ft.) the descent to the *Barberine huts* (1,836 m., 6,024 ft.), in a pretty grassy basin—new *Club hut*, see Rte I. 3.—lies due E., and takes 40 min.

From this hut the *Mont Ruan* (3,078 m., 10,099 ft.) may be ascended in 4½ hrs. by the S.W. bit of the *Fonds glacier*, and the S.W. ridge reached at the spot where stand the figures 2,940 m. on the Swiss map, the top being then gained by passing over the lower summit (3,047 m., 9,997 ft.), while the *Tour Sallières* (3,227 m., 10,588 ft.) is also accessible in 6 hrs. from the *Club hut* by the long ridge running up from the *Pointes de Boillon*. These are the easiest routes up these two fine peaks, between which lies the *Col de la Tour Sallières*, described in Rte. I. 2.]

In 25 min. a path along the l. bank of the torrent leads to a point opposite the *Emosson huts* (1,774 m.,

5,820 ft.), where the routes from the two other passes to be described fall in. Hence the Chamonix high road near the Barberine inn may be reached by a very rough way by a track high above the r. bank of the gorge, in about  $2\frac{1}{4}$  hrs. It is far better to mount E. by a zigzag path in  $\frac{1}{2}$  hr. to the **Col de la Gueula** (1,945 m., 6,381 ft.), whence *Finhaut* may be reached in  $\frac{3}{4}$  hr., and *Salvan* by the road in  $1\frac{1}{4}$  hr. more (§ 16. Rte. H). From the Col it is easy to go direct to Salvan by a pretty, level path past the *Fenestral* huts (above Finhaut), and then through pine woods ( $2\frac{1}{2}$  hrs.)

【From the Barberine huts there is a high-level route to Salvan or Martigny, which involves the traverse of several passes, described in Rte. I., though this route would involve a night at the Barberine Club hut for any one coming from Sixt. These are the *Col de Barberine* (2,480 m., 8,137 ft.) to the Emaney glen, and then the *Col d'Emaney* (2,427 m., 7,963 ft.) to the Salanfè basin, whence it is easy to descend direct to Salvan, or to cross the *Col du Jorat* (2,223 m., 7,294 ft.) to the valley of the Rhône, gained near Evionnaz.】

2. *By the Col du Cheval Blanc* ( $9\frac{1}{2}$  hrs. to Salvan).—In former editions this pass was named, not quite correctly, the Col du Grenairon. It is a quicker and easier route than either 1 or 3. From Sixt the traveller must go by Passy and the Mouillette huts to the Croix de Commune ( $2\frac{1}{2}$  hrs.), as in Rte. C. 2. b. In this way the lower precipices are turned, and it then becomes necessary to skirt N.E. along their brink for 1 hr. over slopes of steep rough stones. A lateral rock wall cuts off all access to the Col de Tanneverge, so that débris and stones must be mounted, round the N. end of the small Cheval Blanc glacier, to a notch in the ridge between the points marked 2,725 and 2,659 mètres on the Swiss map. This is the *Col*, c. 2,600 m., 8,530 ft. ( $3\text{--}3\frac{1}{2}$  hrs.), which is a good bit N.

of the peak of the *Cheval Blanc* (2,841 m., 9,321 ft.) A track leads E. direct to the desolate and stony basin of *Vieux Emosson* (for its probable history see under 1. above), no doubt an old lake bed. A narrow passage by the l. bank of the stream (avoid a tempting big path which mounts the great buttress on the W.) leads to the *Emosson* huts, 1,774 m., 5,820 ft. (1 hr.), beyond which the Barberine torrent is crossed to join the path described in 1, above.

3. *By the Col de Tanneverge du Buet* ( $8\frac{1}{4}$  hrs. to Salvan).—This is much the most interesting route for a mountaineer. From Sixt the chalets of Les Fonds are gained in  $1\frac{3}{4}$  hr. by the Buet route (Rte. E. 1). Hence it is necessary to mount the precipices in the N.E. angle of the Fonds basin by the *Guizra* ('gouffre'), a very remarkable and imposing black rift (seen from Les Fonds), of which an early account was given by Mr. Justice Wills in the 'Alpine Journal,' vol. ii. pp. 51-3. It is part of a chasm, 1,000 to 1,500 ft. deep, a mile long from E. to W., and often only 50 yards wide at the top, which is parallel to and close behind the outer face of the precipice. This outer wall has been cut through in the centre to the base, leaving a narrow entrance between immense, knife-edged flakes of cliff on either side, each of which hides one arm of the chasm. Two level white bands on the r.-hand flake mark the entrance, which lies N.N.E. of Les Fonds, and in full view. The r. and longer arm is impassable. The slope of débris in the other is separated from the grass slopes above by a short wall of rock, furnished with easy steps ( $1\frac{1}{4}$  hr. from Les Fonds). (In descending, these steps are hit by aiming at the big tree on the top of the outer flake, after crossing all the converging grass gullies, and descending *two* low rock bands that cross them.) Up these grass gullies, and along the upper grass slopes, the traveller mounts, with the strata, to the top of the long E. arm of the



chasm, and crosses it to the wide sloping hollow between the Buet and the Grenairon. This hollow is ascended to its head, at the cairn on the *Pointe du Genève* (2,819 m., 9,249 ft., on the French map). It is necessary to go along this level ridge for  $\frac{1}{4}$  hr., then bear down round its end, the peak of the *Cheval Blanc* (2,841 m., 9,321 ft.), for 10 min. to the *Col du Vieux* (2,536 m., 8,321 ft.) This pass leads from the Cascade de Bérard by the Eau Noire gorge to the Vieux Emosson hollow, which is gained from it by the steep rocks in  $\frac{1}{2}$  hr., the route of the Col du Cheval Blanc (2. above) being thence followed to the Emosson huts, and over the Col de la Gueula to Salvan.

## ROUTE G.

### SIXT OR SAMOËNS TO CHAMPÉRY.

Three passes lead from Sixt or Samoëns to Champéry. If the traveller chooses the first described below, he will have a good mule path all the way, and will not need a guide; but the two other passes are more attractive to mountaineers, and are the most direct routes to Champéry, offering as well, for a considerable part of the journey, very fine views of the Tanneverge precipices. The Col de Sagerou was formerly considered difficult and dangerous, but it is, under ordinary conditions, quite within the reach of any one used to mountain excursions.

1. *By the Cols de la Golèse and de Coux* ( $5\frac{1}{2}$ –6 hrs.)—This route lies through very pleasing forest scenery, near the N.W. limit of the Cretaceous and Tertiary rocks of the ranges N. of Sixt, which about unconformably on the Liassic and Triassic strata forming the head of the valley of the Dranse.

From Samoëns, 4 m. below Sixt by carriage road (Rte. A), a char road mounts along the r. bank of the cold and crystal *Clévieux* in a N. direction to the hamlet of *Les Allamands* (where the Col de Bostan route branches off to the N.E.) The mule path strikes up the hill-side at first N.W. through beech woods and hay meadows, then bends slightly N.E. and passes over pastures to some huts where refreshments can be obtained. Just beyond these is the *Col de la Golèse*, 1,671 m., 5,482 ft. ( $2\frac{1}{2}$  hrs. from Samoëns.) The new path runs fairly level across the head of the Dranse de Morzine glen (2 hrs. from Morzine, Rtes. M. and N. 3), keeping a N.E. direction, and passing between the timber below, and the cliffs above, to the *Col de Coux*, 1,924 m., 6,313 ft. ( $1\frac{1}{4}$  hr.) This pass is on the frontier between France and Switzerland, and there is a small inn just on the Swiss side. The descent lies N.E. by steep zigzags to the pasture hollow of *Les Creuses*, the path always keeping on the l. bank of the *Vièze* torrent. A wooden bridge (just above which there is a sulphureous spring) leads over the side stream of *Seumon*, beyond which the main path traverses the hamlet of *Autervenas*, and descends N.E. to the large village of *Champéry* (Rte. H),  $1\frac{1}{2}$ –2 hrs. from the Col de Coux. From that pass there is a longer, but prettier, way slightly S.E. past the *Barmaz* huts.

2. *By the Col de Sagerou* ( $8\frac{1}{4}$ –9 hrs.)—From Sixt it is necessary to follow the road towards the Fer à Cheval, and then beyond to ascend to the very head of the Fond de la Combe, a deep narrow trench, overhung by tiers of precipices on each side. At its extremity the cow path doubles back above the lower cliffs on the W. side to the *Boret* huts, but there is a shorter foot path on the l., which mounts on the r. bank of the torrent by a track cut in the rock wall, the *Pas de Boret*, direct to the same huts, reached thus in  $2\frac{1}{4}$ – $2\frac{3}{4}$  hrs.

from Sixt. The path to the Col traverses a succession of beautiful pastures to a second mountain shelf, marked by a huge fragment of rock, called the *Pierre à Dard* ( $\frac{1}{2}$  hr.)

[From this point there is a very beautiful route, especially recommended for the *descent* to Sixt, which leads by a hay path traversing a fine ravine, then rounding the flank of the Pointe de Sambet, nearly at a level at first, then descending steeply, to *Nantbride*, 3 m. from Sixt on the Fer à Cheval road. Very fine views of the Tanneverge precipices and of the Mont Ruan precipices are gained on the way.]

Here the track turns to the r. over a rocky spur to gain the *Vogelle* huts (50 min. from those of Boret), 1,864 m., 6,116 ft. These are situated in an exquisite little amphitheatre of green, set in a framework of the most rugged rocks, which overhang them on the W. 'The way to the Col now passes over a succession of hillocks and ravines of slaty débris, but the track is very ill defined, though in clear weather there is no difficulty in maintaining the direction.' The path mounts N.E. to a shoulder, then runs N.E., keeping well above the cliffs on the r., to the pass, 2,413 m., 7,917 ft. (1-1 $\frac{1}{2}$  hr.)

[Travellers coming from Champéry are warned not to attempt the descent of these cliffs to the head of the Fond de la Combe, as this involves great loss of time. Coming in the reverse direction,  $\frac{3}{4}$  hr. may be saved by this way, which is rough and pathless after it quits the cow path 300 ft. above the glen, but on the ascent not difficult.]

'Looking back, the Buet and Mont Blanc successively appear above the intervening ridges' before the Col is reached. From the pass 'the view in all directions, save the immediate foreground, is striking and beautiful. The valleys of Sixt and Illiez are seen far below on either hand, and around them rise the noble summits of Mont Blanc, the Buet, the Pointe de Tan-

neverge, the Dent du Midi, and the mountains on the other side of the Rhône' (F. F. T.)

[From the Col the summit of the *Mont Ruan* (3,078 m., 10,099 ft.) may be reached in 4 $\frac{1}{2}$  hrs., and that of the *Pointe de Tanneverge* (2,982 m., 9,784 ft.) in 6 hrs., in both cases by way of the Mont Ruan glaciers. See Rte. C. 3. b. and c.]

The rocks on the N. side of the pass are precipitous. It is necessary to keep at first to the l. for about 400 yards across a steep slope either of loose débris or snow (where steps may have to be cut) above a band of cliffs. A short, steep gully, in which there was formerly a wire rope, leads down through these. There is no difficulty to a mountaineer in the gully, but when fresh snow lies on ice (very exceptional) the slope above may be dangerous. 30 min. suffice for the descent from the pass to the head of the *Autans* cirque, the highest bit of the great upland trough of *Susanfe*, described in Rte. H. There is no path, but the course of the stream (which makes deep pools in the soft rock) is followed in an E. direction till, before reaching the shepherds' huts, the traveller bears N. to join the track from the Col de *Susanfe* and *Dent du Midi* (Rte. H) at the top of the *Pas d'Encel* (1,861 m., 6,106 ft.) This is henceforth followed past the *Bonaveau* huts (1 $\frac{1}{2}$ -2 hrs. from the pass) to Champéry (1 $\frac{1}{4}$  hr. further). The rock and woodland landscapes on the Sixt sides are magnificent, and there are few excursions of moderate difficulty more to be recommended (local guide desirable).

3. *By the Golette de l'Oulaz* (9 hrs.) —This route is best taken from Champéry, as the steep bit on the Sixt side can be descended quickly, while the way on the other side requires care for long, and the *Pas de la Bédaz* is hard to find on the Champéry side.

From Sixt the route of the Col de *Sagerou* is followed to the *Vogelle* huts (3 $\frac{1}{2}$  hrs.) Here a path turns off

to the N.W., and leads nearly level to the *Vogealle lake* (1,994 m., 6,542 ft.) Due N. of and overlooking this lake is the *Golette de l'Oulaz* (c. 2,500 m., 8,202 ft.), a gully leading up to a sharp, narrow notch in the ridge of the *Dents Blanches*, and just E. of the *Signal de Foilly* (2,700 m. on the Swiss map). From the lake the notch is reached in  $1\frac{1}{2}$  hr. by a long, steep slope of débris, with some snow at the head of the gully. The descent on the N. lies for 900 ft. down a small glacier to a grassy shelf, above cliffs, which runs W. over the *Col de Bostan* (7 hrs. from Sixt to Champéry) to Samoëns past Les Allamands. To go to Champéry it is necessary to traverse to the l., ascending slightly, so as to hit the top of the passage, which hugs the steep and rocky N. face of the *Tête de Bostan* (2,408 m., 7,901 ft.), and then descends the cliffs by narrow grass ledges, which are easy, if found, but are found only by creeping under an upright rock slab which blocks one of them near the top. This is the *Pas de la Bédaz*. In this way the upper slopes of the pasture basin of *Barmaz* are gained near the frontier ridge, and the path followed to the huts of that name. Hence the track descends N.E. through a ravine, and joins the path from Bonaveau and the *Pas d'Encel* at the hamlet of *Les Clous*, not very far from Champéry, which is reached in 3-4 hrs. from the notch above the *Golette*. If taken from Champéry to Sixt, this pass is shorter than the *Sagerou*.

## ROUTE H.

## MONTHEY TO CHAMPÉRY. ASCENT OF THE DENT DU MIDI.

To a mountaineer *Champéry* is not nearly as attractive as Sixt or Salvan, but it is very easy of access,

and has good inns, so that it is largely (during the summer) frequented by English and Swiss pensionnaires. It lies at the head of the *Val d'Illiez*, a glen which is somewhat narrower and shut in, so far as regards its upper portion, but widens out as it joins the Rhône valley at Monthey. The two sides of this valley offer a great contrast. On the S.E. it is bounded by the fine precipices of the *Dent du Midi*, which tower over forests and pastures, the village of *Champéry* lying at the head of the valley, but no less than 2,208 m. (7,244 ft.) below the highest peak. On the N.W. the slopes are much less steep, for the watershed is formed by hills which do not rise to a greater height than about 2,200 m. (7,218 ft.) The valley follows the strike of the great fault which, for 100 miles, has thrown up this limestone range, and caused remarkable foldings of strata, so that the summit of the *Dent du Midi* is Jurassic, *overlying* the newer strata of the cliffs below. In mediæval documents this valley is named 'vallis Illiaca inferior,' to distinguish it from the *Lötschenthal*, in the Upper Vallais, which is said to be called 'vallis Illiaca superior,' though the etymology seems open to question.

Champéry is most easily reached by a good carriage road (8 miles, traversed by a diligence in  $3\frac{1}{4}$  hrs.) from Monthey (Rte. K), a station on the Bouveret railway,  $4\frac{1}{2}$  miles from St. Maurice and connected by a high road with the *Ollon St. Triphon* station (3 miles distant), on the *Lausanne* line. The road to *Champéry* runs always along the l. bank of the *Vièze* torrent, which waters the *Val d'Illiez*. On leaving Monthey it mounts by some zigzags among vineyards, leaves to the r. the road to the famous erratic boulders (Rte. K), and ascends through forests and across several torrents to ( $3\frac{1}{2}$  miles) the village of *Trois Torrents* (763 m., 2,503 ft.), which stands on a promontory above the junction of three branches of the *Vièze*, whence its



name. (For the road to Morgins see Rte. N. 1.) The church here was originally the parish church of the Val d'Illiez, though the existing building dates only from 1702. (Pedestrians may follow from Monthey the old mule path by the telegraph posts, joining the high road a little before Trois Torrents, and saving much time by this short cut.) The road rises but slightly to the next village (2 miles), *Val d'Illiez* (952 m., 3,123 ft.), formerly, from 1331 onwards, the home of a colony from the house of Austin Canons at Abondance. This village was formerly the home of the priest, M. Clément, who in 1784 made the first ascent of the highest point of the Dent du Midi. On the way the aspect of the Dent du Midi gradually changes. The *Cîme l'Est*, which from the Rhône valley seems to dominate all the other peaks of the mountain, is seen to be but the end of a long ridge, the various points on which are better and better seen, till at length the highest and southernmost, the *Haute Cîme* (3,260 m., 10,696 ft.), asserts its supremacy. The road descends slightly to cross a torrent, then mounts again, but it is only after turning a corner that (2½ miles) the hamlet of **Champéry** (1,052 m., 3,452 ft.) bursts on the traveller's eyes. It is rather shut in, but is extremely healthy, and is composed of wooden houses picturesquely disposed amid the greenest of Alpine meadows. It was ecclesiastically dependent on Val d'Illiez, till in 1857 it was made into a separate parish.

There are many pleasant short walks and excursions to be made in the neighbourhood, for detailed descriptions of which reference may be made to M. de Claparède's excellent local Guidebook, mentioned in the Introduction to this Section. Three are particularly recommended. One is to go by *Crosey* to the low pass of the *Porte du Soleil*, 1,964 m., 6,444 ft. (3 hrs.) Hence it is easy to reach Morgins in 2 hrs., but if taken simply as an excursion from Champéry and

back it is worth while to mount to the N.E. in ½ hr. more to the top of the *Pointe de l'Haut* (2,155 m., 7,071 ft.), whence the already grand view of the precipices of the Dent du Midi is seen to better advantage. Another charming round is to mount S. from Crosey to the *Croix de Culet*, or *Roc d'Ayerne*, 1,966 m., 6,450 ft. (3 hrs.), descending S. to Autervenaz, on the Col de Coux route, and so home (2 hrs.) Yet another is to follow the Golette de l'Oulaz route to the beautiful pasture basin of *Barmaz* (2½ hrs.), then to go nearly due E. over a low pass, across a N. spur of the Dent de Bonaveau (a knoll to the N. is worth visiting for the sake of the view) to the *Bonaveau* chalets (1½ hr.), whence Champéry may be regained in 1 hr.

The passes leading from Champéry in different Rtes. directions are described in other Rtes., those to Salvan and the Barberine inn in Rte. I, those to Sixt and Samoëns in Rte. G, and those to the Chablais in Rte. N.

Of the peaks around the village the *Dent de Bonaveau* (2,505 m., 8,219 ft.) is the easiest, being accessible in 5 hrs. by way of the Pas d'Encel and the slopes to its W., but this excursion can only be recommended to those who do not care to face the fatigue of making the longer, but easy, ascent of the higher, and in every way preferable, Dent du Midi. The *Tours Sallières* (3,227 m., 10,588 ft.) may be gained in about 7 hrs. from Champéry by way of Bonaveau, the N. Mont Ruan glacier, and long névé slopes above (which often require much tedious step-cutting), leading to the final rocks, but is more easily reached either from Salanfe (Rte. I. 1) or from the head of the Barberine glen (Rte. F. 1). The *Mont Ruan* (3,078 m., 10,099 ft.) is best gained by way of the Col de Sagerou (Rte. G), or of the Barberine Club hut (Rte. F. 1), but more directly from Champéry by the N. Mont Ruan glacier and steep rocks (8 hrs.), or by a steep rock face, near

the Col de la Tour Sallières (Rte. I. 2), between the peak of that name and the M. Ruan. But *the* Champéry peak is the **Dent du Midi**, rendered famous by the classical descriptions of Rambert and Javelle. The *Dent du Midi* (or more properly speaking the Dents du Midi) is a long ridge, running S.W. and N.E., which forms a prominent feature in all views from the neighbourhood of the E. end of the Lake of Geneva, and is crowned by a series of pinnacles, no less than 9 of which have been deemed worthy of receiving separate names. Reckoning from S.W. to N.E. the order of these is as follows: **Haute Cime**, or **Cime de l'Ouest**, 3,260 m., 10,696 ft. (the culminating point of the chain, and that usually ascended); then the double-headed peak of the *Doigt*, 3,212 m., 10,539 ft. (distinguished as the *Dent Noire de Champéry* and the *Dent de Salanfè*); next the *Dent Jaune* (3,187 m., 10,457 ft.), with its mate the *Eperon* (formerly called the Dent Ruinée), 3,116 m., 10,224 ft., followed by the *Cathédrale* (3,166 m., 10,388 ft.), the *Aiguille Délez* (a mere rocky tooth), and the *Forteresse* (3,164 m., 10,381 ft.), the outermost peak being the *Cime de l'Est* (3,180 m., 10,434 ft.), which makes such a brave show from the Rhône valley. Three only of these points have hitherto been gained direct from Champéry, the Haute Cime and the Dent Jaune both by difficult routes up the rocks of their N.W. slope (though there is no great difficulty, under ordinary circumstances, in mounting from the Anthémoz huts—where there is now a small chalet inn, like that at Bonaveau—to the point where the final peak of the Cime rises from its level S.W. shoulder, 3,001 m. on the Swiss map), and the Cime de l'Est by a very dangerous glacier, and a sérac-raked snow gully on its N.W. flank. (It is also accessible by the very hard N.E. ridge.) All the other pinnacles have been gained only from the Salanfè pasture basin, on the S.E.,

and are therefore described in the next Route. M. Clément, the curé of Val d'Illicz, as before stated, made the first ascent of the Haute Cime in 1784, and in 1842 the Cime de l'Est was conquered by five men and a woman, all from the Vallais, but the rest of the peaks have only been scaled since 1879, the Eperon indeed not having been attained, it is said, till 1892. As a curiosity it may be noted that in 1893 Mr. J. P. Farrar, with Daniel Maquignaz and P. L. Délez, climbed all the nine summits in one day from Salanfè.

It is usual, when attempting the Haute Cime from Champéry, to sleep at the Bonaveau chalets ( $1\frac{1}{2}$  hr.), where there is a small chalet inn. These are reached by going S.W. to the hamlet of Les Clous, then taking the l.-hand mule path, which mounts by zigzags through pine woods to the Bonaveau huts (1,556 m., 5,105 ft.) Thence the traveller follows the path towards the Col de Susanfe, bearing S.E. to the foot of a line of precipices extending from the Dent de Bonaveau to the Dent du Midi. These are scaled by means of a short ledge (with iron stanchions, needed only by novices) which runs across smooth, water-polished limestone rocks below a waterfall to the top of the wall. It is called the *Pas d'Encl*, or *Pas d'Enfer*, and leads to an elevated trough or valley  $3\frac{1}{4}$  miles broad and  $4\frac{2}{3}$  long, extending on the S. from the precipices just surmounted to the glaciers on the N. slopes of the Tour Sallières, and the Mont Ruan. Here grows the rare *Eryngium alpinum*. From the W. the stream from the Col de Sagerou flows down, while to the E. is the *Col de Susanfe*,  $4\frac{1}{2}$  hrs. from Champéry, the next step in the ascent. This is gained (3 hrs. from Bonaveau) by a track which does not descend into the Susanfe hollow, but hugs the foot of the cliff on its S. side.

【The Col (2,500 m., 8,202 ft.) leads over into the Salanfè basin, whence it is reached in 2 hrs., so that

the ascent of the peak takes 1 hr. less time from Salanfe than from Bonaveau.]

From the Col de Susanfe the summit of the Haute Cime is gained (small track for part of the way) in  $2\frac{1}{2}$  hrs. ( $5\frac{1}{2}$  hrs. from Bonaveau), by following the S. arête to a point on it, overlooking the *Plan Nèvé* glacier on the E., which is called the *Col des Paresseux* (3,061 m., 10,043 ft.), as the appearance of the final peak hence sometimes discourages novices from attempting to reach it. Hence the traveller crosses the loose stone slopes on the S. face to gain the S.W. arête, by which the summit is finally attained.

[It is much shorter, and not hard, unless there is much snow or ice, either to follow the S.W. arête all the way from the point above the Pas d'Encel, or to gain the lowest point in the S.W. arête by means of a grassy slope, or else the point 3,001 m. of the Swiss map, where the final peak rises from its level S.W. shoulder, or to mount straight up from the Susanfe hollow by the S. face of the peak.]

The view is one of the finest in this part of the Alps—indeed, second only to that from the Buet, and has the advantage of overlooking a great part of the Rhône valley (this is seen more immediately at the spectator's feet from the Cime de l'Est), and the E. end of the Lake of Geneva, along with the noble panorama of the Pennine and Bernese Alps. It must be borne in mind that when the rocks on the S. face are iced or covered with fresh snow they offer considerable dangers to inexperienced mountaineers, and all climbers are warned not to attempt a descent from the Col des Paresseux too directly to the Salanfe basin, as the rocks on that side are steep, and if covered with fresh snow dangerous, so that it is best to gain Salanfe by way of the Col de Susanfe. An experienced climber may glissade by steep slopes of moving stones from the point

marked 3,001 m. on the S.W. arête, to the Susanfe basin.

The inn at the Salanfe huts may be gained in 2 hrs. from the Haute Cime, and Salvan in 2 hrs. more by the route of the Col de Susanfe (Rte. I. 1). From Salanfe the Rhône valley may be reached at Evionnaz in  $3\frac{1}{2}$  hrs. by way of the Col du Jorat (see next Route).

## ROUTE I.

### CHAMPÉRY TO MARTIGNY OR CHAMONIX.

As stated at the beginning of Rte. F, there are three glens which descend from the E. slope of the Tour Sallières-Dent du Midi range to various points on the high road between Martigny (or Vernayaz) and Chamonix. One of these, that of Emaney, does not run quite up to the watershed, but routes lead from Champéry through the two others, which are connected by cross routes with the Emaney glen.

1. *By the Col de Susanfe* (2,500 m., 8,202 ft.) This pass lies over the lowest depression in the ridge between the Tour Sallières and the Dent du Midi, and thus offers the only easy way from the head of the Val d'Illicz to the Trient glen. One great advantage of this pass is that it is easy to take the Dent du Midi on the way from Champéry to Salvan or Martigny. The ascent from Champéry ( $4\frac{1}{2}$  hrs.) has been described in the last Route in connection with the usual way up the Haute Cime of the Dent du Midi. The descent on the E. side is steeper than the ascent on the W. side, but a well-marked path leads E. down shale banks under the great face of the Tour Sallières direct to the large flat pasture basin of *Salanfe* ( $\frac{3}{4}$  hr.), in which



nestle many huts. At the **Barmaz** huts (1,896 m., 6,221 ft.) there are little Alpine inns, convenient starting points for many ascents and excursions.

¶ Hence any of the summits of the Dent du Midi may be reached in 4-5 hrs. The way up the Haute Cîme has been described in Rte. H. For any of the others the traveller must mount N.W. to the *Plan Nêvé* glacier, and then climb the pinnacle selected by means of ice and rock gullies, and rotten rocks. In every case the rocks are rotten, and there is no little danger from falling stones. The *Cîme de l'Est* is reckoned the easiest summit, after the Haute Cîme, and certainly commands the finest view, especially down into the Rhône valley. The *Dent Jaune* (3,187 m., 10,457 ft.) is considered the most difficult of the 9 summits.

From Salanfe the *Tour Sallières* (3,227 m., 10,588 ft.) may also be ascended, either direct by a couloir to a glacier, then up by the gullies and rocks (good handholds) of the great N.E. slope, known as the *Grand Revers* (7 hrs.), or by mounting to the Col d'Emaney ( $1\frac{1}{2}$  hr.), and thence following the S.E. arête to the summit (3 hrs.) An easier ascent from the Col d'Emaney is that of the *Luisin*, 2,786 m., 9,141 ft. ( $\frac{3}{4}$  hr.), whence there is a magnificent view. ¶

If bound for *St. Maurice*, the most direct way from Salanfe is to mount E. by a good mule path in a good half-hour to the *Col du Jorat* (2,223 m., 7,294 ft.), from which an ascent eastwards up the ridge (save at one point) of  $1\frac{1}{2}$  hr. suffices to bring the traveller to the summit of the *Dent du Salantin* (2,485 m., 8,153 ft.), which is said to command a very fine and curious view. From the Col (whence the flat floor of the Rhône valley is seen, 1,800 m., 5,906 ft., below) the mule path goes down at first in a N.W. direction to the *Upper Jorat huts*, and later at the Lower Jorat huts bends to the N.E. above the r. bank of the *St. Barthélemy* torrent, in part through

beech woods, to *Evionnaz* (3 hrs.), a station on the Rhône valley railway (§ 21. Rte. A), 4 m. above St. Maurice and  $5\frac{1}{2}$  m. below Martigny.

If bound from Salanfe for *Salvan* or *Martigny*, the traveller does better to take the path along the r. side of the *Salanfe* or *Sallanche* stream (which forms below the famous Pissevache waterfall), crossing to the *Upper Van* huts, on the l. bank, and then recrossing, in order, after passing above the *Lower Van* huts, to quit the Sallanche gorge and to round by the little *Col de la Matze* the mountain buttress, beyond which is *Salvan* (2 hrs.), which is  $\frac{3}{4}$  hr. walking by carriage road from Vernayaz, in the Rhône valley, 3 m. by rail from Martigny (§ 21. Rte. A).

2. *By the Col de la Tour Sallières.*—This pass (2,875 m., 9,433 ft.) lies between the Tour Sallières and the Mont Ruan, and seems to have been first crossed, in 1863, by Mr. Coutts Trotter, with Peter Bohren. From Champéry the route of the Col de Susanfe is followed to the Susanfe hollow (3 hrs.) on the W. side of that pass (Rte. H). Thence bear S.E., and by stones, the N. Mont Ruan gl., and a steep slope of *névé* at the end mount to the pass ( $2\frac{1}{2}$  hrs.). From a point a little on the S. side of the Col it is easy to ascend either the Tour Sallières or the Mont Ruan (Rte. F). The descent lies down rocks, and then along the E. side of the crevassed *Fonds* gl., to the *Barberine* glen, down which the traveller goes, past the *Barberine* and *Emosson* huts (Rte. F), to the *Barberine* inn (4 hrs.),  $1\frac{1}{2}$  hr. from Argentière (§ 16. Rte. H. 2).

3. *By the Cols de Susanfe, d'Emaney, and de Barberine.*—A traveller who, after having ascended the Dent du Midi from Bonaveau, and slept at the Salanfe inn, wishes to see some fine wild scenery may next day by two easy passes (involving, however, several considerable ascents and descents) gain the Barberine glen, and thence go down to the

Barberine inn, or else cross over to Sixt (Rte. F).

From Salanfe a path leads S. in  $1\frac{1}{2}$  hr. up to the *Col d'Emaney* (2,427 m., 7,963 ft.), whence the tip of the Matterhorn is seen. (From this pass either the Tour Sallières or the Luisin may be ascended. See 1. above.) A zigzag path leads down in  $\frac{1}{2}$  hr. to a point near the *Emaney huts* (1,861 m., 6,106 ft.), which may themselves be avoided. (From these huts a path goes down the l. bank of the *Triège*, which is crossed to the *Tenda* huts, and later recrossed in order to pass by *Cernieux*, and so gain Salvan in  $1\frac{1}{4}$  hr. from Emaney.) From the Emaney huts the path mounts first W., then S.W., to the *Col de Barberine*, 2,480 m., 8,137 ft. ( $1\frac{1}{2}$  hr.), whence there is a fine view of Mont Blanc and the Bernese Oberland. The track descends on the other side by the l. bank of a steep glen to the valley of the *Eau Noire* at the *Barberine* huts, 1,836 m., 6,024 ft. (a good hour from the pass.) Near them, at a height of 1,900 m. (6,234 ft.), there has now (1898) been built a stone **Club hut**, which is very conveniently situated for the ascents of the Tour Sallières, Mont Ruan, &c. Here the route of the *Col de Tanneverge* (Rte. F) from Sixt is joined, and followed past the *Emosson* huts, and high above the r. bank of the torrent, to the *Barberine inn* ( $2\frac{1}{4}$  hrs.), which is  $1\frac{1}{2}$  hr. from Argentière. About 7 hrs. are thus required from Salanfe to the Barberine inn, so that Chamonix may be gained the same day, though if a peak has been climbed on the way the night must probably be spent at the Barberine inn. By crossing the *Col de Susanfe* as well as the two other passes described active walkers have gone from Champéry to the Barberine inn in one day of about 12 hours' walking.

## ROUTE K.

## GENEVA TO ST. MAURICE BY THONON.

	M.
Annemasse . . . . .	3 $\frac{3}{4}$
Bons-St. Didier . . . . .	12 $\frac{1}{2}$
Thonon . . . . .	22 $\frac{1}{4}$
Evian . . . . .	28
St. Gingolph . . . . .	38 $\frac{1}{2}$
Bouveret . . . . .	42 $\frac{1}{4}$
Vouvry . . . . .	46
Monthey . . . . .	52 $\frac{1}{4}$
St. Maurice . . . . .	56 $\frac{1}{2}$

Railway, 56 $\frac{1}{2}$  miles, traversed in 2 $\frac{3}{4}$ -3 hrs., besides 1 hr.'s halt at Bouveret.

The old road between Geneva and St. Maurice formed part of Napoleon's road over the Simplon. It ran N.E. from Geneva, crossed the *Hermance* stream into Savoy, and went through *Douvaine* (now connected with Geneva in  $1\frac{1}{4}$  hr. by a narrow-gauge railway) and *Sciez* to *Thonon* (20 miles), whence it followed the S. shore of the lake to *Bouveret*, thence going S.E. along the l. bank of the Rhône to St. Maurice. The railway takes very much the same course from Thonon onwards, but reaches that place by keeping more inland. This line of railway connects not only Geneva, but, through Aix les Bains and Bellegarde, farther Savoy, and even Dauphiné, with the Rhône valley at St. Maurice. At Thonon it affords direct access to various carriage roads which traverse the sub-alpine district of the Chablais, while Monthey is the starting point for the *Val d'Illez* and *Champéry*. The peaks that overhang it at the E. end of the lake are famous for their lake views: the *Dent d'Oche* is best reached from Evian, but the little mountain inn on the shores of the lake of Tanay, above Vouvry, is the spot from which the *Cornettes de Bise* and the *Grammont* are most conveniently attacked.

From the *Eaux Vives* station (S. side of the Rhône) at Geneva the

line runs E. through *Chêne Bourg*, enters France by crossing the *Foron*, and soon after reaches *Annemasse Station*.

[This is the junction of the lines from Bellegarde, Aix les Bains, Anancy, Cluses, and Samoëns. See § 11. Rtes. E and F; § 10. Rte. A; § 16. Rte. A. and Rte A. above.]

The *Foron* is crossed several times, its course being now wholly within France, before ( $7\frac{1}{2}$  m.) *St. Cergues Station* is reached, the starting point of the future railway up *Les Voirons*. At present it is best to go to ( $12\frac{1}{2}$  m.) *Bons-St. Didier Station* in order to reach that fine point of view.

[The *Voiron*s is a range of hills formed of Tertiary rock, and often visited from Geneva for the sake of its view of the lake and the Jura on one side, and of the snowy Alps on the other, and of its pleasant broad, rolling, and wooded uplands. 10 min. from its culminating point (1,480 m., 4,856 ft.) is the H. de l'Hermitage, a favourite spot for a stay of some days. This may be gained from *Bons* in  $2\frac{1}{2}$  hrs., and from *Boège* (on the E.) in 2 hrs., by pedestrians. The easiest way is to drive from *Bons* to the ( $4\frac{1}{4}$  miles) *Col de Saxel* ( $3\frac{1}{4}$  miles from *Boège*), and then continue the drive in a W. direction to the inn ( $5\frac{1}{2}$  m.) The hôtel omnibus takes 4 hrs. from *Bons* to the hôtel. It is said that the view is even finer from the S. and lower summit, called *Pointe de Pralatre*, 1,412 m., 4,633 ft.]

Some way beyond *Bons* the fine ruins of the thirteenth-century castle of *La Rochette* are passed on the r., and, beyond the station of ( $16\frac{1}{4}$  m.) *Perrignier*, those of the twelfth-century Cistercian nunnery of *Petit Lieu*. The line bears away from the hill on which rise the ruins of the two tenth-century castles of *Allinges* (see below), gradually nearing the shore of the lake, which is finally gained at

**Thonon**, a little town, which was formerly the capital of the old province of the *Chablais*, just S. of the

lake. The upper town contains the chief buildings, and a terrace walk (on the site of the old castle destroyed in 1591) planted with trees, and commanding the lake and the mountains.

[25 min. distant to the N., on the alluvial deposits thrust into the lake by the impetuous torrent of the *Dranse*, are the remains of the castle, afterwards monastery, of *Ripaille*. This was the house of Austin Canons Regular, founded in 1411 by Amadeus VIII., last Count (1391-1417) and first Duke (1417-1434) of Savoy. Twice he retired thither, first on his resignation of his duchy in 1434, when he founded there the knightly order of SS. Maurice and Lazarus. But in 1439 he was elected Pope under the name of Felix V., though he resigned that great position in 1449, to withdraw again to *Ripaille*, where he died in 1451. As a ruler he left a rare reputation for wisdom and moderation, but the life of ease and luxury which he and his knights were said to lead gave rise to the French phrase 'faire *Ripaille*' to describe that kind of existence. In 1669 the house was occupied by the Carthusians from l'Abbaye de Vallon (Rte. L. 2). Another excursion to be made from *Thonon* is to the two ruined tenth-century castles on the hill of *Allinges* (1 hr.) The chapel (715 m., 2,346 ft.), a favourite resort of St. Francis de Sales, still preserves some traces of early frescoes on the vault of its roof, and, like the castles, commands a very fine view over the lake, the *Chablais*, and the *Jura*. From *Thonon* roads lead in various directions, and are described in the following three Routes.]

Soon after quitting *Thonon* the line passes some magnificent chestnut trees on the r., crosses the *Dranse* by a long bridge, and traversing the watering place of *Amphion* reaches

**Evian les Bains**. This is a small town just opposite *Lausanne* (35 min. off by steamer), and on one of the finest sites of the lake. A



mineral spring whose waters (bicarbonate of soda) are nearly tasteless—enjoys a great reputation, and attracts, it is said, 10,000 visitors (mainly French) each summer. The climate is cooler than that of Vevey, being much exposed to winds from the lake. An enormous chestnut tree at Neuvécelle,  $\frac{1}{2}$  m. from the town, is worth a stroll, as its girth is a little over 40 ft.

[Evian is the best starting point for the ascent of the **Dent d'Oche** (2,225 m., 7,300 ft., the highest mountain in the neighbourhood of the lake), the view from which is only surpassed by that from the *Cornettes de Bise* (see under Vouvry, below). A carriage road leads S.E. to *Bernex* (7 miles), whence a mule path mounts in  $2\frac{1}{2}$  hrs. to the *Oche* chalets, to the S. of the peak. A track runs up the steep couloir just N. of the huts to the ridge, along which the summit is gained in 2 hrs.]

Beyond Evian the line passes between rich wooded slopes, with trellised vines, and the shores of the lake, which on this side presents far bolder scenery than on the opposite shore. 7 miles from Evian, after passing through a long tunnel, the line reaches *Meillerie*, familiar to the readers of Rousseau's 'Nouvelle Héloïse.' Here the rocks plunge directly into the lake, which is about 820 ft. in depth, and it was off them that in 1816 Byron nearly lost his life in a squall while boating on the lake. The next place passed is *St. Gingolph*, a village divided into two bits by the *Morge* torrent, here marking the frontier between Savoy and Switzerland. It rises in the *Dent d'Oche* (2,225 m., 7,300 ft.), which may hence be ascended in about 5 hrs., passing Novel. The following note recommends an interesting excursion connecting *St. Gingolph* with Vouvry. The ascent will take 5-6 hrs., the descent about  $3\frac{1}{2}$ -4 hrs. :—'Ascend by the l. bank of the *Morge* through a wood of splendid chestnut and walnut trees, at the back of *St. Gingolph*, as

far as *Novel* ( $3\frac{1}{4}$  m. by road). Here take a southerly course towards a col, passing under and to the E. of the *Dent d'Oche*, and having crossed it proceed until you have the *Cornettes de Bise* to the S.E.; ascend a pasture valley to the chalets of *Bise*, whence the summit of the *Cornettes de Bise* (2,437 m., 7,996 ft.) is easily reached. The view is magnificent, and scarcely surpassed by any other lake view in Switzerland. Descend nearly due E. by the pretty little lake of *Tanay*, and you will be quite prepared to enjoy a good supper and comfortable bed at the modest inn at Vouvry' (R. W. E. F.)

The lake is skirted to *Le Bouveret*, near the mouth of the Rhône, where it enters the E. end of the lake. It is the terminus of the line of steamers coming from Geneva and calling at places on the S. or Savoy side of the lake. The line now quits the lake to run S.E. along the l. bank of the Rhône. It leaves to the r. *Port Vallais*, formerly on the lake, and soon after the hamlet of *Les Acouettes*. This is most probably the scene of the great catastrophe by which the town of Tauretunum was destroyed in 563, as recorded by Gregory of Tours and Marius of Avenches. A great mass then fell from the Grammont on the W., which caused extensive havoc on the shores of the lake, by reason of the massive waves which arose beyond their accustomed limits. Skirting the base of the mountain, where a fort and draw-bridge formerly stood to defend the narrow pass or defile of the *Porte du Sex*, the entrance to the Vallais on this bank of the Rhône, the line reaches **Vouvry**. Near the village is the outlet of the remarkable but unfinished Stockalper canal, excavated, in the last century, by a member of the well-known Brieg family, to drain the marshes that occupy a large portion the valley.

[Vouvry is the best starting point for the ascent of the *Cornettes de Bise* (2,437 m., 7,996 ft.), and of the

*Grammont* (2,175 m., 7,136 ft.) For either point it is necessary to go W. to *Miex*, then N.W. over a small col to the charming lake of *Tanay* (3 hrs.), 1,411 m., 4,629 ft., on the shores of which is a small inn. The *Grammont* is reached hence in 1¼ hr. by a great grass slope, and the traveller can descend in 3 hrs. to *Les Avouettes* (see above), near *Port Vallais*. The view from the summit is very fine, especially over the lake. That from the *Cornettes de Bise* is, however, even finer, and is not surpassed, in the opinion of competent judges, by the panorama from any other point round the lake of Geneva. To reach its summit from the *Tanay* inn the traveller should go W. up the glen past the chalets of *Looz* (where a route from *St. Gingolph* by the *Col de Lovenex* falls in) to a lakelet near the *Col de Bise*, or *Pas de Riss* (2,087 m., 6,847 ft.), N. of the peak, from which pass *Vacheresse*, in the *Dranse* valley (Rte. N.), may be reached in 4½ hrs. Then bear up S.W. to a gap at the foot of the peak, which is scaled by steep rocks and grass (4 hrs. from *Tanay*). An easier and more direct way, if starting from *Vouvry*, is to go S.W. from *Miex* till just on the French side of the *Col de Vernaz*, or *Passage de Lachau* (4 hrs., hence in 1¼ hr. to *La Chapelle d'Abondance*, Rte. N.), whence the way leads nearly N. past the *Callaz* huts, then, mainly up grass slopes S. of the peak, to the top (1¼ hr.). The descent to *St. Gingolph* (above) commands a series of splendid views over the lake. But it must be remembered that *Vouvry* is 1,000 m. (3,281 ft.) lower than *Tanay*.]

From *Vouvry* the railway runs past *Vionnaz* to *Monthey*, at the entrance of the *Val d'Illiez*. (For the routes to *Champéry* and *Morgins* see Rtes. H and N respectively.) *Monthey* is well known to geologists for the erratic boulders (¼ hr. off) to which attention was first called by *M. de Charpentier*. On the slope above the village a vast assemblage

of huge blocks of protogine granite, exactly similar to those found in the *Val Ferret* (whence these, perhaps, come), on the E. side of the *Mont Blanc* chain, remain on the site where they were left by the retirement of the great glacier that once traversed the *Rhône* valley. Similar blocks occur above *Vionnaz*, and at several other places on the W. slope of the valley, but they are nowhere seen on so great a scale as here. The largest block, the *Pierre des Marmettes*, with a *Pavillon* on top, is all but 70 ft. long, 33 broad, and 33 high. *Monthey* is connected by a high road (3 m.) with the *Ollon-St. Triphon* station, on the line from *Lausanne* (§ 21. Rte. A), while 2 m. beyond *Monthey* is *Massongex*, whence a long bridge leads over the *Rhône* to *Bex*. The valley rapidly contracts between the opposite peaks of the *Dent du Midi* and the *Dent de Morcles*, and the line joins that from *Lausanne* (§ 21. Rte. A) at the entrance of the tunnel, on emerging from which *St. Maurice* is reached (56½ m.)

## ROUTE L.

### THONON TO BONNEVILLE OR TANINGES.

The N. part of *Savoy*, forming the ancient province of the *Chablais*, and lying (roughly speaking) between the *Arve* and the *Giffre* on the S., and the *Lake of Geneva* on the N., contains much pleasing scenery, though none that can be called grand. It might well be visited early or late in the season, before or after the *High Alps* can be climbed, or while the weather is clearing up, as it does more slowly amidst the higher mountains. The *Chablais*, outside the shores of the lake (a great place for

fine chestnut trees), consists of a subalpine upland, little visited by English travellers, but far better known to French tourists. It is specially rich in pastures, in steep beech and pine woodlands, affording good timber, in hay slopes and orchards, and in warm grassy peaks, often precipitous on one side. There is scarcely any bottom-land in the valleys, yet the soil is fertile, and well spread, as is shown by the density of the population—65,000. Save the two towns of Thonon and Evian, the Chablais hardly includes a village numbering more than 1,700 souls. The mountain ranges lie pretty close together, with slopes 3,000 ft. and more in height. They run with the strike of the strata parallel to the Mont Blanc chain, N.E. and S.W., attaining their greatest height in the *Pointe de Grange* (2,438 m., 7,999 ft.) and the *Cornettes de Bise* (2,437 m., 7,996 ft.), which rise respectively S. and N. of La Chapelle d'Abondance. The district is traversed by many carriage roads, the chief of which are described in this and the two following Rtes., but a pedestrian may freely choose his own course in almost any direction.

1. *By the Col de Coux and Bœge* (about 31¼ m. to Bonneville, 35½ m. to Taninges).—From Thonon the road runs nearly due S. to (3½ m.) *Macheron* (hence in a few minutes up to the ruins of the Allinges castles and chapel, Rte. K), and passing *Maugny* begins to mount through chestnut woods, whence the lake and Jura are seen at intervals. Continuing to ascend in a S. direction it passes above the hamlet of *Pes-singes*, and mounts in zigzags, partly through pine forests, keeping on the slopes W. of the easy foot pass of the *Col des Moises*, to the highest point (9½ m.), the *Col de Coux* (c. 1,200 m., 3,937 ft.) A knoll N. of the col is crowned by a statue of the Virgin, and is worth visiting (10 min.) for the very extensive view obtained thence over the Jura, and

the mountains of the Chablais and of the Faucigny. The road descends on the other side to (12½ m.) the hamlet of *Habère Poche*.

[Hence the *Mont Forchet*, 1,545 m., 5,069 ft. (highest point locally called *Fourches d'Habère*), to the N., can be gained in 2 hrs., and commands a fine view. Several roads lead N.E. from Habère Poche over low passes in 5 m. to *Lullin* and *Vailly*, a little way beyond, on the Col de Jambaz roads, Rte. L. 2.]

Passing through the village of *Habère Lullin* the road at (15¼ m.) the village of *Villard* enters the province of Faucigny, and continues along the l. bank of the *Menoge* torrent till this is crossed in order to gain (17 m.)

**Bœge** (760 m., 2,493 ft.), a small town famous for an excellent race of fowls.

[Hence a road goes up in 3¼ m. to the *Col de Saxel* (whence the *Voiron*s is reached in 5½ m.), and descends in 4¼ m. more to *Bons*, on the railway between Annemasse and Thonon (Rte. K).]

The right bank of the *Menoge* is followed to (21¾ m.) *Pont de Fil-linges*, over that stream. (This is now a station on the steam tramway from Annemasse to Samoëns (Rte. A), 7 m. from the former place, and 13¾ m. from Taninges, which is itself 6¾ m. below Samoëns.) 1½ m. further, at the junction of the *Menoge* and the *Foron*, is (23¼ m.) *Bonne*, whence a steam tramway leads in 8 m., past *Findrol*, to (31¼ m.) *Bonneville*, on the Annemasse-Le Fayet line (§ 16. Rte. A). *Bonneville* is 8¾ m. from Cluses.

2. *By the Col de Jambaz and Mégevette* (about 33 m. to Bonneville, 32 m. to Taninges).—This is an even finer route than that last described, and is strongly recommended. From Thonon the road runs S.E. along the l. bank of the *Dranse* past (4 m.) *Armo*y, with extensive gypsum quarries, then high above the deep gorge in which flows the foaming river. It gradually bends S., passing



(7½ m.) above *Reyvroz*, a village above the junction of two of the three principal branches of the Dranse (Rte. M), then runs above the l. bank of the *Brevon* or *Dranse de Bellevaux*, to (9½ m.) *Vuilly*, whence a cross road leads in 5 m. by Lullin to Habère Poche (see I. above). It continues in the same direction above the same bank of the stream to (13¾ m.) **Belle-vaux** (915 m., 3,002 ft.), the chief village of the valley of that name. Its name is taken from a Benedictine monastery, founded here in the twelfth century.

☐Hence the active walker can ascend in 3½ hrs. the *Pointe Billiat* (1,901 m., 6,237 ft.), to the N.E., and may descend in 2 hrs. more to La Baume, on the Col des Gets road, Rte. M.☐

A final ascent leads in about 2 m. more to (15½ m.) the summit of the *Col de Jambaz* (1,058 m., 3,471 ft.)

☐Hence several low, easy passes lead through the very secluded and much-forested, shady glen to the S.E., in which stand the ruins of the Carthusian house of the *Abbaye de Vallon*—founded 1136, monks transferred in 1669 to Ripaille—to Taninges, or to the road over the Col des Gets.☐

The descent on the S. side of the pass lies through the *Risse* valley, passing (18¼ m.) *Mégevette* and (20¾ m.) *Onion*, before reaching (24 m.) *St. Jeoire*. This is a station on the steam tramway between Annemasse and Samoëns (Rte. A), by which Taninges is 8 m. distant (Rte. A). A pedestrian will, if the weather is fine, prefer to cross the conical peak of the Môle to Bonneville (Rte. B), but in case of bad weather may reach that place by steam tramway to (5 m.) Marignier, which is 4¼ m. from Bonneville by the Cluses railway line.

## ROUTE M.

## THONON TO TANINGES OR SAMOËNS.

To Taninges, high road, 31¾ m. To Samoëns, high road to Morzine, 21¼ m., thence by mule path.

This too is a very beautiful drive, and one very convenient for a traveller bound from Lausanne to Sixt or Chamonix, but wishing to go as little as possible by rail. The excellent modern road follows for 19 m. the central branch of the Dranse at the river's edge. Frequent gorges and varying scenery show that the streams run at right angles to the general trend of the mountain ridges, while the villages and old roads are left perched and struggling on the hill-sides until St. Jean d'Aulph is reached.

From Thonon the road runs S.E., in 2 m. crosses to the right bank of the Dranse, and follows it on that bank, through a series of fine narrow gorges with wooded banks and many sheer cliffs, till it recrosses the river a little way before (7½ m.) *Pont de Bioge*, near the meeting of the Bellevaux branch of the Dranse with the united stream of the two other branches of that river. Just W. is the hamlet of Reyvroz (Rte. L. 2). The road crosses the Bellevaux branch and runs for a short distance above the l. bank of the united streams of the two other branches, but soon turns S. along the l. bank of the Morzine branch. Narrow gorges lead from one green basin to another, while hay lands, woods, and orchards, dotted with houses, and waterfalls are frequent, and on the E. the precipices of the *Mont Ouzon* frown over the meadows below. Just beneath the hamlet of *La Baume* (whence the traveller can reach the *Pointe Billiat* (1,901 m., 6,237 ft.) in 4 hrs., and descend in 2 hrs. more to Bellevaux, Rte. L), the *Pont de Gys* (11¾ m.),

over the Dranse, is traversed, the road then passing beneath the village of **Biot**, the principal hamlet of the valley, on a brow above. The picturesque village of *Seytroux* is seen on the other side of the Dranse; then the road traverses a fine gorge, at one point tunnelling through a great boulder fallen from above, in order to gain the green hollow in which is the village of **St. Jean d'Aulph**. The old village and church are on the l. bank, but the road traverses the ruins of the abbey, then ( $15\frac{1}{2}$  m.) the new village. This abbey was a Cistercian house, founded in 1103, and is mentioned several times in the letters of St. Bernard. The fine old monastic church was pulled down in 1824 by the local authorities, in order to use the materials in restoring the village church. The name 'd'Aulph' is said to come from 'de alpibus.'  $3\frac{1}{4}$  m. further on the Dranse is recrossed, a road leading up to *Montrioud* (Rte. N. 2) here turning off to the l. This hamlet is at the union of three mountain torrents, which join to form the Dranse de Morzine. The E. branch descends from the Pas de Chesery (Rte. N.); the middle one flows from the Cols de la Golèse and de Coux to the N.W. past Morzine; while the road to Taninges traverses the short S. branch, that of Gets. Nearly 1 m. beyond the bridge ( $19\frac{1}{2}$  m. from Thonon) the roads to Taninges and Samoëns divide.

(a) *To Taninges by the Col des Gets*.—From this point the road over the *Col des Gets* mounts S. by zigzags, in order to attain the cultivated rolling upland of Gets, and soon after reaches ( $25\frac{1}{2}$  m.) *Les Gets* (1,172 m., 3,845 ft.), a hamlet close to the pass itself, which forms the boundary between the Chablais and the Faucigny. It is said that the hamlet was founded in the fourteenth century by some Jews ('Gets' being stated to mean in old patois 'Juifs') hunted from Tuscany. On the descent the road passes through a very picturesque wooded

gorge, and follows the *Arpettas* torrent to its junction with the Foron, then the latter, till a turn in the road reveals **Taninges** below in a pretty basin, whither two great zigzags soon lead down ( $31\frac{3}{4}$  m.) Taninges is a station on the steam tramway between Annemasse and Samoëns (Rte. A).

(b) *To Samoëns by the Col de Joup-lane*.—From the bifurcation a road descends to ( $21\frac{1}{4}$  m. from Thonon) *Morzine*, a prettily situated hamlet, now beginning to be known as an 'air cure.' (For the route to Champéry see Rte. N.) Hence a mule path leads nearly due S. up gentle wooded slopes past some huts to the *Col de Joup-lane* (1,718 m., 5,637 ft.), which commands an exquisite view. The path winds down the mountain slopes on the l. bank of the *Valentine* glen, and crosses a lower shoulder, amidst pretty views, to **Samoëns** ( $4\frac{1}{2}$  hrs. from Morzine). It is not a much longer route to mount S.E. from Morzine up the main stream to its head, whence the Col de la Golèse leads S. to Samoëns, and the Col de Coux E. to Champéry (Rte. G. 1).

#### ROUTE N.

##### THONON TO MONTHEY BY MORGINS OR CHAMPÉRY.

Several routes may be taken from Thonon to one or other of the two chief tributary glens, those of Morgins and Champéry, of the Val d'Illiez, all of them passing through agreeable scenery.

1. *By the Pas de Morgins*.—Carriage road to Morgins (28 m.), and thence  $11\frac{1}{2}$  m. to Monthey, in all  $39\frac{1}{2}$  m.

From Thonon the road is the same as that over the Col des Gets (Rte. M. a) as far as ( $7\frac{1}{2}$  m.) *Pont de Bioge*. It then bends E. through a picturesque gorge along the r. bank of the

*Dranse d'Abondance*, and passes just below (13 m.) *Vacheresse*.

¶Hence the *Pas de Riss*, or *Col de Bise*, leads over to Vouvy in  $9\frac{1}{2}$  hrs., and the Cornettes de Bise may be ascended *en route*. The *Dent d'Oche* can be attained also in 5 hrs. by the *Darbon* and *Oche* huts, Rte. K. ¶

The Dranse is crossed several times before (19 $\frac{1}{4}$  m.) **Abondance** (930 m., 3,051 ft.) is reached. The church dates from the fourteenth century (parts are of the twelfth), and contains some interesting antiquities, especially in the sacristy. It formerly belonged to the house of Austin Canons Regular, founded here in 1108, whence colonies were sent out to Sixt (1144) and to Val d'Illiez (1331). Hence by its S. ridge the traveller can climb (4 hrs.) the **Pointe de Grange** (2,438 m., 7,999 ft.), which is the highest point lying entirely in the Chablais, and commands a good view. The Abondance glen above the village is the best sample of the rich pastoral valleys of the Chablais. Like Gruyère it is hollowed out of the Jurassic shales at their junction with the hard limestones, which rise on the N. side of the glen in fine bold cliffs. (For the short cut from Abondance to the Col de Chesery, see below.)

Hence the valley flattens and widens. The road rises more rapidly to gain (23 m.) *La Chapelle d'Abondance* (1,009 m., 3,311 ft.), from which the Cornettes de Bise (2,437 m., 7,996 ft.), due N. of the hamlet, may be climbed in  $4\frac{1}{4}$  hrs., or Vouvy reached by the *Col de Vernaz* in 6 hrs. Pastures and forests are seen on every side.  $1\frac{1}{2}$  m. beyond *La Chapelle* is *Châtel*, where are some mineral springs, and hence some zigzags in the forest lead up to the *Pas de Morgins* (1,375 m., 4,511 ft.), on the divide between France and Switzerland. The road traverses a small plain, leaves a lake on the r., and descends to (28 m.) **Morgins** (1,343 m., 4,406 ft.), now much frequented in summer by French visitors because of its iron waters.

¶The pretty pass of *Porte du Soleil* to Champéry ( $4\frac{1}{2}$  hrs.) is noticed in Rte. H, and other pleasant excursions can be made hence. ¶

From Morgins the road runs E. down the glen, magnificent views of the Dent du Midi being gained on the way. Six great zigzags (several short cuts for pedestrians) bring the traveller in 8 m. to the high road in the Val d'Illiez, close to *Trois Torrents*, whence it is  $3\frac{1}{2}$  m. more to Monthey,  $11\frac{1}{2}$  m. from Morgins.

2. *By the Pas de Chesery*.—This is a circuitous, but very pretty route. From Thonon the road towards the Col des Gets (Rte. M. a) is followed to (18 $\frac{3}{4}$  m.) the bridge at which the ways to Taninges and Samoëns part. A side road mounts hence to the S.E. in a mile to the village of *Montriond* (whence it goes on to Morzine, 2 m., Rte. M).

¶If bound for the Col direct it is better not to go to the village, but to take a path before entering it. ¶

The way now lies N.E. along the E. branch of the Dranse de Morzine up to ( $\frac{3}{4}$  hr.) the pretty bright blue lake of *Montriond* (1,049 m., 3,442 ft.),  $\frac{1}{2}$  m. long, and hemmed in on the farther side by huge precipices rising perpendicularly from the water's edge. It is said that there is now a mountain inn here. Passing between bold rocks and cascades, and through a pine forest, the traveller climbs past a first step in the glen to a second whereon ( $1\frac{1}{4}$  hr. from the lake) are the *Lyndaret* chalets.

¶Hence Abondance may be reached in  $4\frac{1}{2}$  hrs. by the *Col de Bassachaux* and the hamlet of *Plagnes*. ¶

From Lyndaret the path mounts S.E. up grass slopes to the *Pas de Chesery* (2,005 m., 6,578 ft.) The Col is a small grassy plain, from which, a little way down on the Swiss side, it is easy to descend to either Morgins or Champéry. If bound for *Morgins* ( $1\frac{1}{2}$  hr.) the traveller should bear N.E., and go down by zigzags to the wooded glen of the *Vièze de Tine*, which is followed



to Morgins. *Champéry* is gained in 2 hrs. from the Col by going S.E. past the upper *Lac Vert*, the low neck of the *Porte du Lac Vert*, and *Crosey*.

3. *By the Col de Coux*.—From Morzine the shortest course is to follow the central branch of the Dranse de Morzine in a S.E. direction to its head, where the mule path between the Col de la Golèse and the Col de Coux (Rte. G. 1) is struck. The former leads to Samoëns, and the latter to Champéry.

Another way from Morzine to Champéry is by the *Col des Cases*, or *de Champéry*, lying rather S. of the Pas de Chesery. On the other side the path from the last-named pass is joined at Crosey.

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## SECTION 18.

### GRAND COMBIN DISTRICT.

THE division of the Pennine Alps extending between the Col Ferret and the Simplon into subordinate groups is a purely arbitrary process, dictated by convenience, but not resting on orographical or geographical grounds. The range of Mont Blanc (or the W. bit of the Pennines) is, on the contrary, completely distinct, and cut off on the N.E. by the valley of the Dranse. The great group of which the culminating point is Monte Rosa may be considered to be limited on the W. by the route over the Col Ferret through the Swiss and Italian Ferret valleys, while on the E. its natural boundary is the Simplon. Between these two passes we may distinguish, for the sake of convenience, four groups, divided from each other by the routes of the Col de Chermontane, of the St. Théodule, and of the Monte Moro, and described in the present and three following Sections. Nowadays the ranges between the Col Ferret and the St. Théodule are often called the 'Cen-

tral Pennines,' while those between the St. Théodule and the Simplon are named the 'Eastern Pennines.'

In the present Section we include the western portion of the Central Pennines, whose culminating point is the **Grand Combin**, the highest peak in the Alps outside the immediate neighbourhood of Mont Blanc and Monte Rosa. On the N. side of the watershed this district comprises the main valleys of Entremont and Bagnes, with their tributary streams and glaciers, all drained by the Dranse, while on the S. side of the divide it includes the basin of the Buthier, which joins the Dora Baltea at Aosta. The E. limit of this Section is formed by the ridge running, roughly speaking, S. and E. of the great Otemma glacier, and the route of the Col de Chermontane from its head to Arolla.

Although the pass of the Great St. Bernard has been known from very early times, and annually crossed by hundreds of pilgrims, tourists, and workmen, and the parallel pass of the Col de Fenêtre through the Val de Bagnes has been familiar to the natives for many centuries, yet it was long before the snowy regions on either side of these passes were explored by travellers. M. Murith, later (1792-1816) Prior of the Great St. Bernard, scaled, indeed, the Mont Vêlan in 1779, and Bourrit about the same time visited the Otemma glacier. But it was only in the fifties that the Combin and its neighbours were explored, first by the indefatigable Herr Gottlieb Studer, closely followed by Mr. W. Mathews, while the Rev. S. W. King made known the beauties of the 'Italian Valleys of the Pennine Alps.' Not very long after the foundation of the English and Swiss Alpine Clubs, however, a great step forward was taken in the early sixties. The English climbers chiefly directed their attention to the discovery of a continuous route along the main range of the Pennine Alps from Chamonix to Zermatt, while the Swiss mountaineers devoted their at-





SCALE, 1 : 250,000, 4 ENGLISH MILES TO 1 INCH (NEARLY)





tention rather to the peaks N. and S. of the Otemma glacier. Yet even to this day the Italian side of this W. bit of the Central Pennines is among the least known and most rarely visited parts of the Western Alps. Aspiring mountaineers of the present time will therefore find that there are considerable gleanings yet to be made even in what is held by some to be an 'exhausted district.'

As mentioned above, the main object of the early English explorers was to discover a 'High-Level Route' from Chamonix to Zermatt, keeping high up on the mountains all the way. The original route sketched out has, however, been but rarely taken, as the first glacier pass is not an easy one, and the second very dangerous by reason of falling stones. It lay over the Col d'Argentière from Lognan to the Swiss Val Ferret, thence over the easy Col des Planards to Bourg St. Pierre; the dangerous Col du Sonadon led over to the Chermontane or Chanrion huts, whence Zermatt was gained in two days by the Col d'Oren to Prarayé, at the head of the Valpelline, and the Col de Valpelline to the Z'Mutt glacier. But travellers who can accomplish this long journey in 5 days must be in very good training, and favoured by steady fine weather. Many variations have been made on this original line. The following is offered as one among many possible alternatives. The traveller coming from Chamonix should cross the Col du Chardonnet to the Swiss Val Ferret, or go on the same day over the Fenêtre de Saleinaz to Orsières (which may also be reached direct from the Chamonix valley by the Col du Tour). From the Swiss Val Ferret or Orsières the new Club hut at Chanrion is the next point for which to make. This may be reached by the Col des Planards to Bourg St. Pierre, and then either by the Col des Maisons Blanches (climbing the Grand Combin on the way) to Fionnay, in the Bagnes valley, or by crossing the Mont Vélan to the By chalets, and then

either gaining Fionnay by the Grand Combin, or Chanrion direct by the Col de Fenêtre and the Mont Gelé. From Chanrion the traveller may either follow the original route by the Cols d'Oren and de Valpelline, or take the Col de Seilon (climbing the Mont Blanc de Seilon or the Ruinette on the way) and the Pas de Chèvres to Arolla, thence gaining Zermatt by the Col de Bertol (ascending *en route* the Aiguille de la Za, or even the highest of the Dents des Bouquetins) and the Col d'Hérens. The wise traveller will not hasten through scenes of such surpassing beauty, while any one in a hurry can go from Chamonix to Zermatt by Geneva or the Tête Noire, and then by railway.

Some enterprising mountaineers have succeeded in going from Zermatt to the huts of Chermontane or of Chanrion in a single day, but it is obvious that an expedition lying for so great a distance at so high a level, and almost altogether over névé, will be found practicable only under unusually favourable circumstances. In 1863 Messrs. E. N. Buxton and K. E. Digby, with Franz Biner, achieved the journey from the Z'Mutt huts, above Zermatt, to those of Chermontane in a single day of rather more than 10 hrs.' walking, and in 1876 Mr. Girdlestone's party, without guides, went from Zermatt itself to Chanrion in 12 $\frac{3}{4}$  hrs.' walking. This 'express route' from Chanrion leads over the Otemma gl., the Col du Petit Mont Collon (3,300 m., 10,827 ft.), S. of the Petit Mont Collon, and the Col de l'Evêque to the Col de Collon, and then by the N. Col du Mont Brulé to the Col de Valpelline route, not far from this pass, which is traversed to the Z'Mutt gl.

In this district the best headquarters for mountaineers are the villages of **Bourg St. Pierre** and **Fionnay**, whence the Vélan and Combin ranges may at present be best explored. Some day, when the Club hut at Chanrion, at the very head of the Val de Bagnes, has given place to the

small mountain inn long desired by climbers, and when there is a companion inn at the By huts, above Ollomont, these spots will become the most frequented centres of the district. There is a Club hut, that of Panossière, on the E. bank of the Corbasière gl., while at the W. foot of the Col des Maisons Blanches there is a small shelter hut, built by the Balleys, the Bourg St. Pierre guides.

Sir Martin Conway's 'Central Pennine Alps' volume (1890), in the 'Climbers' Guides' series, gives much useful information, but should be supplemented by reference to more recent articles published in the various Alpine periodicals.

#### ROUTE A.

##### MARTIGNY TO AOSTA BY THE GREAT ST. BERNARD.

Char road to the Hospice, and from St. Rémy; mule path (railway projected) from the Hospice to St. Rémy. A char should be taken at least as far as Orsières, and from St. Rémy. About 16 hrs.

This pass is celebrated for its Hospice, one of the earliest, if not quite the earliest, of its kind. But the scenery is dull and uninteresting, and in that respect the way by the Val de Bagnes and Col de Fenêtre (Rte. E) is infinitely to be preferred.

From the station at Martigny (§ 21. Rte. A) the road traverses successively *Martigny Ville* and *Martigny Bourg* (1 m.), and crosses the Dranse to the lower houses (*La Croix*) of *Martigny Combe* (1½ m.), beyond which (2½ m. from Martigny Ville), at *Le Brocard*, the route over the Col de la Forclaz (§ 16. Rte. H) towards Chamonix turns off to the r. The St. Bernard road follows the bend of the Dranse in an E. direction, and soon comes in sight of the *Catogne*

(2,599 m., 8,527 ft.), which blocks the direct way to Orsières and the head of the Dranse valley. The road and the river wind round its N. base. About 4 m. from Martigny Ville a char road mounts from the hamlet of *Les Valettes* in ¼ hr. to the entrance of the fine *Gorges du Durnant*, which are well worth visiting.

【Through them lies the path to the lovely Lac de Champex and Orsières, a walk which cannot be too highly recommended. See § 16. Rte. 1.】

Soon after passing the poor village of *Bovernier* the road returns to the r. bank of the Dranse, and proceeds through a wild defile at the foot of the *Catogne*, passing at one point through a tunnel about 200 ft. long. This part of the valley still exhibits traces of the terrible inundation of 1818, caused by the advance of the *Giétroz glacier* (Rte. E); and immediately beyond the tunnel the traveller may notice the remains of a convent (inhabited by Trappist monks from 1797, but originally a building connected with some abandoned iron mines) which was destroyed by that flood. Just after the road crosses again to the r. bank, and soon reaches

**Sembrancher** (720 m., 2,362 ft.), 9 m. from Martigny, a poor village at the meeting of the E. branch of the Dranse, flowing from the Val de Bagnes, with the W. branch, descending from the Great St. Bernard, through the *Val d'Entremont*. It was the birthplace in 1742 of M. Murith, later Prior of the Great St. Bernard, a celebrated botanist, and the first conqueror of the *Vélan*, in 1779.

【Hence a track—of late much improved—leads past *Vollege* over the *Col du Lens*, or *Lin* (1,660 m., 5,446 ft.)—where there is now the charmingly-situated *Grand Hôtel de la Pierre à Voir*—in 5 hrs. to Saxon, in the Rhône valley, § 21. Rte. A.】

The scenery hence to Liddes is pleasing, but not of a striking character. The ruins of several castles are seen near Sembrancher. In that just above

the village the Emperor Sigismund, with his large suite, lodged in 1414 on his way over the St. Bernard to the Council of Bâle. From Sembrancher the St. Bernard road turns due S., that to the Val de Bagnes continuing towards the E. (Rte. E.) The Dranse is crossed twice before the traveller gains (13½ miles from Martigny)

**Orsières** (890 m., 2,920 ft.), the chief village of the valley. It stands close to the junction of the Dranse de Ferret with the Dranse d'Entremont, and at the meeting of the routes to Courmayeur by the Col Ferret (§ 16. Rte. K), to Chamonix by the Lac de Champex (§ 16. Rte. I), or by the Orny, Saleinaz, Tour, and Argentière glaciers (§ 16. Rtes. L and M), and to Aosta by the Great St. Bernard.

Throughout the lower part of the Val d'Entremont the botanist will be interested by observing the presence of many plants usually characteristic of a warm climate, along with sub-alpine species that have descended from the neighbouring mountains. Thus he may find *Vesicaria utriculata*, *Ononis natrix* and *O. rotundifolia*, *Astragalus onobrychis*, *Vicia onobrychoides*, *Caucalis grandiflora*, *Onosma montanum*, *Antirrhinum Bauhini*, *Euphrasia lutea*, *Campanula bononiensis*, *Stipa capillata*, *Bromus squarrosus*, and *B. tectorum*, along with *Sempervivum arachnoideum*, *Scutellaria alpina*, *Juniperus sabina*, *Goodyera repens*, *Poa alpina*, &c.

From Orsières the road begins to ascend more rapidly, winding up the E. slope of the valley, where the pedestrian may make several short cuts, to *Liddes*, 1,338 m., 4,390 ft. (4½ m.), a village at a considerable elevation, though cultivation does not seem to suffer, as the valley is warm.

☐ Hence the *Col de l'Azet* or *de la Lana* (3,037 m., 9,964 ft.) leads over to Lourtier, or Fionnay, in the Val de Bagnes; or the traveller may cross a second pass, the *Col des Avolions*, to the Corbassière glacier, and may

even continue over a third, the *Col des Otanes*, or the *Col de Botzeresse*, to the inn at Mauvoisin. The mountaineer will prefer to reach the Club hut on the r. bank of the Corbassière glacier by the Boveyre glacier and the *Col de Panosseyre*, at its head—a very fine snow walk of 7 or 8 hours, which may just as easily be made from Bourg St. Pierre. A pedestrian may vary the way from Liddes to Bourg St. Pierre by mounting the pastures between the high road and the Combe de Lâ on the W., taking the fine view point of the *Mourin* (2,769 m., 9,085 ft.) *en route*, and may prolong his walk by continuing up the Combe de Lâ to the *Col des Névi de la Rossa* (2,752 m., 9,029 ft.), at its head, and then bearing S.E. into the Planards glen, Rte. C.]

The ascent continues rather steep for the next 3 miles or so to **Bourg St. Pierre** (1,633 m., 5,358 ft.), a miserable-looking village, which, however, still contains various records of the importance of the pass with which its history is bound up. Near the church is a Roman milestone of the younger Constantine. The church tower is very ancient, while the door step of the church has a nearly effaced inscription recording the original building of the church (since reconstructed) by Bishop Hugh of Geneva (1019-1038), and an allusion to the tenth-century harryings of the Fraxinetum Saracens, after whose defeat it was possible to rebuild the church. The original Hospice of the pass was as early as the ninth century in Bourg St. Pierre, but was transferred and refounded in the eleventh century on the crest of the pass by St. Bernard of Menthon. Napoleon's sojourn in the village in May 1800, on his way over the pass, is commemorated by the name of the inn, 'Au Déjeuner de Napoléon,' the room occupied by him being still shown. The large house just N.W. of the church, and conspicuous from its massive chimney, has a large mediæval hall, with traces



of frescoes, and 'graffiti' over the fireplace, including the date 1442. Just outside the village, on a hillock to the l. of the road towards the pass, is the 'Linnæa' garden of Alpine plants, established and maintained by the Genevese 'Société pour la Protection des Plantes.'

Several pleasant excursions and ascents can be made from Bourg St. Pierre. The *Mourin* (2,769 m., 9,085 ft.), on the W., and the *Croix de Tzouss* (2,830 m., 9,285 ft.), on the S.E., can each be gained in about 3 hrs., and command very fine views. More laborious, though not difficult, are the ascents of the *Ritord* (3,568 m., 11,707 ft.), on the N.W. (5½ hrs. by the Challand d'Amont huts, a couloir, and the S.E. rock face), the *Moine* (3,574 m., 11,726 ft.), and the *Aiguille des Maisons Blanches* (3,699 m., 12,136 ft.), each 5½ hrs. by way of the Grand Combin shelter hut, gullies, and the main ridge. All these peaks lie in the ridge which forms the W. boundary of the Corbassière and Boveyre glaciers. The most direct route to the Val de Bagnes is the Col des Maisons Blanches, with which may be combined the ascent of the Grand Combin (Rte. F). But, as the shelter hut on the Bourg St. Pierre side is very poor, it is better to make that ascent from the Panossière Club hut (2,715 m., 8,908 ft.), on the r. bank of the Corbassière gl.; this may be best reached in 7 or 8 hrs. from Bourg St. Pierre by the fine and easy snow pass of the *Col de Panosseyre* (c. 3,400 m., 11,155 ft.), just S.W. of the Combin de Corbassière (3,722 m., 12,212 ft.), which may be climbed by a détour of 1½ hr. (This pass leads up the Boveyre gl., and can be directly reached from Bourg St. Pierre by the Challand d'Amont alp, and then by the gap E. of the Bonhomme du Tzapi, and over the ridge between the Ritord and the Merignier.) The chief ascent from Bourg St. Pierre, the *Mont Vêlan*, 3,765 m., 12,353 ft. (6 hrs.), is described in Rte. D, while the various passes to the Swiss Val

Ferret, the Valpelline, and the Chanrion Club hut are the subject of Rtes. C, D, and G.]

Above Bourg St. Pierre the road crosses a deep gorge through which the torrent from the Valsorey (forming a little higher up a fine waterfall) descends to join the Dranse, and then mounts, being partly cut in the rock, by a gradual ascent at a great height above the Dranse to a stony little plain, on which stands the humble inn called *Cantine de Proz*, 1,802 m., 5,912 ft. (3½ m.)

From the further end of this plain an old road leads up by a series of zigzags to the entrance of a tunnel (2,324 m., 7,625 ft.) which pierces the ridge between Switzerland and Italy, below the *Col de Menouve* (2,768 m., 9,082 ft.) By this means it was hoped to avoid the steep descent from the Hospice to St. Rémy, but financial obstacles prevented the completion of this project. The Col de Menouve leads over into the bare glen of the same name, which joins the Buthier valley at Etroubles. The pass may be reached by slopes of stones in 1 hr. from the Swiss mouth of the tunnel, and the *Pic de Menouve* (3,055 m., 10,023 ft.) gained in an hour more. But a mountaineer will probably prefer to take the Mont Vêlan on the way to Aosta rather than this unfrequented and not very interesting pass.]

The road having traversed the plain of Proz mounts by zigzags in a S. direction up rugged, but not very steep, slopes. The scenery is rather wild than grand, as the way lies through the gloomy *Combe des Morts*, which is for the most part shut in by rocks, interspersed with patches of snow. A wayside cross marks the spot where one of the Canons and three servants perished in an avalanche in November 1854. The most considerable snow patch, lying in a hollow where it scarcely ever melts, is passed, and a few minutes later the traveller finds himself on the crest of the pass (1½-2 hrs. from the Cantine), and

close to the **Hospice of the Great St. Bernard** (2,472 m., 8,111 ft.)

The pass is a depression between the Chenalette (2,889 m., 9,479 ft.) and the Mont Mort (2,866 m., 9,403 ft.), and is directed N.E. and S.W. The massive stone building is therefore exposed to the full force of the wind from these opposite quarters, while partially sheltered in other directions. It consists of stabling and storehouses on the ground floor; the first floor is occupied by various offices and the Chapel, while on the second floor are the refectory, the drawing-room, and the rooms in which about 80 tourists can be lodged. An adjoining house, the *Hôtel St. Louis*, is chiefly intended as a refuge in case of need, the Hospice having twice been partially destroyed by fire. Near at hand is the *Morgue*, a low building, the ghastly contents of which may be inspected through a grated window. Here the bodies of persons who have perished on the pass are kept until claimed by their relatives. At this height the dryness of the air and the severe cold cause the bodies to shrivel without decomposition. But the introduction of the telephone, by which the news of the departure of travellers in winter is sent up to the Hospice, has saved many lives, since if the adventurers do not arrive at the proper time they are at once sought for.

To attempt a sketch of the history of the pass and of the Hospice from the time of the Celtic Veragri, who may have built a temple here, to that of the passage of Napoleon's army in May, 1800, does not enter into the plan of this work. The site of the Roman temple of Jupiter Penninus (from which the pass took its mediæval name of *Mons Jovis*, or *Montjoux*) is still marked by steps cut into the rock, but no part of the building remains. Many inscriptions and other objects of interest have been found here, and are preserved in the Museum in the Hospice. The original Hospice was at Bourq St. Pierre, but possibly

even before the Saracen raids in the tenth century had been transferred to the summit of the pass. At any rate it was refounded there in the eleventh century by St. Bernard of Menthon (above the Lake of Annecy, § 11. Rte. E), and since the twelfth century has been in the charge of a community of Austin Canons Regular. This is composed of about forty members, ten or twelve being stationed here all the year round, while others reside (since the early part of the nineteenth century) at the Hospice on the Simplon. The mother house is at Martigny, and here live the Provost and those of the Canons whose health no longer allows them to face the severe Alpine winters, a result which commonly happens after twelve to fifteen years' residence on the St. Bernard. The number of persons who annually cross the pass is estimated at 25,000, a very large proportion of whom are poor Italian workmen, who migrate in the spring and return home in the autumn. The vast majority of the passers-by are fed and sheltered gratuitously, and no demand is made from the traveller for pleasure, despite the superior way in which he is entertained; but it is understood that those who can afford it should give at least as much as they would pay in an ordinary *hôtel*. *Such offerings should be placed in the box provided for that purpose in the Chapel.* The property of the community has been very much reduced during the present century, and their means of relieving poor travellers proportionately diminished, so that well-to-do passers-by should not fail to remember to make a suitable offering, the whole amount of which is expended on charitable purposes. At present travellers are only allowed to spend one night at the Hospice, unless in special cases, and provisions for mountain expeditions are *not* supplied, while breakfast cannot be obtained till after mass is over, about 6 A.M. There is a telegraph (on the Swiss side only), and also a Post Office and a telephone. Visitors are re-

ceived by the Clavandier, or Bursar (representing the Prior), but the table is laid in a separate room for ladies and gentlemen travelling in their company. The food is plain, but quite sufficient, while the beds are clean and as comfortable as can be expected in so exposed a situation. Travellers all acknowledge the courtesy and attention with which they are received. The albums, containing the names of many distinguished persons, a considerable assortment of books, a piano presented by the Prince of Wales, some collections of natural history, including the plants and minerals of the neighbourhood, and the Museum, will help to pass the time in case of detention by bad weather. The traveller will, of course, notice the celebrated dogs, some of which are often about the entrance. They are very powerful animals and of mixed race, but suitable for rescuing travellers in winter time, when confused by storms and impeded by snow drifts. At such times (especially if a telephone message has been received) two or three of the servants, or 'maronniers,' descend daily, with dogs, on either side of the pass, in order to assist any who may be forced to make the passage at that season. Irrespective of its primary mission of charity the community has incidentally performed some services to the cause of natural science, especially by the maintenance (since 1817) of a regular series of meteorological observations. These were formerly very useful to persons engaged in hypsometrical enquiries in the High Alps, the need of which has been superseded by the work of the various Government surveyors. The mean temperature of the year at the Hospice is  $29.3^{\circ}$  Fahr. The greatest cold recorded is said to be  $-29^{\circ}$  (in 1854), and the greatest heat  $68^{\circ}$  (in 1837). The snow usually lies unmelted for nine months, but there have been seasons when not a week passed without fresh snow. The average snowfall is about 15 ft.

☞ For those who spend a fine after-

noon or morning at the Hospice the ascent of the *Chenalette* (2,889 m., 9,479 ft.), or of the *Mont Mort* (2,866 m., 9,403 ft.), is recommended, either being accessible in about 1 hr. The view of the range of Mont Blanc well rewards the slight trouble of the ascent. More distant are the *Pic de Drónaz*, 2,949 m., 9,676 ft. ( $2\frac{1}{2}$  hrs.), and the *Pain de Sucre*, 2,792 m., 9,160 ft. (3 hrs.), from the latter of which an easy ridge leads in another hour to the higher *Mont Fourchons* (2,900 m., 9,515 ft.) It is more convenient to ascend the Vélán (the highest rocks of which, though not the highest snowy summit, are seen from the Hospice) from Bourg St. Pierre, or from the Cantine de Proz, than from the Hospice. For the passes and peaks between the Hospice and Courmayeur or Aosta see Rte. B. ]

On the W. side the Hospice overlooks a small lake (through which runs the political frontier), beyond which, framed between two points, the conical summit of the Pain de Sucre is conspicuous.

A column by the side of the lake marks the frontier, and the foot path (the mule path makes a round to the r.) soon begins to descend rapidly, winding round the mountain-side to the l. A view towards the S. gradually opens before the eyes of the traveller, who once again sees trees and cultivation. In a green basin of the Alpine pastures is the *Vacherie*, where the convent cows are kept in summer, and a *Cantine*. The botanist, who will find near the Hospice many of the characteristic species of the High Alps, and some rarities, e.g. *Carex microstylia*, may gather several uncommon plants on his way down towards St. Rémy, especially *Pedicularis atrorubens*, and some scarce lichens. The descent from the Vacherie is rather steep, by a series of zigzags, to the poor village (with the Italian custom house) of *St. Rémy* ( $1\frac{1}{4}$  hr. from the Hospice), 1,632 m., 5,355 ft. Those who carry more than a small number of cigars will do well to declare them,



as the regulations are very strict. (This is the best starting point for the ascents of the Mont Fallère, &c., and for several passes in the direction of Courmayeur and Aosta. See Rtes. B and C.)

The traveller acts wisely to hire a char here for the descent to Aosta, as the valley is hot and steep. The change in vegetation is very rapid, particularly after passing *St. Oyen* and *Etroubles*, and reaching *Gignod*. The last-named village is above the junction of the main stream of the Buthier, flowing from the Valpelline, with the lesser branch coming from the Combe des Bosses. The fine chestnut trees, and the richness of the trellised vines, contrasted with the snowy summits of the Valpelline, and of the Cogne group, form pictures of extreme beauty. A little farther on the traveller gains his first view of the enchanting little city (at the foot of the Becca di Nona and the Mont Emilius) of *Aosta* (described in § 15. Rte A. which is  $3\frac{1}{2}$ -4 hrs.' walking ( $1\frac{1}{2}$ -2 hrs. in a char) from St. Rémy.

#### ROUTE B.

#### GREAT ST. BERNARD HOSPICE TO COURMAYEUR.

In descending by the usual road from the Great St. Bernard Hospice towards Aosta the traveller has on his right hand a range running from N.E. to S.W., of which the highest summit is the *Grande Rochère* (3,326 m., 10,913 ft.) This ridge separates him from the Italian Val Ferret, while facing him another ridge, running nearly due E. and W., and crowned by the *Mont Fallère* (3,062 m., 10,046 ft.), shuts him off from the valley of Aosta. The glen lying between the two ranges is called the **Combe des Bosses**. It is traversed by

a branch of the Buthier, which flows E., and joins, beneath Gignod, the main branch of that torrent, descending from the Valpelline on the N.E.; the united streams, after draining the S. side of the Central Pennine Alps, merge in the Dora Baltea (to which it gives its name, for Buthier becomes Baltea through the form 'Bauthegium'), under the walls of Aosta. There are, therefore, several direct ways from the Hospice or St. Rémy to Courmayeur, thus enabling a traveller to avoid the great détour by Aosta. They are briefly indicated here, as they may tempt mountaineers to explore a little-visited bit of the Alpine chain whence the views of the Mont Blanc are exceedingly grand.

1. *Over Peaks*.—In the ranges just mentioned there are three conspicuous summits, any of which can be taken on the way from the Hospice to Courmayeur. The loftiest is the **Grande Rochère** (3,326 m., 10,913 ft.), which therefore commands a most magnificent view. It is best reached from the Hospice by the steep rocks of its E. face, the foot of which may be gained by the route of the Col Serena (2. c. below). The descent is made by a couloir, or ridge coming straight from the top, to the head of the Chambave glen, whence Courmayeur is reached either by the Cols de Chambave and de Chappy, or by descending the Chambave glen, and then the lower bit of the Planavalle valley to *Morgex*, 4 m. below Courmayeur, on the high road from Aosta. The *Grand Golliaz* (3,240 m., 10,630 ft.) may be attained in 6 hrs. from the Hospice by way of the Col de St. Rémy and the small glacier at the head of the Thoula branch of the Combe des Bosses; but it is shorter to ascend it by its S.W. arête in  $3\frac{1}{2}$  hrs. from the highest huts in the Italian Val Ferret. It is reported that the rocks of the E. face are good, and that by moderately steep snow gullies the glacier at its N. foot could be gained from the summit. The at-

tempt is worth making, as the mountain is a belvédère of the first class. The *Mont Fallère* (3,062 m., 10,046 ft.) is most easily attained from St. Rémy by the Frassin glen, and the *Colle Finestra* at its head. Aosta may be gained in 4 hrs. from the top by a path which leads down to the **Regina Margherita Club hut** (2,969 m., 9,741 ft.), whence a mule path descends through the Clusata or Clusella glen to *Sarre*, 3 m. from the city of Aosta. If bound for Courmayeur direct the mountaineer should from the *Lac des Morts* (2,642 m., 8,668 ft.), below the peak, bear always to the S.W., and cross first the *Passo di Paletta* (2,712 m., 8,898 ft.) to the beautiful Vertosan glen, and then the *Col de Bar to La Salle*, just above the high road, 6½ m. below Courmayeur.

2. *By Passes*.—The traveller has quite a bewildering variety of passes from which to make a selection.

(a) **Col de Fenêtre**.—The way is pretty well traced, as it is daily traversed in summer by the mules employed to carry wood from the Swiss Val Ferret to the Hospice. It winds round to the W., then N.W., to the pass (2,699 m., 8,855 ft.), reached in little more than 1 hr. from the Hospice. The descent lies over high broken ground, passes near some small tarns, and descends to the *Plan la Chaud* huts, joining the Col Ferret path some way above the Swiss Ferret huts, which are 3–3½ hrs. from the Hospice. (A short cut to the l. or W. may be taken from the Plan la Chaud huts by crossing first the Ban d'Arrey stream by means of a bridge, and later forcing a passage somewhere over that from the Col Ferret, in order to gain the path to that pass.) The Col Ferret is reached in about 5 hrs. from the Hospice, and the descent thence to Courmayeur takes 3½–4 hrs. (§ 16. Rte. K.) The advantage of this route consists in the fine view of the range of Mont Blanc which is obtained from the Col Ferret. It may also serve to vary the way back to Martigny for a traveller who

has mounted thence to the Hospice, and would return into Switzerland. It is, however, a shorter and finer excursion for any one bound to Courmayeur to mount direct from the Plan la Chaud huts in a S. direction and cross the *Col du Ban d'Arrey* (2,695 m., 8,842 ft.) to the highest huts in the Italian Val Ferret.

(b) *Col de Chapy, Col de Malatra, and Col de St. Rémy*.—This is the most direct, though scarcely the shortest route. The **Col de Chapy** (formerly called Col de Sapin), gained in 2 hrs. from Courmayeur, lies at the head of the Chapy glen, across a grassy ridge, and may be reached by a mule. Keeping nearly due E. from the Col, but descending a little, the traveller passes in ¼ hr. the *Sécheron* hut, where the mule path comes to an end. He must then traverse a slight ridge, long slopes of stones, and patches of snow in a N.W. direction, in order to gain (2 hrs. from the hut) the **Col de Malatra** (formerly called Arteneva), 2,928 m., 9,607 ft., a mere notch in the black rocky ridge dividing the Italian Val Ferret from the Combe des Bosses.

☐ This pass overlooks one of the tributary glens of the Bosses valley, and by that way St. Rémy may be reached in 2 hrs. ½ hr. N. of the pass is the *Col de Bellecombe*, which is attained from Courmayeur by following the Col Ferret route (§ 16. Rte. K) as far as the *Gruetta* huts, and then going up the Bellecombe glen, the route on the other side soon joining that from the Col de Malatra. This route saves one pass on the way to the Hospice, but involves a great *détour*. ]

From the Col de Malatra the traveller bound for the Hospice must descend by snow slopes to the *Muerda* chalets (½ hr.), and then reascend over slopes of shale and snow to the **Col de St. Rémy** (¾ hr.), whence the Hospice is reached either by the Cantine (2 hrs.) or by a shorter path to the l. round the hill-side. About 7½–8 hrs. suffice for the whole distance from Courmayeur to the Hospice.

(c) **Col Serena.**—This way passes through the Combe des Bosses and is not very interesting, but it is the easiest way from the Hospice to Courmayeur, taking from 7 to 9 hrs., according to the precise route adopted. The *shortest course* for a pedestrian is to follow a path which turns to the r. close to the Vacherie of the Hospice, and winds round the mountain slopes to the chalet at the foot of the final ascent to the pass, where it joins the regular track. This is a considerable short cut, as by it Courmayeur may be gained by a good walker in 7 hrs. from the Hospice, but it is fatiguing and requires a local guide.

The *ordinary route*, which is passable for mules, descends as far as St. Rémy, on the way to Aosta. 'You there take the road to the r. to *San Leonardo*, the principal hamlet in the Combe des Bosses, then go through fields for  $\frac{1}{2}$  hr., and so arrive at the foot of the Col. Half an hour's ascent through a pine forest brings you to the last chalet. Here, instead of following a road to the r., go up the mountain slope by a steep zigzag path immediately *behind* the chalet, and  $1\frac{1}{2}$  hr.'s good walking will land you on the top of the pass (2,538 m., 8,327 ft.) The scenery is very wild, especially towards the N. and N.W., offering a great contrast to the beautifully cultivated valley of Aosta, which shortly afterwards comes into view.' After passing the *Rantin* huts the path goes down the Planavalle glen to *Morge* (just above this hamlet the first view of the Aosta valley is gained; it is, however, shorter to leave Morge  $\frac{1}{2}$  m. on the l. hand), whence it is  $\frac{3}{4}$  hr. by a stony path to *Morgex*, 4 m. below Courmayeur on the high road from Aosta (§ 14. Rte. G). In all about 9 hrs. are required by this route from the Hospice. The Serena abounds in parmigan and chamois. From the pass it is easy to bear N.W. towards the Grande Rochère (see I. above).

## ROUTE C.

## BOURG ST. PIERRE TO COURMAYEUR.

Instead of going up to the Hospice a traveller bound for Courmayeur may go direct from Bourg St. Pierre to Courmayeur by several routes.

I. *By the Col des Planards.*—The earlier explorers of the so-called High-Level Route between Chamonix and Zermatt left a break in the direct line from one of those places to the other for want of a convenient pass which should connect the La Fouly huts, in the Swiss Val Ferret, with Bourg St. Pierre. The desired passage was effected by Mr. F. W. Jacomb in 1864. Irrespective of its value to those who, having crossed the Col d'Argentière to La Fouly, wish to continue their way towards Zermatt without descending to Orsières, this pass is convenient for a traveller going from the valley of the Dranse to Courmayeur.

Mr. Jacomb on leaving Bourg St. Pierre followed the road towards the Hospice for  $\frac{1}{2}$  hr., and at the second bridge (the bridge next above the first *stone* one is the best) turned W.S.W. into the Planards glen, into which a well-marked path leads to the *Planards* huts. At the head of the glen, keeping somewhat to the N. slopes, the **Col des Planards** (2,803 m., 9,197 ft.) was reached in less than 2 hrs. from Bourg St. Pierre. To the E. the Grand Combin, with its attendant peaks, presents a noble picture, while in the opposite direction the Grandes Jorasses tower grandly above the minor aiguilles that flank it and conceal Mont Blanc himself. Bearing slightly to the l., and passing rather above the Ars huts, Mr. Jacomb reached the Swiss Ferret chalets in less than an hour from the Col. The traveller bound for Courmayeur may thus attain the Col Ferret in about the same time as from Orsières.

The lowest point in the ridge at the head of the Planards glen is that



marked 2,736 m. (8,977 ft.) on the Siegfried map, and is considerably to the S. of the pass just described. But its W. side is steep, so that it is less useful as a pass than Mr. Jacomb's Col. If it be taken it is best, on the W. side, to traverse immediately to the l., and nearly at a level, over loose stones, and so to pass E. of the *Grand Clocher d'Arpalle*, and then to the r. of the first of the Fenêtre lakes, beyond which the Col Ferret path is joined. From this S. Col the *Drônaz*, 2,954 m., 9,692 ft. (splendid panorama) may be climbed in about an hour. This point, sometimes called *Pointe des Lacerandes*, or *des Monts Telliers*, must not be confounded with the lower Pic de Drônaz (2,949 m., 9,676 ft.), farther to the S. and nearer the Hospice.

2. *By the Mourin*.—A traveller wishing to spend more time on the way will do well to ascend S.W. from Bourg St. Pierre by the Forgnon pastures to the top of the *Mourin* (2,769 m., 9,085 ft.), a very fine belvédère. He can then go S. over pastures to the Planards glen. But it is better to traverse the *Col de la Chaudde Forgnon* (2,626 m., 8,616 ft.) on the W. to the Combe de Lâ (which descends to Liddes, and also, by way of the Tour de Bavon, gives access to Orsières), and then from the head of that valley to cross by the little-known *Col des Névi de la Rossa* (2,752 m., 9,029 ft.) to the Ars and Ferret huts.

#### ROUTE D.

BOURG ST. PIERRE TO AOSTA BY THE COL DE VALSOREY. ASCENT OF THE MONT VÉLAN.

Just S.E. of Bourg St. Pierre there opens a glen, called the *Valsorey*, through which many passes lead in different directions. On the N.E. the

Col des Maisons Blanches (Rte. F) gives access to the Corbassière gl. and Fionnay; on the E. the Col du Sonadon (Rte. G) offers a direct route to Chanrion, while on the S. the Col de Valsorey affords the best way to Aosta, particularly as the Vélán can be included in the day's walk, while the night may be spent at the By chalets, and the Grand Combin ascended thence next day.

A first glance at the map suggests that the Col du Sonadon is the most deeply cut depression in the ridge between the Grand Combin and the Vélán. In reality the great spur, of which the Vélán is the culminating point, detaches itself from the main ridge at the *Amianthe* (3,600 m., 11,812 ft.), just S. of the Col du Sonadon, but is separated by a long series of rocky peaks from the lowest depression in the ridge between the Combin and the Vélán—the *Col de Valsorey* (3,113 m., 10,214 ft.) Two glaciers descend from the Vélán in a N. direction, and are divided by a great buttress crowned by the *Mont de la Gouille* (3,223 m., 10,575 ft.) That on the W. of this buttress is the *Tzeudet* gl., and that on the E. is the *Valsorey* glacier. It is up the latter that one of the routes to the Vélán leads, as well as the way to the Col de Valsorey. This pass has been long known to smugglers, who frequently cross it, as it offers no real difficulties. The first travellers who are known to have traversed it are Messrs. Adams-Reilly and C. E. Mathews, in 1866.

The path from Bourg St. Pierre runs above the r. bank of the Valsorey torrent to the *Upper Valsorey* chalets, 2,192 m., 7,192 ft. (1½ hr.) Just above these huts a projecting rock appears to bar the way. The herdsmen have, however, cut a track up it, and in this way the *Grands Plans* slopes above are attained. Opposite, at the N. foot of the Mont de la Gouille, there formerly existed a curious glacier lake, the *Gouille à Vassu*, or de Valsorey;

it was described by Saussure (*Voyages*, chapt. xlv.), but has disappeared since 1879, owing to the shrinking of the glaciers. The way towards the Col du Sonadon lies to the E. ; but for the Col de Valsorey the traveller must bear S.E. and gain the moraine on the r. bank of the *Valsorey* gl. (a long hour from the huts). A large hole through one of the nearer peaks—thence called *Mont Percé*—is very noticeable. The lower portion of this glacier is very level and is easily traversed. Above, there is a steep ice or snow slope, which may take some time to cut up. It is best to keep on the E. of the steepest bit, which, in case of necessity, can be turned by easy rocks still further E. The pass (3,113 m., 10,214 ft.) lies just S.W. of the point called *Mont Capucin* (3,270 m., 10,729 ft.) on the Siegfried map, but locally the *Trois Frères* (a far more appropriate name, as it consists of three bold rock pinnacles), and may be reached in  $4\frac{1}{2}$  hrs. or less from Bourg St. Pierre. The three rock pinnacles of *Mont Capucin* assume very fantastic shapes, and the *Combin*, opposite, is extremely grand, while the traveller is surprised to see the city of Aosta through the Ollomont gorge, backed by the *Cogne* peaks.

[If it is wished to climb the *Vélan* on the way over the Col, it is best to skirt round the N.W. base of the minor summits S.W. of the pass to the snow slopes above the upper icefall of the *Valsorey* gl., or the knapsacks may be left at the foot of the steep snow slope encountered in mounting direct to the Col.]

The descent on the Italian side is very easy. Broken rocks, followed by snow or stone slopes (according to the season), lead down in  $\frac{1}{4}$  h. or so to the pastures at the head of the Val d'Ollomont. The chalets of *By*, on the S.E. (see below), are gained in a long hour from the Col, and thence a mule path leads down to Ollomont in 1 hr., and the village of *Valpelline* (§ 19. Rte. E) in  $\frac{3}{4}$  hr. more.

A char road goes down hence in 8 miles to Aosta (§ 15. Rte. A).

The chalets of *By* (2,043 m., 6,703 ft.), alluded to above, are finely situated on the wide pastures at the head of the Val d'Ollomont. The owner of the huts is very obliging, and does his best to entertain visitors, but it is to be hoped that a small inn will be built there some day. Hence almost all the peaks in the long, jagged ridge N.E. of the *Vélan* may be climbed in from 4 to 5 hrs. The *Amianthe* (3,600 m., 11,812 ft.) is the highest, and is quite easy, while all command fine views. The *Grand Combin* can be ascended hence in 7 hrs. by crossing the W. Col de *By*, 3,300 m., 10,827 ft. (E. of the *Amianthe*), to the head of the *Mont Durand* glacier, and thence climbing the great S.E. ridge (Rte. F), while the *Vélan* can be attained in 5 hrs. by its S.E. face (see below). *Charnion* may be gained in 4 hrs. or so by the Col de *Fenêtre* (Rte. E), and either the *Mont Avril* or the *Mont Gelé* (Rte. H) may be ascended *en route*. If the traveller be bound to the upper part of the *Valpelline* he may join the Col de *Crête Sèche* route by crossing the broad snow saddle S.E. of *Mont Gelé*.

*Ascent of the Mont Vélan.*—The *Mont Vélan* (3,765 m., 12,353 ft.) rises on a great spur, running S.W. from the *Grand Combin* towards the *Great St. Bernard Pass*, and, as its highest rocks (though not the culminating snowy dome) are visible from the *Hospice*, it is not a matter for surprise that the first ascent was made thence as far back as 1779 by *Monsieur J. L. Murith*, a famous botanist, and then a Canon of the *Hospice*. It was thus the fourth snowy peak in the Alps to be scaled by man, the *Rochemelon* in 1358, the *Titlis* in 1739 (or 1744), and the *Buet* in 1770 alone taking rank of it. There are three main routes up it, so that it can be taken from *Bourg St. Pierre* by one route, and that village regained by a second, or it can be traversed on the

way from the same place to Aosta, a splendid excursion.

(a) *From the W.*—Seen from the N. and W. the Vélán is a snowy dome, nearly flat at the top, but steep on the W. side, where it is ribbed by projecting edges of sharp rock, that seam the névé-clad side of the mountain. It is by these that the ascent is made from Bourg St. Pierre, the best starting place, as it is quite unnecessary to sleep at the Cantine de Proz, while an early start from the Hospice is not easy. The St. Bernard road (Rte. A) is followed for 1 hr. to the Cantine de Proz, and then a path up grass slopes leads in a S.E. direction to a great stony waste on the bank of the stream descending from the *Proz* gl. That gl. is reached in about 2 hrs. from the Cantine, and crossed without difficulty to its head in  $\frac{3}{4}$  hr. more. A bergschrund may give trouble, but the ascent beyond by one of the rocky ribs offers no difficulty (if preferred the easy rocks of the W. arête itself may be followed). In this way the rim of the upper rocks (where is the cairn) is attained in 2 hrs. or less, and  $\frac{1}{4}$  hr. more suffices to reach the loftiest snow dome, in all 6 hrs. from Bourg St. Pierre. The view is one of the very finest in the whole chain of the Alps, though the mountain is overtopped by the Grand Combin, which towers up superbly on the other side of the Valsorey. It includes, of course, the range of Mont Blanc (with a bit of the Lake of Geneva seen unexpectedly in the distance), as well as the Bernese Alps and the Graians. The Grande Casse, in the Tarentaise, and the Grandes Rousses, in Dauphiné, are the most distant points seen towards the S., while to the E. Monte Rosa asserts its supremacy.

(b) *By the Valsorey Glacier.*—This route is often chosen as the return way to Bourg St. Pierre, or as the line of ascent for a party desiring to cross over to Aosta. The route from the village is the same as that to the Col de Valsorey (see above) as far as the

level lower portion of that gl. Here it is necessary to bear to the S.W., so as to ascend moraine and rock slopes on the left bank of the glacier, which are somewhat exposed to stones falling from the Mont de la Gouille. The glacier is regained above the great icefall (which is thus turned), and is then crossed to its E. edge, up which snow slopes, seamed by several great crevasses, lead direct to the highest snowy dome (6 hrs. from Bourg St. Pierre up,  $3\frac{1}{2}$ –4 hrs. down). As noted above, the ascent can be made from the Col de Valsorey itself by skirting along the N.W. base of several minor rocky summits on the ridge, and this is the most convenient course for a party bound for Aosta and carrying heavy knapsacks with it.

(c) *By the Italian Side.*—It is possible to descend from the summit by a small gully on the left of a very broad couloir in the rocky S.W. face of the mountain to the Menouve glen, and so reach Etroubles, on the St. Bernard road. Or a party may descend the S.E. rocky face from the Col des Chamois, a gap on the N.E. arête of the peak, higher up than the Col de Valsorey. But the route first taken by Sir Martin Conway's party in 1890 is probably the best way to Aosta. The S.E. arête is descended for  $\frac{1}{4}$  hr., and then the rocks on one or other bank of the central one of three great couloirs in the S.E. face are followed to the grass at the foot of the peak (2 hrs.) In an hr. more the Col de Valsorey route is rejoined at the Cordon huts. By this route the Vélán may be climbed in 5 hrs. from the chalets of By, described above.

In 1897 the Vélán was attained by a difficult rock climb up the N. arête and over the *Aiguille du Vélán* ( $8\frac{1}{2}$  hrs. from Bourg St. Pierre).



## ROUTE E.

## MARTIGNY TO AOSTA BY THE VAL DE BAGNES AND THE COL DE FENÊTRE.

Char road to Fionnay and from Valpelline; mule path from Fionnay to Valpelline. 11 hrs.' walking from Chable to Valpelline.

The two main branches of the Dranse flow through two nearly parallel valleys—the Val d'Entremont and the Val de Bagnes—and unite their waters close to Sembrancher. Each is connected with the valley of Aosta by a pass which, in summer at least, is quite free from difficulty. But the destiny of the two valleys has been widely different. The first has from very early times been one of the main channels of communication across the Alps, and is traversed annually by many thousands of persons; while the second, known indeed to the natives for several centuries, became known to others than its inhabitants by the destructive inundation which early in this century issued from its narrow mouth to carry destruction even beyond Martigny, and rather later by the travels of Principal Forbes, Herren G. Studer and M. Ulrich, and Mr. W. Mathews. The Col de Fenêtre itself has long been known, for in 1476 an army crossed it, in 1536 Calvin is said to have fled across it from Aosta, and in 1688–1690 it was fortified to prevent the Vaudois refugees from returning to their native valleys. It is also called *Fenêtre de Balme* and *Fenêtre de Durand*. The very rare *Crepis jubata* was first discovered at the end of the Val de Bagnes.

For many years the accommodation in the valley of Bagnes was not of a kind to attract strangers. Recently, however, considerable improvements have been made in this respect. There are good inns now at Chable and at Fionnay, both of which are largely frequented by Swiss families in summer, so that it is not always easy to be sure of finding rooms. There is a fair inn at Mauvoisin,

and an excellent Club hut at Chanrion, at the extreme head of the valley. Complaints have, however, been made that this Club hut is frequently occupied by Swiss visitors, who remain there for several days, but do not undertake or intend to undertake any mountain expeditions from it. It is to be hoped, therefore, that it may soon give place to a small mountain inn.

The valley was under the rule of the Abbats of St. Maurice till the conquest of the Lower Vallais by the Upper Vallais in 1475, the bridge below Mauvoisin (sometimes called Pont de Quart) marking the limit between their jurisdiction and that of the lordship of Quart, in the valley of Aosta. In former times the valley was celebrated for its mineral springs and baths, from which it still takes its name (Bagnes, Balneæ, Baneæ).

From Martigny the Great St. Bernard road (Rte. A) is followed for 9 m. as far as Sembrancher. Our route crosses the Dranse a little below the junction of its two branches, and then proceeds for 3½ m. along the r. bank of the Dranse de Bagnes to

**Chable** (824 m., 2,703 ft.), the chief village of the valley, and therefore (in accordance with a common practice) also called 'Bagnes.' It is picturesquely situated astride of the stream, and in the neighbourhood of some interesting scenery. The Ruinette, Mont Pleureur, and Grand Tavé are visible from the village.

☐ The summit of the *Pierre à Voir*, 2,476 m., 8,124 ft. (§ 21. Rte. A), is easily reached in 4½ hrs., and on the opposite side the traveller may descend by a mule path or on a sledge—very fast—to Saxon, in the Rhône valley. A path leads from Chable in 6 hrs. by the *Col des Etablons* (2,182 m., 7,159 ft.) to Riddes, in the Rhône valley. The way lies past the village of *Verbier*, whence the course of a stream is followed very nearly to the pass, which is E. of the *Pierre à Voir*. On the N. side the descent lies at first over grassy slopes, then through a zone of

rhododendron and pine woods. After passing over a tract of sloping pastures a steeper declivity leads by zigzags down to Riddes. Large surfaces of rock at a great height above the valley are seen, which were polished and striated by the gigantic glacier which once extended from the Furka at least as far as the Lake of Geneva. ]

The road crosses the Dranse by a fine stone bridge, and passes over a smiling plain to the hamlet of *Champsec* ( $\frac{3}{4}$  hr.), where it recrosses the Dranse and winds up the hill-side to the dirty village of *Lourtier*, 1,054 m., 3,458 ft. ( $\frac{1}{2}$  hr.) (Hence the *Col de l'Azet* leads to Liddes, and the *Col de la Chaux* to the Nendaz glen, and so to Sion.) Above Lourtier the new road mounts by a series of short zigzags on the r. bank, while the Dranse, charged with the drainage of ten extensive glaciers, forces its way through a very narrow gorge. The scenery is wild and picturesque, especially the little basin in which are the huts called *Granges Neuves*, where the considerable stream from the Corbassière glacier joins the Dranse. A short way beyond another green basin is reached, and a bridge is crossed to **Fionnay** (1,497 m., 4,912 ft.), now a favourite resort of travellers, as it possesses good inns, and is very beautifully situated amidst fine woods. It is reached in  $1\frac{1}{2}$  hr.'s walking from Lourtier, or  $2\frac{3}{4}$  hrs. from Chable.

[Hence many pleasant excursions may be made. On the S.W. side of the valley the *Panossière Club hut* (for the Combin, &c., Rte. F) is 4 hrs. distant, and should be visited in order to see the very fine Corbassière gl., which is also overlooked from the *Bec de Serrey*, 2,867 m., 9,407 ft. (4 hrs.), on its l. bank. On the N.E. side the ascent of the *Pointe de Rosa Blanche* (3,348 m., 10,985 ft.) is particularly recommended; it is best reached in  $4\frac{1}{2}$  hrs. by way of the Col de Cleuson, and the return may be made by the Col de Sevreu. It commands a fine view, as does also

the slightly lower *Mont Fort* (3,330 m., 10,926 ft.), accessible in 4-5 hrs. by way of the Col du Mont Fort, on its S.W. shoulder. Many passes in various directions can be taken from Fionnay, apart from those lying over or near the Corbassière gl., for which see Rte. F. The *Col du Mont Fort* (3,037 m., 9,964 ft.) leads over to the Tortin huts, the *Col de Louvie* (2,938 m., 9,639 ft.) and the *Col de Cleuson* (2,916 m., 9,567 ft.) to those of Cleuson; all these huts are in the Nendaz glen, and may be gained in from 4 to 5 hrs. from Fionnay, the descent to Sion by that glen taking about 4 hrs. more. The *Col de Sevreu* (c. 3,150 m., 10,335 ft.) and the *Col du Crêt* (3,148 m., 10,329 ft.) afford access, by way of the Écoulaies gl., to the La Barma huts, near the head of the Val d'Héremence, which joins the Val d'Hérens (see Rte. L),  $5\frac{1}{2}$ -6 hrs. sufficing for the journey from Fionnay. The *Col de Vasevay* (3,263 m., 10,706 ft.), which is more conveniently taken from Mauvoisin, leads in 6 hrs. to the Liappey huts, higher up the Héremence glen.]

Beyond Fionnay the scenery becomes wilder and wilder, the precipices of the Mont-Pleureur towering on the l. above the traveller. The path keeps *always* on the r. bank of the torrent, past the *Bonatchesse* huts, and does not cross it till the solid stone *bridge of Mauvoisin* (1,698 m., 5,571 ft.) leads across a deep cleft. Zigzags then lead up to the **Mauvoisin inn** (1,824 m., 5,984 ft.), perched on a hillock or spur, and seen from Bonatchesse, while there is a little chapel just beyond. It is  $1\frac{1}{2}$  hr.'s walking from Fionnay, and was formerly the best headquarters in the upper part of the valley, but has been largely superseded by the inns at Fionnay and the Club hut at Chanrion. It has too the disadvantage that for nearly all excursions it is necessary to *descend* from the hillock on which it stands, so that a steep ascent has to be made on the return home.

[The chief climb from here is the

ascent of the *Mont Pleureur* (3,706 m., 12,159 ft.), opposite the inn. The Col de Seilon route (Rte. K) is followed to the Col de Giétroz, 3 hrs. That gl. is then crossed in a N.W. direction, and the S. face traversed by slopes of shale and snow to the S.W. arête, by which the ascent is completed in 2 hrs. from the Col. The view is very fine. The return may be varied by keeping along the slopes at the E. base of the rocky ridge of *La Salle* (3,641 m., 11,946 ft.), and then descending a steep ice wall to the Col de Vasevay, 2 hrs., whence it is 2 hrs. more to the inn. A short excursion is the ascent of the *Grand Tavé* (3,154 m., 10,348 ft.), overlooking the Corbassière gl. This may be made on the way from the inn to the Panossière Club hut. A rough foot path leads to the l. up the hill-side from the inn to the upper *Botzeresse* hut. Here it is necessary to bear r. round a spur of the peak if bound for the *Col des Otanes*, or, before attaining the hut, to keep l. to the *Botzeresse* gl., at the head of which is the *Col de Botzeresse*. 3 or 4 hrs. suffice from the inn to the Club hut. The peak may be gained from either pass—best from the former—in  $\frac{1}{2}$  hr., or direct by a snowy gully in the rocky E. face—in all 3-4 hrs. from the inn. The *Mont Blanc de Seilon* (3,871 m., 12,700 ft.) may be climbed in 6 hrs. by way of the Col de Seilon (Rte. K) and the *Ruinette* (3,879 m., 12,727 ft.) in about the same time, by way of the Giétroz alp and the Lyrerose gl., but the latter ascent is better made from Chanrion, Rte. H. ]

Through a narrow channel on the S. side of Mont Pleureur is seen the lower portion of the **Giétroz glacier**, fed by the overflow from a vast field of névé that is not visible from below. This glacier has obtained a sad celebrity from the formidable catastrophes of which it has been the cause, as masses of ice break off and fall down a steep rock wall, at the base of which they form a 'glacier remanié,' which blocks the narrow valley. In

1595 it descended into the valley, and formed a barrier, behind which the waters of the Dranse torrent accumulated until they burst, on June 4, and swept through the valley below, carrying off over 140 human beings, besides many cattle and houses. In the spring of 1818 the glacier again choked the valley in a similar fashion, forming a dam nearly 300 ft. high, behind which the waters of the Dranse soon formed a lake nearly  $1\frac{1}{2}$  mile in length and very deep. A renewal of the former calamity seemed inevitable, when an eminent engineer, Herr Venetz, undertook to avert it by driving a tunnel through the ice barrier. History records no nobler example of courage and endurance than that of the brave men who for thirty-four days worked day and night, in momentary peril of destruction, until the work was completed, just as the waters of the lake had reached the level of the tunnel. The flow of water rapidly enlarged and lowered the opening, and in less than three days two-fifths of the water had safely run off, by means of the tunnel, through the customary channel of the river. In the meantime, however, the dam had been weakened by the excavating action of the current, and on June 16 it suddenly gave way. In  $\frac{1}{2}$  hour a quantity of water, five times greater than that of the Rhine at Bâle, where it carries down the drainage of nearly the whole of the Swiss Alps, rushed through the breach and down the narrow valley. An eye-witness, who viewed the scene near Sembrancher, assured the writer (J. B.) that the appearance of the flood was that of a huge dark mass of trees, filling the width of the valley and advancing with almost the speed of a railway train, at first exceeding 25 miles an hour. After reaching the main valley at Sembrancher the fury of the flood was partially arrested, but it continued to spread destruction far and wide, and to bear down its burden of huge blocks of stone, trees, cattle, houses, and débris to the valley of the Rhône many miles below



Martigny. After repeated warnings most of the inhabitants had repaired to places of safety, but 34 were carried away, along with 400 houses, all the bridges over the Dranse, and large numbers of cattle. More permanent mischief was done by the masses of stone and gravel that still lie over most of the fields in the lower level of the valley, even below Martigny. The impending danger of a renewal of the same catastrophe has since 1818 been averted by a simple and ingenious device, originated by Herr Venetz. A stream of water, at a temperature even but little above the freezing point, acts as a saw, which rapidly cuts through glacier ice. Hence by conducting the streams from the mountains on either side in wooden troughs the accumulated masses of ice and frozen snow are cut up into huge blocks, which fall into the Dranse, and are soon carried away and melted by the current. Men were later often employed in summer to conduct this operation, but the glacier has now much shrunk, and but a small talus, formed by the ice avalanches from the snout of the glacier, 2,000 ft. above, marks the site of the catastrophe of 1818. On June 28, 1894, there was another great inundation—the most terrible since 1818—in the valley, which carried away 17 bridges, and nearly broke through the dykes at Martigny. It rushed down in 5 hours from Chermontane to Martigny, but no houses were ruined, nor was there any loss of life of man or beast. It originated in a small lake formed at the foot of the Crête Sèche gl. (Rte. H), near its junction with the Otemma gl. The high moraine on the l. bank of the latter gl., and the ice stream itself, blocked the waters which generally flowed out through subglacial channels, then choked also. The dammed up waters succeeded at last in finding an issue through a crevasse, and rapidly enlarging this aperture, dashed down into the valley.

The path, after descending from the Mauvoisin hillock and passing opposite the waterfall from the Giétroz gl., keeps along the l. bank of the Dranse till opposite the moraine of the Breney gl. (Rte. I), the glacier itself having greatly shrunk. Several minor glaciers on either side of the valley are not seen from the path along its bed, but a glimpse is gained of the fine ice field of Zessetta, descending from a hollow N. of the *Tour de Boussine* (3,837 m., 12,589 ft.), a great buttress of the Grand Combin, here rising above the valley in formidable precipices of black rock. At one time the Mont Durand gl. formed a permanent ice bridge across the Dranse and the path to Chermontane used to cross the lower end of that gl. Later, it was found more convenient to cross to the r. bank 10 minutes below Lancey, and soon after, near a shepherd's hut (above the ruins of the inn), to take the r.-hand path (that to the l. leading to the Chanrion Club hut), which, after running on a level high above the stream, descended to and recrossed it, then mounting to Chermontane, beyond the snout of the Mont Durand gl. The traveller thus reaches the considerable establishment—cheese and butter—at the *Grande Chermontane huts*, 2,230 m., 7,317 ft. ( $2\frac{1}{2}$  hrs. from Mauvoisin.) They are only occupied for about six weeks in July and August, but travellers do not now need (as formerly) to seek shelter here, as the new Club hut at Chanrion is just opposite and only  $\frac{3}{4}$  hr. distant by a path mounting to the r. from the bridge over the Dranse (Rte. H).

The ascent from Chermontane to the Col de Fenêtre formerly lay in part over the glacier of the same name; but the ice has retired, and now a well-marked mule path traverses the stony slopes on the W. of the glacier to the shelter hut on the pass, gained in  $1\frac{1}{2}$  hr. from Chermontane.

It may be useful to note that a party coming direct from the Otemma gl.

should traverse by moraine from the l. bank of that gl. to the moraine on the r. bank of the Fenêtre gl., thus rounding the N. base of the Pointe d'Aias; the Fenêtre gl. is then crossed to the mule path or mounted direct to the pass. These two glaciers, though now distant from each other, joined their frozen streams when Principal Forbes passed here in 1842. ]

The view from the **Col de Fenêtre** (2,786 m., 9,141 ft.) is extremely fine, especially on the Italian side, as it commands many summits in the Graians from Mont Emilius to the Rutor. Immediately below lies the deep glen of Ollomont, which is enclosed on the E. by a rugged ridge, forming a magnificent rock wall, whose highest summits are named *Monts Faudery, Morion, and Clapier*, while on the W. it is bounded by the Mont Vélán and the long line of rocky peaks extending thence in the direction of the Col du Sonadon.

[From the pass the **Mont Avril** (3,341 m., 10,962 ft.), on the N.W., can be ascended in  $1\frac{1}{2}$  hr. over loose, shattered slaty rock. It commands a magnificent view, particularly of the Grand Combin and the Mont Gelé, which rise grandly nearly opposite. ]

On the descent the mule path skirts the E. slopes of the Mont Avril, and after passing a small lake descends by zigzags to the *Fenêtre huts*, 2,427 m., 7,963 ft. ( $\frac{1}{2}$  hr.)

[Hence the *Mont Gelé* (3,517 m., 11,539 ft.) may be ascended in  $2\frac{1}{2}$ -3 hrs., by mounting to the N.E. through a rocky gorge and up rough slopes of stones to the considerable *Balme* gl. (called *Faudery* gl. on the Italian map), which flows down the S.W. slope of the mountain. This is ascended to the base of the last peak, and a steeper ice or snow slope then leads up to the central and highest point of the rocky crest that forms the summit ridge of the peak. The view up the great Otemma gl. is a striking feature in the extensive view. ]

In  $\frac{1}{2}$  hr. more, passing several other

lakes, the traveller gains the *Balme huts*, which lie  $\frac{1}{4}$  hr. S.E. of the By chalets, the many ascents from which were described in Rte. D, above. Thence the mule path descends to *Ollomont* (where there are remains of a Roman aqueduct) in 1 hr., and in  $\frac{3}{4}$  hr. more the village of *Valpelline* is reached. Hence a char road descends in 8 miles to Aosta (§ 15. Rte. A, and § 19. Rte. E).

#### ROUTE F.

FIONNAY TO BOURG ST. PIERRE BY  
THE COL DES MAISONS BLANCHES.  
ASCENT OF THE GRAND COMBIN.

The **Grand Combin** (4,317 m., 14,164 ft.), which yields in height to no mountain in the Alps save Mont Blanc and Monte Rosa, with the great peaks that cluster round them, was long one of the least known of Alpine summits, and it was not till the construction, very recently, of a Club hut by the Swiss Alpine Club on the r. bank of the Corbassière gl. that that great ice stream could be explored with any approach to comfort. This huge glacier flows down from the highest ridge of the Combin in a N. direction towards the middle reach of the Val de Bagnes. On the E. it is separated from the upper portion of that valley by a long ridge, in which the most conspicuous summits are the *Tournelon Blanc* (3,712 m., 12,179 ft.) and the *Grand Tavé* (3,154 m., 10,348 ft.), while it is traversed by the Cols des Otanés and de Botzeresse. On the W. it is bounded by an even loftier range, the culminating points in which are the *Combin de Corbassière* (3,722 m., 12,212 ft.) and the *Aiguille des Maisons Blanches* (3,699 m., 12,136 ft.); over it lead the Col des Avolions (which, combined with the Col de l'Azet, gives access to Liddes)

and the Col de Panosseyre, by which Bourg St. Pierre is attained. At the extreme S.W. corner of the Corbassière gl., and close under the main mass of the Grand Combin itself, is the gap known as the **Col des Maisons Blanches** (3,426 m., 11,241 ft.), by way of which the ascent of that peak is commonly made by a party starting from the poor shelter hut (built by the guides, the Balleys) at its W. foot; thus the peak may be taken on the way from the Val de Bagnes to Bourg St. Pierre, or *vice versâ*.

The Grand Combin itself rises at the S. end of the Corbassière glacier, and consists of a huge snowy mass, not remarkably steep on the N. side, but very steep on the S. side towards the Col du Sonadon. The culminating snowy crest is crowned by two horns, or humps, close together, and is known as the *Aiguille du Croissant* (4,317 m., 14,164 ft.), though it is said that at Bourg St. Pierre it is called the Graffeneire. A short distance (15–20 min.) off to the N.E. is the second peak (about 4,300 m., 14,108 ft.), and known as the *Graffeneire*, save at Bourg St. Pierre, where it is called *Aiguille du Croissant*, though this name clearly refers to the crescent-shaped highest summit. To the W. of the true *Aiguille du Croissant* rises the *Combin de Valsorey* (4,145 m., 13,600 ft.), while to the N.E. of the true Graffeneire stands the *Combin de Zessetta*, about 4,120 m., 13,518 ft. (immediately S.E. of the figures 4,080 m. on the Siegfried map). There are, therefore, two obvious routes from the Corbassière gl. to the highest summit (as the *direct* climb from the N. has not yet been effected), viz. from the Col des Maisons Blanches by the *W. arête* over the Combin de Valsorey, and from the depression S.W. of the Combin de Zessetta by the *N.E. arête* over the Graffeneire. A third route (that naturally taken by a party coming from the By chalets) leads from the Mont

Durand glacier straight to the *Aiguille du Croissant* by its great *S.E. ridge*. A point a little W. of the Combin de Valsorey has also been reached by various routes from the S., whether from the Meiten or the upper Sonadon glaciers (see Rte. G); but such variations need not be further alluded to in these pages, as they are rarely taken, and are fully described in the 'Climbers' Guide to the Central Pennine Alps.'

The exploration of the Combin group was begun by Herr Gottlieb Studer, first here, as in many other parts of the Alps, who in 1851 attained the Combin de Corbassière, and was followed in that ascent by Messrs. W. and C. E. Mathews, in 1856. In July 1857 three natives of the Val de Bagnes, Benjamin and Maurice Felley and Jouvence Bruchez, made the first ascent of the Graffeneire (4,300 m., 14,108 ft.), and a month later M. Felley and Bruchez guided Mr. W. Mathews, with Auguste Simond, to the same spot. In 1858 four men from the Val d'Entremont, Daniel and Emmanuel Balley and Séraphin and Auguste Dorsaz, crossed the Col des Maisons Blanches, and then climbed the Graffeneire by the same route as their predecessors. In all these expeditions it is singular and remarkable that the *second* highest summit alone was reached, and the excuse of insufficient time seems scarcely a valid one. However in 1860 Emmanuel and Gaspard Balley led a Swiss traveller, M. Deville, over the Col des Maisons Blanches and up the actual highest point of the mountain, and a few days later the same guides took Mr. W. E. Utterson-Kelso up the same peak, these being the first two ascents of the loftiest point of the Grand Combin. All these routes were made by way of the 'Corridor,' to the S.W. of the Combin de Zessetta (Route *a.* below). In 1872 M. Isler, with Gillioz, first reached the Combin de Valsorey, gaining its W. ridge from the S., while in 1874 Mr. H. White and the



Rev. E. W. Bowling, with H. Dévouassoud, Daniel Balley, and M. Balmat, traversed the whole W. arête from the Col des Maisons Blanches to the highest summit. It was only in 1891 that the long-desired route by the S.E. arête from the Mont Durand glacier was successfully made by Mr. O. G. Jones, with Antoine Bovier and P. Gaspoz, while the Combin de Zessetta seems to have remained untouched till it was visited in 1894 by Messrs. E. F. M. Benecke and H. A. Cohen alone. The very intricate history of the early exploration of the Combin group, and of the still more complicated questions of nomenclature, will be found in Herr Studer's articles in the two series of 'Berg- und Gletscherfahrten,' and in Mr. W. Mathews' paper in the first series of 'Peaks, Passes, and Glaciers,' both summarised in Herr Studer's 'Ueber Eis und Schnee.' Any one interested in the subject should not fail to consult as well Dr. Diener's admirable monograph on the Combin in vol. xx. (1889) of the 'Zeitschrift' of the German and Austrian Alpine Club.

The **Panossière Club hut** (2,715 m., 8,908 ft.) affords comfortable night quarters for those undertaking the ascent of the Grand Combin, or even the passage of the Col des Maisons Blanches. It lies on the r. bank of the Corbassière gl., at the S.W. foot of the Grand Tavé, and may be gained from Fionnay in 4 hrs. by a path to the Corbassière chalets, and then along the double moraine on the r. bank of the Corbassière gl. itself. If coming from Mauvoisin the traveller must cross the *Col des Otanes* (2,840 m., 9,318 ft.), or the rather harder *Col de Botzeresse*, the former lying N. and the latter S. of the fine view-point of the *Grand Tavé* (3,154 m., 10,348 ft.), accessible from either in  $\frac{1}{2}$  hr.  $\frac{1}{2}$  hr. below the pass selected is the hut, 3-4 hrs. from Mauvoisin. (The *Col des Pauvres* lies more to the N. than the

passes just mentioned, and leads from the Bonatchesse huts, in the Val de Bagnes, direct in  $2\frac{1}{2}$  hrs. to those of Corbassière.)

☐The *Combin de Corbassière* (3,722 m., 12,212 ft.) can be very easily ascended from the Club hut in 3 hrs. or so by its S. or E. face, its S.E. arête, or its snowy W. ridge. It is, perhaps, the best point from which to study the magnificent Corbassière gl. and the peaks that surround it. The view extends from the peaks above Grindelwald to those overhanging the Mont Cenis Pass. It is worth while to go on, in a good half-hour, to the *Petit Combin* (locally called Les Follats or Foulaz), 3,671 m., 12,044 ft., as thence the beautiful Lac de Champex is seen in the distance, though the view of the Combin itself is not quite so fine as from the higher summit. On regaining the surface of the Corbassière gl., the traveller may reach Bourg St. Pierre by either the Col de Panosseyre or the Col des Maisons Blanches (which involves a rather longer traverse), so that these peaks can well be taken on the way from Fionnay to Bourg St. Pierre. Another interesting climb is that of the *Tournelon Blanc* (3,712 m., 12,179 ft.), by way of the Mulets de la Liaz in 4 hrs. ☐

From the Club hut it is best to cross the gl. to its W. side, so as to avoid some séracs, but above them it is plain sailing, and the **Col des Maisons Blanches** (3,426 m., 11,241 ft.) is gained in  $2\frac{1}{2}$ -3 hrs. from the hut, according to the state of the snow.

On the descent it is best to go down a gully and rotten rocks to the N. of the upper bit of the steep little gl. descending directly from the pass. Snow slopes and stones lead in a N.W. direction to the shelter **hut** (2,780 m., 9,121 ft.) on the **Grande Penna** slope ( $1\frac{1}{4}$  hr. from the Col), built to replace the S. A. C. hut, erected in 1889 near the Col, but destroyed by an avalanche the next spring. Thence

it is necessary to descend over moraine to a small lake, whence a rough track on the l. bank of a stream leads down to the path in the Valsorey, 1 hr. from Bourg St. Pierre. This village is reached in  $2\frac{1}{2}$ –3 hrs. from the pass, or about 5–6 hrs. from the Club hut. If time be an object it is best to cross from the Corbassière gl. by the gap just N. of the *Moine*, 3,574 m., 11,726 ft. (easily recognised on both sides by the straight line of its N. arête), whence an easy snow couloir leads straight down to the shelter hut. 1 hr. is thus saved.

*Ascent of the Grand Combin.*—Few travellers probably cross the Col without ascending, or intending to ascend, the Grand Combin, so that this climb may be most conveniently described in connection with the pass. As indicated above, there are three main routes by which the summit may be gained.

(a) *By the 'Corridor.'*—This is the usual route taken by those who start from the Panossière hut, but may be followed by a party coming over the Col des Maisons Blanches, if they round the N. base of the peak. The 'Corridor' is a sort of shelf or hollow N.E. of the great rocky buttress running N.W. from the Graffenneire. The base of the ascent (about where the figures 3,600 stand on the Siegfried map) may be gained in about  $\frac{1}{2}$  hour from the Col des Maisons Blanches, or in 2 hrs. from the Panossière hut. Snow slopes then lead up in a S.E. direction on the N.E. side of the aforesaid rocky buttress, and gradually narrow into a shelf, which is seamed with crevasses, and separates that buttress (from which masses of ice often fall) from a lower range of séracs. This is the dangerous bit of the ascent, but it is quite short (5 m. down), and safe, save late in the day. Above, the snow slopes broaden out again, and the N.E. arête of the peak is reached at its lowest point, in 1–2 hrs. from the base. Hence a steep slope, generally ice, leads up to

the S.W., but beyond easy snow gives access to the *Graffenneire*, 4,300 m., 14,108 ft. (1 hr.) A short descent and a short reascent over extremely easy snow slopes bring the traveller to the double summit of the *Aiguille du Croissant* ( $\frac{1}{4}$  hr.), which can thus be attained under favourable circumstances in  $2\frac{1}{2}$ –3 hrs. from the base, but everything depends on the condition of the snow. The view is, of course, very extensive, but fails to leave such an impression on the spectator's mind as that from the lower, but better placed, Vélán.

(b) *By the W. Arête.*—This is really the best route for a party coming from Bourg St. Pierre, and is particularly recommended when the snow on the ordinary route (a. above) is likely to be in bad condition. The rocks offer no real difficulties, even when covered with fresh snow, but the ridge is much exposed to wind.

Starting from the Col des Maisons Blanches, an easy ascent up a small side glacier leads to the W. ridge at the snow hump marked 3,631 m. (11,913 ft.) on the Siegfried map ( $\frac{2}{3}$  hr.); as it overlooks the Meiten gl. it might be called the *Combin de Meiten*, for the sake of distinction. Easy broken rocks on the W. ridge bring the traveller without difficulty to the point where the route from the Sonadon gl. gains the W. ridge (2 hrs.), and  $\frac{1}{2}$  hr. more suffices to gain the *Combin de Valsorey* (4,145 m., 13,600 ft.) A short descent into a snowy hollow is followed by a short reascent to the *Aiguille du Croissant* ( $\frac{1}{2}$  hr.) Under ordinary circumstances  $3\frac{3}{4}$  hrs. suffice for the ascent from the Col. Thus the round from the Col by the W. arête and back to the Col by the N.E. arête and the 'Corridor' can be accomplished in 6 hrs. by good walkers.

(c) *By the S.E. Arête.*—This is the best route for a party coming from Aosta or the Chanrion Club hut, as the night can be spent at the By chalets (see Rte. D). From the chalets the *W. Col de By* (3,300 m., 10,827 ft.),

E. of the Amianthe, may be gained in 2 hrs. The head of the Mont Durand gl. must then be traversed, keeping first to the l., then to the r., in order to avoid its most crevassed portion. The foot of the S.E. ridge is thus gained. It consists of loose shaly rocks, with occasional beds of snow, but is not very steep, save one great rock about 60 ft. high. This is climbed by means of a gully to the l., and above easy snow slopes lead to the summit. 7 hrs. suffice for the ascent from By.

#### ROUTE G.

##### BOURG ST. PIERRE TO CHANRION BY THE COL DU SONADON.

This first-rate glacier pass lies in the direct line of communication between Chamonix and Zermatt. It was first made in 1861 by Mr. F. W. Jacomb (who did so much to discover the 'High-Level Route,' of which this pass is one of the most important links), with J. B. and Michel Croz. Three weeks later it was crossed for the second time by the Rev. J. F. Hardy and three friends. But though it is very direct it is so dangerous on the W. side that it is nowadays but rarely traversed, especially as the passes described in Rtes. D and F enable a traveller to turn this obstacle, and yet rejoin the direct line at Chanrion.

The route from Bourg St. Pierre is for a long time identical with that to the Col de Valsorey (Rte. D), but when the way to that pass bears to the S.E. (2½ hrs. from the village) the traveller bound for the Sonadon must keep due E. towards the glacier of that name. This fine glacier is cut in half, right across, by a fault in the rock of its bed, over which the ice tumbles. Several attempts made by Mr.

Hardy's party, composed of excellent mountaineers and first-rate guides, to descend by the middle, or S.W., corner of the glacier utterly failed. Unless a long détour is made over the great buttress running up towards the W. arête of the Grand Combin (which involves a considerable ascent, and then a descent) it is necessary to climb up a steep couloir (not hard in itself) in the rocks on the N. of the gl., in order to gain the upper glacier (2½ hrs.) But *stones fall continually in this couloir*, and the risk is so great as to be unjustifiable.

【From the upper Sonadon gl. it is quite possible to ascend in 3 hrs. by a great buttress to the W. arête of the Grand Combin, which is struck at a point a little W. of the Combin de Valsorey. See Rte. F. The same point may also be gained from the Meiten gl. N. of the lower bit of the Sonadon gl.】

When once the upper level of the gl. has been reached the difficulties of the way are over. 1½ hr. ascending over snow slopes suffices to reach the Col, 3,489 m., 11,447 ft. (6½ hrs. from Bourg St. Pierre.)

【Hence the Grand Combin, which rises magnificently above the route just traversed, can be climbed in 5 hrs. by its great S.E. ridge. The snowy summit, called *Amianthe*, or *Mont Sonadon* (3,600 m., 11,812 ft.), just S. of the Col, can be easily gained in ½ hr., and commands a splendid view on all sides. To its E. is the *W. Col de By* (3,300 m., 10,827 ft.), by which the By chalets can be reached in 2 hrs. or less, and Ollomont gained in 1 hr. more. (See Rte. D.】

To the E. of the Col du Sonadon the vast *Mont Durand glacier* descends in a gentle curve, convex to the S., where it is guarded by the *Testa Bianca*, or *Tête de By* (3,482 m., 11,424 ft.), and the *Mont Avril* (3,341 m., 10,962 ft.) Beyond it, in the distance, is seen the Otemma gl., between the Mont Gelé and the Pointe d'Otemma, while N. of the latter summit the Breney gl. is per-



ceived. The upper part of the Mont Durand gl. is quite free from difficulty, but there are two considerable icefalls lower down. The exact route to be followed varies much with the state of the glacier. Sometimes it is necessary to cross from the l. to the r. bank between the two icefalls, but different parties have succeeded, without difficulty, in effecting the descent entirely by the l. or by the r. bank, or edge of the gl. It is most convenient to get off it on the r. bank, as the Chermontane chalets are thus more quickly gained (3 hrs. from the pass). A path leads thence down to the infant Dranse, which is crossed, and a fresh ascent by another path brings the traveller to the Chanrion Club hut (2,460 m., 8,071 ft.) in  $\frac{3}{4}$ -1 hr. from Chermontane.

In taking this pass from Chanrion it is decidedly difficult to hit upon the true line of descent into the Valsorey. 'The clue to it is to keep above a distinct tower of rock, of a reddish colour, on the r. bank of the upper Sonadon gl., and then to descend a couloir' (E. N. B.)

#### ROUTE H.

##### CHANRION TO THE VALPELLINE. ASCENTS FROM CHANRION.

We have described in Routes D, E, F, and G the ranges on the W. side of the upper Dranse or Bagnes valley, lying between it and the Great St. Bernard road. Now we must proceed to give some account of those on the E. bank of the same valley, lying between it, the Valpelline, the Arolla, and the Hérémece glens.

The best starting point for almost all expeditions in these ranges (as well as for those near the Col de Fenêtre, Rte. E) is the recently built **Chanrion Club hut**, by far the most

convenient headquarters at the head of the Bagnes valley, now inhabited during the summer by a caretaker, but soon, it is to be hoped, to become a small mountain inn. It is admirably situated at a height of 2,460 m. (8,071 ft.), on a knoll above the shepherd's hut of the same name and two small tarns, commands magnificent views to the S. and W., and is only about  $\frac{1}{2}$  hr. by a short descent from the great Otemma glacier itself. From the inn at Mauvoisin it may be reached in 3 hrs. by way of Lancey, 10 m. below which the path crosses to the r. bank of the Dranse. A little beyond a shepherd's hut (above the ruins of the old inn) the path bifurcates. The r.-hand branch, after passing at a level high above the Dranse, descends to cross to the Grande Chermontane huts; the l.-hand branch mounts to Chanrion; the Club hut may be reached in  $\frac{3}{4}$  hr. from the Grande Chermontane huts by crossing the Dranse just below those huts, and then making a considerable ascent by a path bearing up to the r. from the bridge.

This Club hut is admirably placed, and its position offers attractions to the mountaineer which are scarcely surpassed elsewhere in the Alps. Opposite is the extensive Mont Durand glacier; a little to the N. is that of Breney, while almost due E. stretches the even greater Otemma glacier. Many passes lead over these glaciers, and are described in Rtes. G, I, and K.

There are several peaks which may be climbed direct from the Club hut, and are worth visiting, as they command very fine views. The nearest is the *Pointe d'Otemma* (3,394 m., 11,136 ft.), which may be ascended in 3 hrs. by way of its rocky W. face and S. arête. Another panoramic point is the *Mont Avril* (3,341 m., 10,962 ft.), easily gained by shale slopes in  $1\frac{1}{2}$  hr. from the Col de Fenêtre itself (2 hrs. from the hut, Rte. E). The *Bec d'Epicouin* (3,527 m.,

11,572 ft.) is strongly recommended as a good, though a difficult, climb, while the view from the summit is superb; it is best gained ( $4\frac{1}{2}$  hrs.) by its W. face, which leads to the S. arête, a little S. of the summit. The *Mont Gelé* (3,517 m., 11,539 ft.) may be gained in 4 or 5 hrs., the most direct way being to mount from the Crête Sèche glacier to the foot of a broad couloir in the N.E. face, and then to climb up rocks to the S.E. arête, which can either be followed to the highest and central summit over a secondary point, or else a descent soon made to the l. on to the Balme or Faudery glacier, whereon the ordinary route is joined. The usual route is more circuitous, and consists in crossing either the Col de Fenêtre (Rte. E) or the Col de Crête Sèche, and then mounting by rocks to the Faudery glacier, which is ascended to the summit. The view from this peak is most striking, the Otemma glacier in particular being seen in its entire length. The *Ruinette* (3,879 m., 12,727 ft.) can be reached in 4 hrs. from the Club hut by crossing the Breney glacier, mounting to the *Col de Lyrerose*, 3,090 m., 10,138 ft. (S. edge of the glacier of the same name), and then climbing up to and following the S. arête of the peak, a short cut being taken across the uppermost snows to the foot of the S.W. rocky ridge, by which the summit is attained. It is possible to follow the N.E. arête to the *Mont Blanc de Seilon*, 3,871 m., 12,700 ft. (4 hrs.), but the latter peak is usually ascended from the *Col de Seilon* (Rte. K). The *Mont Pleureur* (3,706 m., 12,159 ft.) might be reached from the hut by the Cols de Lyrerose and du Mont Rouge, but the ascent is much shorter from the inn at Mauvoisin (Rte. E), while no doubt active mountaineers could climb the *Evêque*, *Mont Collon*, or the *Pigne d'Arolla* in a long day on their way to the Valpelline or to Arolla, but these three peaks are best taken from Arolla.

For the direct high-level route from

I.

Chanrion to Zermatt (c. 11-12 hrs.) by the Col de Chermontane, Col de l'Evêque, N. Col du Mont Brulé, and Col de Valpelline, see Introduction to this Section, 3. below, and § 19. Rte. E.

The traveller bound from Chanrion to the Valpelline must traverse some part of the immense **Otemma** (or **Hautemma**) glacier. This great glacier is by far the finest of those flowing into the Val de Bagnes. It is about 6 m. in length by  $\frac{3}{4}$  m. in breadth, and expands at its summit into a great field of névé, which also feeds the Vuibez glacier. Like the Mont Durand glacier (Rte. G) it is convex to the S., descending at first to the S.W., and bent round till at its base it flows somewhat N. of W. On the N.W. it is bounded by a steep range, crowned by the *Pointe d'Otemma* (3,394 m., 11,136 ft.) and the *Pigne d'Arolla* (3,801 m., 12,471 ft.) On the S.E. it is guarded by an equally steep and lofty, but far less known ridge, the chief summits of which are the *Mont Gelé* (3,517 m., 11,539 ft.), the *Bec de Ciardonnet* (3,398 m., 11,149 ft.), the *Bec d'Epicoun* (3,527 m., 11,572 ft.), the *M. Oulie* (3,550 m., 11,647 ft.), the *Bec de Blancien* (3,662 m., 12,015 ft.), and *La Sengla* (3,702 m., 12,146 ft.), these names and heights being taken chiefly from the Siegfried map in preference to the Italian map, though the latter is indispensable to any one crossing a pass from the Otemma glacier to the Valpelline. On the faith of statements made by the hunters of the Val de Bagnes the early travellers who visited these regions were led to believe that the head of the Otemma glacier was barred by an impassable ridge of rocks, called the Crête à Collon, forbidding all passage from the Bagnes valley towards the Arolla glen. But the traverse of the Col d'Oren by Mr. Tuckett in 1861, and that of the Col de Chermontane made a few weeks later by Sir T. F. Buxton and his companions, finally disproved the existence of any such

G G

barrier, and thus opened to Alpine travellers one of the grandest highways through the Pennine Alps. The supposed barrier probably owed its fabulous existence to the fact that, looking from up the foot of the Otemma glacier, the point now called Petit Mont Collon and its neighbours seemed to block the way towards the route of the well-known Col de Collon.

To go from Chanrion to the Valpelline the mountaineer has a choice between a number of passes, which give access to various portions of the Valpelline. Referring to Sir Martin Conway's 'Central Pennine Alps' for minute details as to all the possible passages across the ridge between the Otemma glacier and the Valpelline, we may limit ourselves in this work to three, which seem to possess real, practical importance. The first leads to the lower reach of the Valpelline (Oyace), the second to the middle reach (Bionaz), and the third to the head (Prarayé) of that valley. (For a detailed description of this valley see § 19. Rte. E.)

From Chanrion the way to these three passes is the same as far as the lower part of the Otemma gl., but for the second and third there is a shorter route. Instead of entering on the gl. near its snout and then circling round under the icefall, it is better to take a rough and ill-defined path, which leads up the rocks N. of the icefall, and so enables a traveller to reach the upper portion of the gl. much sooner than by the other route. (After leaving the Otemma gl., when coming from any of these three passes, and gaining the cow path, it is necessary to strike *up* over grass slopes, bearing to the l., so as to join the path mounting from the bridge over the Dranse. The hut is not visible from any point within a couple of miles, so that it is not easy to find, especially as mists are of frequent occurrence.)

1. *By the Col de Crête Sèche to Oyace or Bionaz.*—This is an old pass, as it is described by P. A. Arnod, at

the end of the seventeenth century, and offers no difficulties, though it is not passable by mules. From Chanrion the Otemma glacier is crossed in a S. direction, and then the tributary Crête Sèche glacier ascended in the same direction to the pass, 2,888 m., 9,475 ft. (3 hrs. from Chanrion.) On the S. side of the Col is a slope of névé, followed by moderately steep rocks, very rough slopes of débris, and the remains of ancient moraines. On the way a fine view is gained of the Grand Paradis group, straight in front, and on the l. of the Bec de Lusény, a very fine summit, the highest in the range between the Valpelline and the St. Barthélemyglen (see § 19. Rte. G). A track leads down the Crête Sèche glen to the Valpelline, which is gained at a point  $\frac{1}{4}$  hr. above Oyace, that village being reached in 3 hrs. from the pass. *Bionaz*, higher up the valley, may be gained direct from the Col by keeping at once N.E. round the N. end of Mont Berlon, and going down the Verdecampe glen and past the Berrie huts. Or from the lower end of the Crête Sèche glen 'Bionaz may be reached in rather less time than Oyace by bearing to the l. near the upper limit of tree vegetation. Following a little watercourse (*Wasserleitung*) through the forest, the traveller reaches the main valley close to the village of Bionaz' (F. G.)

2. *By the Col d'Otemma or the Col de Blancien to Bionaz or Prarayé.*—These two passes are separated only by a rocky crest, and are approached from the Otemma glacier by the same tributary glacier, that flowing down from between the *Bec de la Sciossa*, 3,480 m., 11,418 ft. (called *Sziassa* or *Oule Cecca* on the Siegfried map), and the *Bec de Blancien* (3,662 m., 12,015 ft.) The ascent on the Swiss side is perfectly straightforward, either gap being attained in about  $3\frac{1}{2}$  hrs. from Chanrion. From the W. gap, the *Col d'Otemma* (3,363 m., 11,034 ft., Italian map), the *Bec de la Sciossa* can be easily ascended, and from the



E. gap, or *Col de Blancien* (3,491 m., 11,454 ft. Italian map), the *Bec de Blancien* in  $\frac{1}{2}$  hr.

From either gap a branch of the Sciossa or Sassa glacier is descended to the glen of the same name, through which the Valpelline is gained ( $3\frac{1}{2}$  hrs.) at a point  $\frac{1}{2}$  hr. above Bionaz. If bound for Prarayé, at the head of the Valpelline, it is best to bear E. from the Sassa glacier to the *Col de Sassa* (3,183 m., 10,443 ft.), from which a broad snow couloir leads down to the head of the *Combe d'Oren*, the *Col de Collon* route being thence followed to Prarayé ( $2\frac{1}{2}$  hrs. from the first pass). Prarayé can also be gained in  $2\frac{1}{2}$  hrs. from the *Boetta* huts (2 hrs. from the pass), in the Sassa glen, by crossing a bridge below them and then following an upper path round the hillside and across a brow.

3. *By the Col d'Oren to Prarayé.*— This pass was originally called *Col de la Reuse* (Aostan word for a glacier) d'Arolla, and this name is still given to it as an alternative on the Siegfried map. It affords the most direct route from Chanrion to Prarayé, the time required being about 7 hrs. The first known passage by travellers was effected in 1861 by Mr. F. F. Tuckett, accompanied by Messrs. C. H. and W. F. Fox, and guided by J. J. Bennen and Peter Perren. After gaining the Otemma glacier from Chanrion it is only necessary to ascend its gentle slopes till after passing the N. spur of *La Sengla* the traveller must turn S.E. up a lateral glacier (the highest tributary on the S.E. side of the Otemma glacier). The snow slopes soon become steeper, but the only difficulty is a large bergschrund, after crossing which steps must be cut up to the pass (3,242 m., 10,637 ft.) It lies just N.E. of *La Sengla* (3,702 m., 12,146 ft.), which may be thence climbed in an hour.

¶ If bound for Zermatt by the direct route, it is necessary to bear E. from the lateral glacier, in order to cross the broad snowy depression of the

*Col du Petit Mont Collon* (3,300 m., 10,827 ft.), lying just S. of *Petit Mont Collon*. This soon leads to the *Col de l'Evêque* (3,393 m., 11,132 ft.), which is traversed to the head of the *Arolla* glacier before the *N. Col du Mont Brulé* is attained. For details see § 19. Rte. E. ]

Some steep rocks lead down to the gently inclined upper slopes of the *Oren* glacier, down which it is necessary to go till the icefall compels the mountaineer to descend the rocks on the l. bank, in order to gain the moraine of the lower portion of the same glacier. Soon after the route of the *Col de Collon* is joined in the *Oren* glen, and followed to Prarayé.

#### ROUTE I.

##### CHANRION TO AROLLA, BY THE OTEMMA OR BRENEY GLACIERS.

In the last Rte. we described the passes leading from Chanrion to the Valpelline, i.e. over the range which forms the S.E. limit of the great Otemma gl. The rocky range which forms the N.W. boundary of that gl. separates it from the Breney gl., and over both of these ice fields passes lead directly or indirectly to Arolla. The first of the three described below is the easiest, but the second is not difficult, and should be preferred in fine weather, as it can be easily combined with the ascent of the *Pigne d'Arolla*.

1. *By the Col de Chermontane.*— This pass lies over the very head of the Otemma gl., and would thus naturally have traversed the *Crête à Collon*, had not that mysterious barrier been shown not to exist (Rte. H). It was, indeed, the passage of the *Col de Chermontane* in 1861 which finally destroyed that shadowy ridge. For all practical purposes this pass was discovered, on August 16,

1861, by Sir T. F. Buxton, Mr. J. J. Cowell, and Mr. E. N. Buxton, with Michel Payot, of Chamonix, as leader. Perhaps, however, it had been made before that date. In September 1853 the writer (J. B.) was informed by the younger Pralong and another herdsman at the Arolla chalets that a stranger had mounted, along with two men of the valley, by one of the neighbouring glaciers (? Pièce gl.), and had passed over a glacier that reached to the Val de Bagnes, and that there is a pass (? Col de Crête Sèche) leading from the same gl. to Valpelline. It is worth noting, though it may be merely a coincidence, that in 1849 Herren G. Studer and M. Ulrich, with Jean Pralong as local guide, went from Arolla to the Val de Bagnes by the Pas de Chèvres, and the Cols de Seilon and du Mont Rouge, and that in 1852 the same two travellers, with a local porter, went in one day from the head of the Hérémente valley to the Val de Bagnes by the Seilon and the Mont Rouge passes, and on the next over the Col de Crête Sèche to the Valpelline, returning on the third day to Arolla by the Col de Collon, and sleeping that night at Pralong's house at Haudères.

The way from Chanrion to the Col de Chermontane is for a considerable distance nearly the same as that to the Col d'Oren (Reuse d'Arolla, Rte. H. 3), except that on gaining the upper level it is better to keep nearer the N. bank of the gl. The summit of the **Col de Chermontane** is a vast field of névé, lying between the Pigne d'Arolla and the Mont Collon, and so level that it is not easy to determine the exact watershed. The Siegfried map makes its height 3,084 m. (10,119 ft.)

The direct line from the pass towards Arolla would lie N.E. down the Vuïbez gl., which joins the main stream of the Arolla gl. at the N.W. base of the Mont Collon. This gl. descends in two formidable icefalls, divided by a central mass of rock, the

N. icefall being again divided by a rib of rock. (The N. bit of the N. icefall, immediately under the Vuïbez rocks, is known as the *Vuïgnette icefall*.) In some years it is possible to force a way down the Vuïbez gl. by the central mass of rock, or partly by the N. icefall itself, partly by the rocks on one or other side of it; but at present, and usually, the difficulty, not to say danger, of such a course is so great that it is better to aim at a gap in the ridge of the Vuïbez rocks that shut in, on the N. side, the two icefalls of the Vuïbez gl., the opening lying just N. of the N. branch. This gap (3,200 m., 10,499 ft.) is called the **Col de Pièce**, and is gained by a sharp ascent and then over a nearly level plateau in about  $\frac{3}{4}$  hr. from the Col de Chermontane, or 5 hrs. from Chanrion. From it the traveller enjoys a noble view, extending through the openings between the neighbouring peaks to many distant Alpine summits. Immediately on the N. of the Col is the Pièce gl., down which lies the way to Arolla. The best way is to circle round to the r., and cross on the *level ice* to its l. side to the crest of the great moraine on its l. bank, which towers above the traveller. Here there is a path which leads along that crest, and then over grass-covered moraine in a N.E. direction down to Arolla, the hôtel being seen from afar ( $1\frac{3}{4}$  hr.) On the l. hand is the *Zigiorenove gl.*, remarkable for its rapid alteration and advance of recent years, as well as for the triple series of great moraines on its l. bank.

☞ Sometimes it is best to follow the r. edge of the Pièce gl. under the Vuïbez rocks. At the N. end of these rocks a small side tongue of ice descends, which must be crossed (not always easy), after which, by a sort of path, the route to Arolla, described above, is joined. After quitting the Pièce gl.—particularly if by the r. bank—care should be taken *not* to bear to the l. or N., as the traverse of the huge moraines on either side of the

Zigiorenove gl. is very wearisome, and lengthens the descent to Arolla. ]

2. *By the Col de Breney.*—This pass lies between the Pigne d'Arolla on the E. and the Serpentine on the W. It is, perhaps, the finest pass from Chanrion to Arolla, though competent judges rate the Col de Chermontane even higher. From Chanrion it is necessary to go N. over stony grass slopes, rocks, and moraine to the l. bank of the Breney gl. ( $1\frac{1}{2}$  hr.), gained above its crevassed lower portion. The traveller must cross the gl. to its r. moraine, which is followed for some way, and then go up the main gl. itself, turning the icefall by its N. side, and so gaining gentle snow fields which lead up to the pass, *c.* 3,620 m., 11,877 ft. ( $4\frac{1}{2}$ –5 hrs.) Hence the *Serpentine* (3,691 m., 12,110 ft.) may be gained in  $\frac{1}{2}$  hr. by its long snow ridge. A much finer view is to be had from the **Pigne d'Arolla** (3,801 m., 12,471 ft.), one of the most famous panoramic points in Switzerland. From the Col a gentle snow slope leads to the summit in 20 min., whence it is easy to reach the Col de Pièce in  $\frac{1}{2}$  hr. more, and so descend to Arolla. The view includes all the chief summits of the Pennine and Bernese Oberland Alps, and extends to the Grivola and Grand Paradis. From the Col de Breney the descent lies down to the easy Seilon gl., joining the route from the Col de Seilon (Rte. K) on the level lower portion of that gl., Arolla being then gained by the Pas de Chèvres (3 hrs.)

3. *By the Col de la Serpentine.*—In 1865 Messrs. A. W. Moore and H. Walker made a new pass to which they gave the name of Col de Breney, but the Swiss surveyors have altered this to the more distinctive name of *Col de la Serpentine*, as the route lies up a branch of the Breney gl. which is really an independent gl. and deserves the name of Serpentine gl. The pass lies between the rocky N. spur of the Serpentine and the Mont Blanc de Seilon. It is to be noted that it is far easier to gain the pass from Arolla

by the Pas de Chèvres and Seilon gl. than by the Zinareffien rocks, as described below, and that the Mont Blanc de Seilon may be climbed from the pass in 2 hrs. by the S. face, then the crest, of the E. arête. 'We followed for a while the path leading to the Pas de Chèvres, and then, bearing to the l., in  $1\frac{1}{2}$  hr. attained the Zigiorenove gl., here quite level. Higher up the gl. is a continuous icefall of the most impracticable character. The rocks on its r. bank do not look promising, but in those on the l. we found an accessible point. We reached their base in  $\frac{3}{4}$  hr., and after  $1\frac{1}{4}$  hr.'s severe climbing succeeded in getting on to the gl. again, above the icefall. Above there was no further difficulty, and in 1 hr. 40 min. we reached what appeared to be the highest point in the snowfield, which also feeds the Seilon gl. and the W. branch of the Breney gl. The elevation of the pass was a great surprise (3,546 m., 11,634 ft.), as we looked fairly over the Col d'Hérens (3,480 m., 11,418 ft.) From this point we ascended the *Pigne d'Arolla* (3,801 m., 12,471 ft.) in 1 hr. with ease. This is not properly a peak, but merely the highest undulation in a snow field, and is cut away precipitously towards the N. We returned to the Col in  $\frac{1}{2}$  hr., and, passing between the Mont Blanc de Seilon and the N. end of the ridge of the Serpentine, descended the W. branch of the Breney gl. We found a tolerable passage through the icefall on its l. side, but should have done better had we kept to the other side, under the Ruinette. Below the icefall we joined the main stream of the Breney gl., at the S. foot of the Serpentine, and finally quitted the ice on its l. bank in  $2\frac{1}{4}$  hrs. from the Col. Thence we descended in  $\frac{3}{4}$  hr. to a point at the head of the Val de Bagnes, not far from Chanrion, which was reached in  $9\frac{3}{4}$  hrs.' walking from Arolla, including the ascent of the Pigne d'Arolla' (A. W. M.)

From the pass the *Mont Blanc*



*de Seilon* (3,871 m., 12,700 ft.) may be climbed in 2 hrs. by skirting along the S. slope of the E. ridge till that ridge is gained close to the great cornice on the N. side, and then clambering over and around many rock pinnacles. If the peak is climbed from Arolla and back this route affords the means of traversing it to the Col de Seilon.

#### ROUTE K.

MAUVOISIN OR CHANRIÓN TO AROLLA  
OR HÉRÉMEÑCE BY THE COLS DU  
MONT ROUGE AND DE SEILON.

These passes, long familiar to the hunters of Bagnes, though but rarely used by them, became known to travellers only after they had been crossed (and described) by Herren G. Studer and M. Ulrich in 1849 and 1852, as well as by Messrs. E. S. Kennedy, Ainslie, and Stevenson in 1855, and by Messrs. W. and C. E. Mathews in 1856. Now they form the usual high-level route between the Val de Bagnes and Arolla, so that they are frequently traversed every summer.

The Giétroz gl. may be reached either from the inn at Mauvoisin or from the new Club hut (Rte. H) at Chanrion; in the latter case only is it necessary to cross the Col du Mont Rouge, which is practically level with the upper plateau of the Giétroz gl.

If starting from **Mauvoisin** the traveller must descend from the hillock on which stands the inn, and follow the path up the valley on the l. bank of the Dranse for about  $\frac{1}{2}$  hr., when a bridge leads across the stream. The path along the r. bank of the torrent is followed for 5 min. more, when it is quitted for another which bears E. up the hill-side to a shepherd's hut. Then it is necessary to mount N.E.

by steep grass, and up a great slope of black rocks and shale to a point called the **Col de Giétroz** (3 hrs.) This point is really the l. edge of the Giétroz gl., at the N.W. end of the rocky ridge bounding it on the W., and just S. of the spot where the great ice tongue of that gl. descends into the Val de Bagnes. (Hence the *Mont Pleuréur* (3,706 m., 12,159 ft.) may be ascended in 2 hrs. by its S. face and S.W. arête. See Rte. E.)

[As a matter of history we may just mention here that the old route from Mauvoisin made a great circuit from the shepherd's hut in a S. direction to the Lyrerose gl., and so to the Col du Mont Rouge.]

From the Col de Giétroz an easy snow walk of  $\frac{1}{2}$ - $\frac{3}{4}$  hr. (according to the condition of the snow) in a S.E. direction leads to the *Col de Seilon* (c. 3,200 m., 10,499 ft.), a snowy depression just S.E. of the rocks marked 3,250 m. on the Siegfried map.

If coming from **Chanrion** the Col de Breney route (Rte. I. 2) must be followed to the moraine on the r. bank of the Breney gl., and then stones mounted in a N.W. direction to the S. edge of the Lyrerose gl., at the point called *Col de Lyrerose*, 3,090 m., 10,138 ft. (2 hrs.) Thence an easy ascent N. up that gl. brings the traveller in 1 hr. more to the **Col du Mont Rouge** (3,341 m., 10,962 ft.) From this pass there is a very fine view to the N., W., and S., which may be extended by mounting in a few minutes to the knoll on the N.W., named *Mont Rouge de Giétroz* (3,427 m., 11,244 ft.)

From the Col du Mont Rouge or the Col de Giétroz it is seen how extensive an upper reservoir of névé is drained by the comparatively small icefall which is all that is to be seen of the Giétroz gl. from the Val de Bagnes. The upper basin of that gl. (across which a traverse in a N.E. direction leads in  $\frac{1}{2}$  hr. from the Col du Mont Rouge to the Col de Seilon) is a nearly level snow field, lying N.W.

of the *Mont Blanc de Seilon* (3,871 m., 12,700 ft.) and the *Ruinette*, 3,879 m., 12,727 ft. (the two highest summits of the mountain region extending from the Grand Combin to the Dent Blanche), and S. of the black slopes of the *Mont Pleureur* (3,706 m., 12,159 ft.)

【The ascent of the last-named peak from the Col de Giétroz has been noticed above. The *Mont Blanc de Seilon* is best ascended from the Col de Seilon itself in about 2 hrs. by following its W. rocky ridge to the gap N. of a great snow dome on the S. arête, whence a rock ridge, often fringed by a dangerous cornice—precautions necessary—leads to the summit, which commands a very fine view. The peak may also be gained in 2 hrs. from the Col de la Serpentine (Rte I. 3). The *Ruinette* may be climbed in 2-4 hrs. from the neighbourhood of the Col du Mont Rouge by gaining from the N.W. some point on its upper S.W. arête, but is more conveniently taken in 4 hrs. from Chanrion (Rte. H) by ascending easy rocks from the Col de Lyrerose itself to the S. arête. It is possible to follow the ridge (first bit the hardest) from the summit of the *Ruinette* to that of the *Mont Blanc de Seilon* in about 4 hrs.】

The **Col de Seilon** forms the watershed between the Val de Bagnes and the Val d'Héremence. On the Héremence side a considerable gl. descends, which bore many names on the early maps, but is now best known as the *Seilon* gl. In descending this gl. it is desirable to get off as soon as possible on to the débris on its l. bank, which is followed to its level lower portion. Here the routes to to Arolla and Héremence divide.

(a) If bound to *Arolla* the traveller must cross to the r. bank of the gl. (less than 1 hr. from the Col de Seilon), and then traverse at some point the ridge between the Mont Rouge d'Arolla on the N. and the Zinareffien rocks on the S. Two passes at least lead over this range. The lowest point in the ridge is the

well-known *Pas de Chèvres* (2,851 m., 9,354 ft.) On this side a clearly marked sloping rocky ledge leads to the pass in 10 min. or so. It is not really difficult (though care must be taken, since a fall entails very unpleasant results), but is at first sight so formidable that in 1856 Messrs. Mathews, guided by Bernard Trolliet, preferred to avoid it by climbing over the ridge at a higher point, rather further to the S. A little to the N. of the Pas de Chèvres is the somewhat higher *Col de Riedmatten* (2,916 m., 9,567 ft.), which, it is said, mules can traverse. Once the ridge crossed, by one or the other pass, there is an easy descent E. by a rough but gradually improving path over fine pastures along the l. side of the glen to Arolla, reached in 1½ hr. from the Pas de Chèvres, or about 2½ hrs. from the Col de Seilon.

(b) A party bound for *Héremence* should continue to descend the gl. for some way, then quit it on its l. bank, and so gain the Seilon huts (1½ hr. from the Col de Seilon). Thence it is a walk of 4-5 hrs. to the village of Héremence, through the glen of that name, described in the following Rte.

#### ROUTE L.

SIGN TO THE VAL DE BAGNES, OR AROLLA BY THE VAL D'HÉRÉMENCE.

Of all the considerable upland valleys of the Central Pennine Alps the **Val d'Héremence** is certainly that which has least attracted the attention of travellers, though its uppermost bit is very well known, as it must be traversed by numerous parties on their way to or over the Col de Seilon. Historically it is interesting as having formed the most easterly bit of the domains of the Duke of Savoy in the Vallais, though in 1475 it shared the fate of the rest of 'Savoyard Vallais,'

being then conquered by the men of the Upper Vallais and their bishop, so that it became part of 'Episcopal Vallais.' The Borgne here formed the limit of these two divisions, as the Morge, below Sion, did in the Rhône valley. *Oxytropis fetida*, *Carex microglochis*, and *Agrostis purpurea* have been found in this glen.

From Sion the road towards Evolena (§ 19. Rte. A) is followed as far as ( $5\frac{1}{4}$  m.) Vex. Hence a cart track leads up S. (above and W. of the high road to Evolena) to the chief village, **Hérémence** (1,236 m., 4,055 ft.), in 1 hr., which is finely situated, and commands a good view of the main Hérens valley, with the peak of the Dent d'Hérens in the background. It is at the mouth of the Hérémence glen and above the junction of its stream, the *Dixenze*, with the Borgne. Various steps met with in mounting in the Hérémence glen bear the names of *Val des Dix*, *Val d'Orsera*, and *Val de la Barma*. The mule path ascends along the l. bank of the *Dixenze*, and in 1 hr. more reaches the huts of *Mars*.

☐ Above and to the S.W. is the curious grotto in a cliff called *Caverne d'Arzinol*, or *Grotte des Fées*, said to bear traces of having served as a dwelling for some of the primitive inhabitants of the valley, but more probably connected with some mining operations. ]

2 hrs. beyond, the path, having passed through a narrow gorge and crossed to the r. bank, gains the Mayens of *Prazlong* (1,608 m., 5,276 ft.), in the Val d'Orsera.

☐ Hence the *Col de Meina* or *d'Arzinol* (2,706 m., 8,878 ft.) leads in 5 hrs. by a mule track to Evolena, on the E. The *Pic d'Arzinol* (3,001 m., 9,846 ft.) is easily ascended direct by its N.W. face, or in 1 hr. from the pass to the S. ]

1 hr. higher up the valley, on the r. bank, are the *Méribé* chalets.

☐ The *Col de Meina*, also called *Col de Méribé*, is easily reached from here also. On the S.W. the *Col de Praz-*

*fleury* gives access to the Cleuson glen, the head of the Nendaz valley, which joins the Rhône valley a little below Sion. But from the Col a traverse S.W. over the Grand Désert gl. brings the traveller to the Col de Louvie (§ 18. Rte. E), by which Fionnay, in the middle reach of the Val de Bagnes, is gained in about 6 hrs. from Méribé. ]

From Méribé a steep ascent leads to the upper part (Val de la Barma) of the Hérémence glen, the *Barma huts*, on the l. bank, being attained in rather more than 1 hr.

☐ Hence the *Cols de Sevreu* and *du Crêt* lead over the *Ecoulaies* gl. to Fionnay, in the Val de Bagnes, in 5 or 6 hrs. The *Pointe de Rosa Blanche* (3,348 m., 10,985 ft.) may be climbed from the former pass by the S. arête in 1 hr., or direct from the Barma huts by the *Mourti* gl. and the S. arête. E. of the huts the *Col de Darbonneire* is the best way of gaining the Arolla valley or Evolena. From it the *Pointe de Vouasson* (3,496 m., 11,470 ft.), on the N., is easily reached, and on the S. the N. peak (c. 3,600 m., 11,812 ft.) of the *Aigs. Rouges d'Arolla*. ]

Several groups of chalets lie higher up towards the head of the valley. The last ( $6\frac{1}{2}$  hrs. from Hérémence) are those of *Liappey* (2,326 m., 7,632 ft.) and *Seilon* (2,272 m., 7,454 ft.), on the l. and r. bank respectively, the last-named huts being just at the foot of the great *Seilon* gl.,  $1\frac{1}{4}$  hr. from La Barma.

☐ Hence the *Col de Vasevay* (3,263 m., 10,706 ft.) leads in 6 hrs. over to the Mauvoisin inn, in the Val de Bagnes. The *Mont Pleureur* (3,706 m., 12,159 ft.) can be climbed in 2-3 hrs. from the Col (Rte. E), or direct from Liappey by the *Lendarey* gl. and by its E. rock and snow face. On the E. the *Aigs. Rouges d'Arolla* (3,650 m., 11,976 ft.) can be climbed by gaining the gaps between them, as from Arolla. ]

Above the *Seilon* huts the valley is closed by the *Seilon* gl. After mount-



ing up this a little way the *Col de Riedmatten* or the *Pas de Chèvres* leads E. over to Arolla in about 3 hrs. from the huts. By continuing to ascend this gl. it is easy to pass over to Mauvoisin by the *Col de Seillon* in about 6 hrs., or to cross the Cols du Mont Rouge and de Lyre Rose to Chanrion, a rather longer route. By keeping S.E. up the Seillon gl. the *Col de Breney* may be traversed to Chanrion (6-7 hrs.) For all these passes from the head of the Héré-  
mence glen see Rtes. I and K.

### SECTION 19.

#### EVOLENA, ZINAL, AND VALPELLINE DISTRICT.

THE principal valleys through which the drainage of the Central Pennine Alps is borne down to the Rhône present some striking points of agreement. In ascending the valleys of Hérens or Anniviers (described in the present Section), or that of the Visp (§ 20) the traveller finds, after a few miles, that the main stream is formed by the union of two torrents, originating in two nearly parallel glens, and uniting at the base of the mountain ridge or spur which had previously divided them. Something of the same kind is seen in the valley of the Dranse du Grand St. Bernard (§ 18. Rte. A), but the bounding ranges do not follow so closely the meridional direction as in those just mentioned. Alternating with the gorges through which the Borgne, the Navigenze, and the Vispach flow into the Rhône valley, the much shorter valleys of Nendaz, Rechy, Turtmann, and Gamsen drain the N. part of the intervening mountain ranges.

The two principal valleys included in this Section, the **Val d'Hérens** (*Germ.* Eringerthal) and the **Val d'Anniviers** (*Germ.* Einfischthal),

were for very many years amongst the least known in the Swiss Alps, mainly because of an exaggerated impression that the inhabitants were a rude and semibarbarous race, and that the traveller must there encounter an unusual amount of filth and privation. Upon extremely slender grounds some Swiss and German writers have attributed to the people a foreign extraction (Scandinavian, Cimbric, Magyar, Hunnish, Saracenic), and made these valleys the seat of peculiar legends which are really common to a large portion of the Swiss Alps. In a first visit made by the writer (J. B.) in 1845 to the Val d'Anniviers he found little or nothing in the language or appearance of the people to distinguish them from those of the Dranse valley, save what might be attributed to the rarity of their intercourse with strangers. They appeared very industrious and hospitably-inclined, but extremely dirty in their habits. The necessities of their position lead them (as is the case in many other Alpine valleys) to live a partly nomadic life. The same family possessing some patches of arable land in the lower part of the valley, some pastures and meadows higher up, a share in a cattle alp on the upper slopes of the mountains, with perhaps a patch of vineyard in the Rhône valley, and each place being several hours' walk from the other, they are led to change their dwellings several times in a year. Hence it is not uncommon to find large groups of houses, called *mayens*, approaching the dimensions of a village, without a single inhabitant, the place being used only for some weeks in the early summer and again in the autumn, during the passage of their cattle between their winter quarters in the lower valley and the upper pastures. The above remarks apply only to the upper part of the Val d'Anniviers and to the valley of Turtmann. These glens seem to be still in the state in which most Alpine valleys

formerly were, for it is an established historical fact that the upper bits of mountain valleys (e.g. Macugnaga, Saas, &c.) were first used simply as summer pastures till gradually certain persons took up their permanent residence therein, and so each in course of time acquired a fixed population.

In point of scenery these two valleys—especially the Val d'Anniviers—scarcely yield to any in the Swiss Alps, unless it be to the neighbouring valleys of Zermatt and Saas. The opening of good inns at Evolena, Arolla, and Ferpèche, in the Val d'Hérens, at Zinal, St. Luc, and Vissoye, in the Val d'Anniviers, and at Gruben, in the Turtmann valley, has done much to attract strangers to this district. The glacier passes leading to it are full of interest to the mountaineer, but are all somewhat laborious and scarcely to be recommended to most ladies or to unpractised pedestrians. Those connecting the Val d'Hérens with the Val de Bagnes have been described in the last Section (Rtes. I and K). The main, or Arolla, branch of the Hérens valley penetrates somewhat further S. than the Anniviers glen, so that, save a small bit of the Ferpèche branch near the Col des Bouquetins, it alone attains the frontier ridge between Switzerland and Italy. It is, therefore, practically most convenient to include in this Section the long, but little visited, **Valpelline**, on the Italian side of the watershed, for one of the oldest of Alpine glacier passes, the Col de Collon, leads through the Arolla and Valpelline glens to Aosta (Rte. D). The accommodation therein is still very poor, though the climber may find rough quarters at Prarayé and Bionaz, and a fair inn at the village of Valpelline itself. On the other hand, as the Hérérence glen, though it is a tributary of the Val d'Hérens, communicates directly with the Val de Bagnes, it is best included in § 18 (Rte. L).

The limits of the area described in

the present Section are therefore as follows. It extends from the Arolla and Valpelline valleys on the W. to the Zermatt and Valtournanche glens on the E., while on the N. the boundary is the Rhône valley from Sion to Visp, and on the S. the valley of the Dora Baltea from Aosta to Châtillon. In other words, it takes in the mountainous region between Arolla and Zermatt, which comprises the Arolla, Ferpèche, Hérens, Anniviers, and Turtmann glens on the N. side of the great watershed, and the Valpelline glen on the S. side. For minute details as to most of the peaks and passes mentioned in the following pages the reader is referred to Sir Martin Conway's 'Central Pennine Alps' volume (1890) of the 'Climbers' Guide' series. Mr. Larden's painstaking and elaborate 'Guide d'Arolla' (still in MS.) is deposited in the Arolla Kurhaus, while Signori Mondini and Canzio's monograph on the mountains round the St. Barthélemy valley (Rte. G) is indispensable to the traveller who would explore those regions. A very useful list, in tabular form, of all the peaks and passes on the long ridge between the Valpelline and the Valtournanche was published by Mr. Alfred G. Topham in the 17th vol. of the 'Alpine Journal,' and may be mentioned here, though it is more convenient to describe certain of these peaks in § 20. Rte. B, because they are most usually climbed from Breuil, in the Valtournanche.

## ROUTE A.

SION TO EVOLENA BY THE VAL  
D'HÉRENS. EXCURSIONS FROM  
EVOLENA.

Carriage road on the l. bank of the Borgne, 15 $\frac{3}{4}$  m., traversed by the post cart in 5 $\frac{3}{4}$  hrs.; the old mule path runs along the r. bank of the Borgne.

After crossing the bridge over the Rhône at Sion the road (leaving on the l. the mule path by Bramois, Mage, and St. Martin, on the r. bank of the Borgne) leads to the foot of the mountain-side. This it ascends by long windings on the l. bank of the Borgne to (5 $\frac{1}{2}$  m.) *Vex*, the easternmost village in 'Lower' or 'Savoyard Vallais,' which in 1475 was conquered by the bishop of Sion and the men of 'Upper' or 'Episcopal Vallais.' (A pedestrian by taking the short cut may save an hour between Sion and Vex.) During the ascent the traveller may see on the other side of the valley the curious sixteenth-century hermitage of *Longe Borgne*, the whole of which is hewn out of the living rock. Before reaching Vex the level of the Val d'Hérens has been attained, and the Ferpècle gl., crowned by the *Tête Blanche*, the *Dent Blanche*, the *Dent d'Hérens*, and the *Grandes Dents*, comes into sight. The road passes below the village of *Hérémece*, at the mouth of the glen of the same name (§ 18. Rte. L), and presently crosses the *Dixenze* torrent, flowing from it. Soon after the road tunnels through an old moraine to (9 $\frac{1}{2}$  m.) *Useigne*. This moraine is remarkable for some singular 'earth pillars,' or columns of earth, each capped by a boulder of rock, which has protected the shaft from erosion by rain. These 'Pyramides d'Useigne' are probably the best known examples of their kind, but similar pillars occur in other parts of the Alps, especially in Dauphiné, near Molines, and in the Fournel gorge, near Argentière and La Bessée. Some way beyond Useigne the road crosses to the r. bank of the Borgne, which is reached a little below *Sz.*

*Martin* (1,387 m., 4,551 ft.), the mother church of the valley. It continues to mount along that bank for some distance, till it suddenly emerges on the broad, green, and nearly level stretch of valley in the midst of which (15 $\frac{3}{4}$  m. from Sion) is the hamlet of *Evolena* (1,378 m., 4,521 ft.) The contrast between this peaceful dale and the singularly desolate region through which the road has passed before gaining it is very great.

The situation of Evolena is not to be compared with that of many other mountain resorts, but it is a pleasant stopping place for travellers who do not wish to climb, and for climbers driven down from Arolla or Ferpècle by bad weather.

From Evolena itself the most interesting climb is the ascent of the *Point de Vouasson* (3,496 m., 11,470 ft.), on the S. W., a very easy snow expedition, rewarded by a very fine view. It takes 5 hrs., and the way lies through the Merdesson glen, over the Vouasson gl., and up the N. E. face of the peak. There is an easy descent on the S. to the neighbourhood of the Col de Darbonneire, by which Arolla can be gained in 2 $\frac{1}{2}$  hrs. from the top, so that a climber can take this peak on his way from Evolena to Arolla or *vice versa* (see Rte. B. 2). Other excursions are the *Sasseneire*, 3,259 m., 10,693 ft. (5 hrs.), the *Couronne de Bréonna*, 3,164 m., 10,381 ft. (4 hrs.), both on the E. side of the valley, and the *Pic d'Arzinol*, 3,001 m., 9,846 ft. (4 hrs.), on the W. side of the glen.

## ROUTE B.

EVOLENA TO AROLLA. EXCURSIONS  
AND ASCENTS FROM AROLLA.

If the weather be favourable, the mountaineer will soon quit Evolena for the head of one or other of the two glens into which the Val



d'Hérens divides at *Haudères*, about 1 hr. S. of Evolena. The glen to the S.E. is the Ferpècle glen (described in Rte. H), through which lies the route to Zermatt over the Col d'Hérens. That to the S.W. leads to **Arolla**, now a favourite resort of climbers.

The char road follows the r. bank of the Borgne to Haudères, beyond which it becomes a mule track, and crosses to the l. bank of the stream flowing from the Ferpècle glen. (There is a short cut by a path which branches off before reaching Haudères, turns at right angles, crosses to the l. bank of the stream flowing from the Arolla glen, and then passes through fields to join the ordinary mule path soon after it has crossed the Arolla stream.) It then bears to the W. (r.), and crosses to the l. bank of the Arolla stream and henceforth follows that bank, amid scenery constantly increasing in wild and savage grandeur. The *Combe d'Arolla* (so called from the local name for the *Pinus Cembra*, which is common in this part of the Pennine range) is a narrow glen lying between the rugged range of the Grandes Dents on the E. and the less striking and much less visible range on the W. (wherein the Aiguilles Rouges d'Arolla are the principal feature) which separates the Combe d'Arolla from the Hérémece valley. Rather more than half-way between Haudères and Arolla is the little hamlet of *Satarma*, overhung by the quaint Dent de Satarma. Through the glen down which runs the stream forming the waterfall the Aiguilles Rouges can be seen, but that is the only glimpse of these pinnacles gained on the way up to Arolla.

Just beyond the hamlet of Satarma and before crossing over the knoll which closes on the S. the Satarma plateau, a path branches off to the right—this is the direct way to the Kurhaus.]

The highest Arolla chalets lie at a height of 2,003 m. (6,572 ft.) A little below them is the old inn,

the *Hôtel du Mont Collon*, 1,962 m., 6,437 ft. (3 hrs. from Evolena.) The new inn, the *Kurhaus d'Arolla* (opened in 1897), is above the chalets, and about 300 ft. above the old inn, so that 10 min. more must be allowed for any excursions made thence save on this side of the valley, which are, of course, 10 min. shorter when taken from the new inn. A path to it branches off before the chalets are reached. The new inn lies hidden in woods, and near it is a little artificial lake.

Though at the head of the valley, between the inns and the glacier, there is a huge waste of stones and moraine, the view of the Mont Collon and of the Pigne d'Arolla makes the scenery grand rather than desolate, despite the fact that the former is but a truncated cone and the latter little more than a shapeless mass. The woods near the hôtels afford relief to the eye, while the bold ridge on the E. adds much to the striking Alpine character of the scenery. In the neighbourhood of Arolla there are a great variety of walks, easy climbs, and 'grandes courses,' so that the young mountaineer will find plenty of expeditions whereon he can gain practice and experience. He should not fail to consult the MS. 'Guide d'Arolla,' by Mr. Walter Larden (to be found in the Kurhaus), which contains full details of all the excursions, great and small, around Arolla, of which an outline only can be given here, for lack of space.

1. Among the **Walks the Arolla Glacier** ( $\frac{1}{2}$  hr. from the old inn, 5 min. more from the new one) claims the first place, since when it is free from snow it may be safely explored, without a guide, as far as the foot of the Mont Collon. There was formerly a fine tunnel nearly  $\frac{1}{4}$  m. from the lower end of the gl., but its roof fell in in 1895. The well-marked dirt bands of the lower portion of the Arolla gl. attract the notice of every traveller. They are said to be confined to that bit of the gl. which

originates in the Vuibez icefall, and it has been suggested that they mark the yearly falls of ice, one to each year, the well-known differential motion of the ice giving them a curved form lower down.

The *Zigiorenove gl.* (now rapidly advancing) deserves a visit on account of the remarkable triple series of moraines on its l. bank. The *Pièce gl.* may best be reached ( $1\frac{3}{4}$  hr.) by the track up the crest of the long and very conspicuous moraine on its l. bank, whence the traveller easily descends on to the stone-covered ice. The *Pas de Chèvres* (§ 18. Rte. K), due W. of Arolla, is also worth a visit (2 hrs.)

The high pastures and chalets of *Praz Gras* (2,483 m., 8,147 ft.) may be gained in 1 hr. by a path which branches off from that to the *Pas de Chèvres*, but care must be taken to mount sufficiently high, or the highest chalets may be missed. These are the chalets that should be visited, and lie at the E. foot of the *Roussette*. From the higher levels of these pastures the view of the *Collon* and the *Grandes Dents* is very fine. By continuing from the chalets for  $\frac{1}{2}$  hr. in a N.W. direction the little *Ignes gl.* may be visited.

A very beautiful walk is that to the *Lac Bleu* (2,079 m., 6,821 ft.) and the *Cascade des Ignés*. The path down towards *Evolena* is followed to *Satarma*. Thence a track leads up in a N.W. direction to a grassy glade. Here the traveller should bear round to the W., past a remarkable finger of rock (120 ft. high—the *Dent de Satarma*—accessible by a rough scramble of 10 minutes), to the lake ( $1\frac{1}{2}$  hr. from Arolla). In dry weather the colour is wonderful, but in time of rain it becomes greenish, owing to the turbid water of an irrigation stream. The *Cascade* lies less than  $\frac{1}{2}$  hr. further on, at the head of the little glen descending to *Satarma* from the W. By means of a gully near the *Cascade* it is easy to ascend to the higher level

of the *Praz Gras* pasturages, and so return to Arolla.

Just above *Satarma*, close to a bridge over the Arolla stream, a track leads N.E. up to the *Col de Zarmine*, or *de Veisivi*, 3,062 m., 10,046 ft. ( $3\frac{1}{2}$  hrs. from Arolla.) A considerable ascent by zigzags must be made till the stream from the *Zarmine gl.* is crossed to its r. bank, whence a rough walk gives access to the *Col*. The view of the steep cliffs that descend from the *Grandes Dents* towards *Ferpècle* is very striking.

*Mont Dolin* (2,976 m., 9,764 ft.) is best ascended (in  $2\frac{1}{2}$  hrs. from Arolla) from the chalets on the way to the *Pas de Chèvres*. The steep grass slopes of this little peak render nailed boots very desirable.

2. Among the *easier climbs*, which can be made without guides by those who are accustomed to ordinary mountain scrambling, the following may be mentioned. The *Roussette*, 3,261 m., 10,699 ft. ( $2\frac{1}{2}$  hrs.), affords a fine view. The easiest, though least interesting, way up it is to round *Mont Dolin* on the W., and to ascend N. over stones and loose rocks, till it is possible to mount to a stony gap between *M. Gysa* (3,115 m., 10,220 ft.) and the desired summit. A better scramble is afforded by going past the *Praz Gras* chalets to the edge of the *Ignes gl.* It is then necessary to mount S.W. to a small snowfield just under, and W. of, the *Roussette*, whence the ascent is completed by climbing partly up the more northerly of two snow gullies, partly by the rocks on its N. side. The summit ridge is thus gained, a little to the N. of the cairn ( $2\frac{1}{2}$ –3 hrs. from Arolla). The ridges running from *Mont Dolin* to the *Roussette*, and from the *Col de Riedmatten* towards the fantastic little peak called *Cassiorte*, or *Mont Rouge d'Arolla* (3,302 m., 10,834 ft.), afford scope for many climbs and scrambles.

The *Vuibez rocks* may be ascended from the *Pièce gl.* in 1 hr., or  $3\frac{1}{2}$  hrs. from Arolla. Chamois are often seen on the cliffs which fall towards the

Arolla gl. One of the S.E. summits of the *Zinareffien rocks* may be gained directly from the moraine on the l. bank of the *Zigiorenove gl.* The N.W. summit is best attacked on its S. side from the *Seilon gl.* Either climb should take about 4 hrs. from Arolla.

The *Grande Dent de Veisivi* (3,425 m., 11,237 ft.) is a more ambitious guideless climb than those hitherto mentioned, but it is not difficult, and takes about an hour from the *Col de Zarmine*, or  $4\frac{1}{2}$  hrs. from Arolla. For those accustomed to glaciers and the use of the rope the ascent of the **Pointe de Vouasson** (3,496 m., 11,470 ft.) is much recommended, the views on the way up, and from the summit, being very fine, and extending to the *Mont Blanc* range. The *Praz Gras chalets* must be reached and the snout of the *Ignes gl.* crossed, so as to gain the ridge between the *Upper and Lower Glaciers des Aiguilles Rouges*. This ridge is then mounted in a N.W. direction for a little way, and the higher of these two glaciers traversed to its N.W. corner. After ascending the rocks at this corner the route lies to the W., and the summit is gained in from 4 to  $4\frac{1}{2}$  hrs. from Arolla. As the peak may be climbed in 5 hrs. from Evolena by the *Merdesson glen* and *Vouasson gl.* (see *Rte. A*) it may be taken on the way from that village to Arolla, or *vice versa*.

The *Col de Collon* (*Rte. D*) may also be made the object of an excursion from Arolla ( $3\frac{1}{2}$  hrs.), returning by the *Cols de l'Evêque* and *de Pièce*. There are concealed crevasses on the upper portion of the otherwise easy gl. leading up to it, so that the rope should most certainly not be dispensed with. The excursion may be pleasantly prolonged by crossing the *Mont Brulé*, 3,621 m., 11,880 ft. (which commands a very fine view), from the *Col de Collon* (up in  $1\frac{1}{2}$  hr.) to the *S. Col du Mont Brulé* ( $\frac{1}{2}$  hr.)

3. There are many **higher climbs** to be made from Arolla, but these require guides, save in exceptional cases.

The most interesting way of ascending the **Mont Collon** (3,644 m., 11,956 ft.) is to mount from the Arolla gl. till near the gap between it and the *Mitre de l'Evêque* (3,672 m., 12,048 ft.), and so reach the summit from the S. The descent should be made by the ordinary route (which takes 6 hrs. up) down the W.N.W. arête to the *Col de Chermontane*, and thence to Arolla by the *Col de Pièce* (§ 18, *Rte. I*). It has also been ascended by the N. arête, by the N. face, and by the E. rock face—in each case direct from the Arolla gl. (6 hrs.)

From the gap just mentioned it is easy to gain the top of the *Evêque*, 3,738 m., 12,264 ft. (the culminating point of the *Collon* group), by rounding the *Mitre* on the W. The usual route up this point from Arolla is to reach the *Col de Collon* (*Rte. D*) and the *Col de l'Evêque* (*Rte. E*), and then descend till it is possible to scramble up by rocks in 5 min. to the snow slopes on the N.W. face of the peak, by which the summit is reached. It can also be gained from the S.E., or from the *Col de l'Evêque* direct in  $2\frac{1}{2}$  hrs. by the rocky S.W. ridge. If the last-named pass has been gained from the Arolla gl., the return may be made by the *Col de Chermontane* and the *Col de la Vuignette* and the *Col de Pièce*, and in this way the very fine 'Tour du Mont Collon' will have been effected.

The **Pigne d'Arolla** (3,801 m., 12,471 ft.) has been ascended direct from Arolla by the very steep N. face. The usual route is to ascend easy snow slopes from the *Col de Pièce* ( $1\frac{1}{4}$  hr., or  $4\frac{1}{2}$  hrs. from Arolla). It is easy to return to Arolla in  $2\frac{1}{2}$  hrs. by the *Seilon gl.* and the *Pas de Chèvres*. The panorama from the summit is magnificent.

The *Dent Perroc* (3,679 m., 12,071 ft.) is accessible in 5–6 hrs. by its W. arête, the arête alone taking 3 hrs. The climb is very interesting, and the rocks good.

The **Aiguille de la Za** (3,673 m.,



12,051 ft.) is usually climbed in 5 hrs. by way of the N. Col de Bertol (Rte. C) and the steep rocks on the E. and S. faces of the peak. At the top there are some dangerously loose rocks. It has also been ascended direct from Arolla by the rocky W. face, and this route is now a very popular one.

The highest summit (3,848 m., 12,625 ft.) of the *Dents des Bouquetins* is a very good and by no means easy climb. It is gained in 5½–6 hrs. from Arolla by way of the S. Col de Bertol, the rocks leading up from the E. to the gap N. of the peak, and the N. ridge. There are many other climbs in this ridge, as also in that of the *Dents de Bertol* (3,556 m., 11,667 ft.), between the Bouquetins and the S. Col de Bertol.

The last three named peaks can now be best reached from the new **Club hut** (3,400 m., 11,155 ft.) on the S. Col de Bertol. Hence the summit of the **Dent Blanche** (4,364 m., 14,318 ft.) can, under favourable circumstances, be attained in 5–6 hrs., the ordinary route (Rte. H) being joined at the foot of the S. arête.

The *Aiguilles Rouges d'Arolla*, three sharp rocky points (the highest is 3,650 m., 11,976 ft.), lie to the N.W. of Arolla, and afford some of the best climbing in the district. The Central peak is the loftiest, and may be reached from the gap to its S., or direct from the E. (5 hrs.) The danger from loose stones, for which these summits have a great reputation, appears to be very slight, if a proper route be selected.

The *Mont Blanc de Seilon* (3,871 m., 12,700 ft.) may be climbed in 2 hrs. from either the Col de la Serpentine (§ 18. Rte. I. 3) or (better) from the Col de Seilon (§ 18. Rte. K) and the ridge traversed thence to the *Ruinette* (3,879 m., 12,727 ft.) in 4 hrs. The latter peak is best climbed from Chanrion (§ 18. Rte. H), but if it is desired to take it on the way from Arolla to Chanrion the Col de Seilon should be crossed, and the ascent

made from the Col de Lyrose (§ 18. Rtes. H and K). An alternative route is by the Col de Breney to the gl. S. of the peak, which can also be gained from Arolla by the Col de Chermontane (§ 18. Rte. I. 1) and the Col des Portons.

The passes from Arolla to the Val de Bagnes have been described in § 18. Rtes. I and K. It need to be only added here that the way by the Col de Seilon is the shortest, whether to Chanrion or to Mauvoisin, but that the route by the Col de Chermontane and the great Otemma gl. is, in the opinion of competent judges, by far the finer. The passes to the Hérémente valley will be found in § 18. Rte. L, those to Zermatt in § 19. Rte. C, and those to the Valpelline in § 19. Rte. D.

## ROUTE C.

### AROLLA TO ZERMATT.

The Arolla glen is cut off from the direct way to Zermatt down the Z'Mutt gl. by the great snow fields at the head of the Ferpècle branch of the Hérens glen, so that a double pass must be crossed in order to attain that glacier. There are two main routes from Arolla to Zermatt, but for the reason just given it is possible in each case to make a descent from the first pass crossed into a third valley.

1. *By the Cols de Bertol and d'Hérens.*—This is the shortest way from Arolla to Zermatt (9½ hrs.) The Col de Bertol was discovered in 1865 by Messrs. Moore and H. Walker, who thus first crossed what has since become a most useful and frequented pass. From Arolla the route used to lie over the lower portion of the Arolla gl., but a mule path has recently been made along its r. bank, above the moraine, and extends as far

as the stony tract called *Plan de Bertol*. The river is crossed about 8 minutes from the old Arolla inn. (When *descending to Arolla* it is better to take the old route over the gl.) From the Plan two passes are seen to the N.E. The N. one is the *N. Col de Bertol*, and is used for the ascent of the Aiguille de la Za (Rte. B). The **S. Col de Bertol** (11,200 ft.) is that crossed by a party bound for Zermatt. (Crossed is the new **Club hut**, 3,400 m., 11,155 ft.) It is gained from the Plan by a steep gl. and a steep snow slope ( $3\frac{1}{2}$  hrs. from Arolla), and gives access on the other side to the great névé field whence flow the Mont Miné and Ferpècle gls. (Ferpècle may be reached hence in 2 hrs. by turning both icefalls of the Mont Miné gl. by their l. bank.) For Zermatt a S.E. course must be steered over these huge snow fields to the **Col d'Hérens** 3,480 m., 11,418 ft. (2 hrs.), whence Zermatt is reached (see Rte. H) in 4 hrs. more. The *détour* up the *Tête Blanche* (3,750 m., 12,304 ft.), to the S.W. of the Col, costs only  $\frac{1}{4}$  hr. extra, and is rewarded by a most glorious view.

2. *By the N. Col du Mont Brulé and the Col de Valpelline* ( $10\frac{1}{2}$ –11 hrs.)—From Arolla the route of the Col de Collon (Rte. D) is followed to the Za de Zan basin, at the head of the Arolla gl. It is then necessary to bear to the E., so as to reach by rocks ( $3\frac{1}{2}$ –4 hrs.) the more northerly of the two passes between the Mont Brulé and the S. end of the Dents des Bouquetins ridge (the Col is just S. of the point marked 3,364 m. on the Italian map and 3,365 m. on the Siegfried map). A snow slope on the Italian side leads to the Upper Za de Zan gl., bearing N.E. over which the *Col de Valpelline* (Rte. E) is reached in 2 hrs. from the first Col, and Zermatt in  $4\frac{1}{2}$ –5 hrs. more. Of course after joining the Col de Valpelline route the descent into the Valpelline is perfectly possible, but the most direct way from Arolla to that valley is over the Col de Collon, though the

Col des Bouquetins or the S. Col du Mont Brulé may also be taken (Rte. D).

#### ROUTE D.

##### AROLLA TO THE VALPELLINE BY THE COL DE COLLON.

This pass was traversed in 1842 by Principal Forbes, and his description first made it generally known to English travellers. But it had long previously been frequented by the natives, and is mentioned as far back as 1543 by Sebastian Münster (in his 'Cosmographia Universalis') as 'magnum nivosum montem qui major glacialis et Arolla vocatur,' while it was described in some detail by P. A. Arnod in 1691. The ascent from Arolla takes  $3\frac{1}{2}$  hrs., and the descent to Prarayé about 2 hrs. more.

The ascent from Arolla to the pass is very striking. The great Arolla gl. makes two considerable bends in different directions (the first becoming convex to the W.), so that it approaches the shape of the letter S. Round the lower curve it descends in an icefall from the S.E., while at the same part of its course it receives from the S.W. the Vuibez gl., forming a far grander icefall, which is broken in the middle by an island of rock (§ 18. Rte. I. 1). The lower portion of the Arolla gl. is easily traversed. To reach the upper portion it was formerly usual to turn the icefall by the smooth rocks on the r. bank, and this may sometimes be necessary even now, but the avalanche débris on the l. bank under the Mont Collon should be avoided, as they are rather dangerous by reason of falling stones from that peak. It is generally easy, however, to walk by means of the medial moraine straight up the singular unbroken icefall itself. Above, there is not an ap-

proach to difficulty, and it is only necessary to round the foot of the Mont Collon (the cliffs of which are very fine and have been scaled from here) and of the Evêque (in the steep face of which there is a good echo, which has helped to guide parties surrounded by clouds and uncertain of their course) in order to advance rapidly towards the pass. When the writer (J. B.) passed this way in September, 1853, his guide, a native of the Val d'Hérens, told him a terrible tale of a party of villagers from Evolena, who were overtaken in 1841 by a snow storm on the upper portion of the Arolla gl., and, attempting to return after failing to find the way, lost three of their number in the snow. Principal Forbes and his guide found one of the bodies in 1842. On the same part of this gl. the writer in 1853 observed the fresh tracks of several wolves, apparently following those of some chamois.

[At this point on the gl. the traveller is in full view of the extensive névé basin of *Za de Zan*, which mounts gently towards the S.E. and is enclosed by a ridge not very difficult of access on this side. Over this ridge two passes lead to the head of the Valpelline. The more northerly—which is the most used—is called the *N. Col du Mont Brulé*, and lies between the points marked 3,351 m. and 3,364 m. on the Italian map; it is described in Rte. E., below, for it is a link in the direct route from Chanrion to Zermatt. The *S. Col du Mont Brulé* lies just N.E. of the Mont Brulé (3,621 m., 11,880 ft.), and it is simply a variation of the Col de Collon.]

The final snow ascent to the **Col de Collon** is sometimes crevassed, but often there are concealed crevasses, so that the rope should not be laid aside till the pass is actually reached. It is 3,130 m. (10,270 ft.) in height, and is marked by a small iron cross, dated 1754 and stuck into a cleft of the rocks on the W. The pass commands a

wild scene of rock and snow field, but no distant view. This, however, may be gained by mounting in 1½ hr. by an easy snow ridge to the summit of the *Mont Brulé* (3,621 m., 11,880 ft.), on the E.

As is usually the case in this district, the ice and snow on the Italian side are far less extensive than those on the Swiss side. The pass overlooks the head of a small gl., which descends S. into the *Oren* glen—a wild, dreary gorge, which joins the Valpelline at the Prarayé chalets. It is sometimes possible to descend all the way by this gl., taking due heed of concealed crevasses. The usual, and much surer, course is to cross the head of the gl. diagonally to the S.E., and then to descend by the rocks and screes on its l. or S.E. bank. These are pretty steep, but are quite free from difficulty. On reaching the valley below, whence the gl. seems to have retreated within comparatively recent years, the traveller will observe on the N.W. the small Oren gl., over which lies the way by the pass of the same name (§ 18. Rte. H. 3) to Chanrion. The path to the Valpelline runs mainly down the l. bank of the torrent to the chalets of *Prarayé* (1,993 m., 6,539 ft.), where rough quarters may be had. The way hence to Aosta is described in the next Rte.

#### ROUTE E.

AOSTA TO ZERMATT BY THE COL DE VALPELLINE. ASCENT OF THE DENT D'HÉRENS.

The **Valpelline** is a long, deep-cut trench which is exactly parallel to the valley from the Col Ferret to the Col de la Seigne (§ 16. Rtes. E and K), and is said to be about the same length, 18 m. It is traversed by the



main branch of the Buthier, which flows from N.E. to S.W., and unites at Ollomont with the stream from the Val d'Ollomont (§ 18. Rte. D), and under Gignod with the considerable torrent descending from the Combe des Bosses and the Great St. Bernard (§ 18. Rtes. A and B). The scenery of the Valpelline is throughout of the first order, especially towards its head, and is worthy of comparison with that of the exquisite valleys S. and E. of Monte Rosa, described in § 20. A tolerable inn at Prarayé, at its head, is, however, still wanting to attract many strangers thither. For the quarters at Prarayé are even now scarcely more than those offered by milk chalets in general. The curé at Bionaz receives visitors, and has recently built at Prarayé a very small house for their accommodation, while in his absence the inhabitants of the village are willing to make strangers as comfortable as they can. There is a fair inn at the village of Valpelline, which is too low as a starting point for any ascents or passes near the head of the valley.

A glance at the map suffices to show that the Valpelline is the only considerable valley of the Pennine Alps which does not run nearly due N. and S., or nearly due E. and W. It has the air of having been thrust in forcibly between its neighbours, and in particular of having prevented the St. Barthélemy glen, on the S.E., from attaining the main watershed of the Alps, as it does itself. This position explains the existence of numerous passes leading from the Valpelline in various directions. Those giving access to Chanrion and Arolla on the N.W. and N. have been noticed in § 18. Rte. H. and § 19. Rte. D. respectively, while those communicating with the St. Barthélemy glen and the Valtouranche, on the S.E. and E., will be found in Rtes. F and G. below. In this Rte. we have to deal only with the way leading through the entire length of the valley and over the Col de Valpelline, at its extreme

head, to the Z'Mutt gl., and so to Zermatt. This Col was first crossed in 1860 by Mr. F. W. Jacomb, with J. Kronig and Gabriel Maquignaz, and forms the easternmost link in the High-Level Route between Chamonix and Zermatt (§ 18. Introd.)

A good new char road runs from Aosta up the Buthier valley as far as the village of Valpelline (8 m.) For three miles the route is the same as that to St. Rémy, on the Great St. Bernard (§ 18. Rte. A). The Valpelline road then keeps to the N., along the W. or r. bank of the Buthier, for some distance, but finally crosses it to join the old road, which passes along the l. bank throughout. The torrent is recrossed, and that from the Ollomont glen traversed, before reaching the village of *Valpelline* (954 m., 3,130 ft.), which stands at the junction of the Val d'Ollomont with the Valpelline proper. The situation is extremely beautiful, but the village is discoloured by large copper works, connected with the mines at Ollomont. (For the passes through the Ollomont valley to Bourg St. Pierre and Chanrion see § 18. Rtes. D and E.) The mule-track follows the r. bank of the *Valpelline* torrent (as the main branch of the Buthier is locally called) in a N.E. direction. The first village is *Oyace*, 1,367 m., 4,485 ft. (2 hrs.), placed on a rock at a great height above the torrent, and at the S.E. base of *Mont Morion* (3,520 m., 11,550 ft.)  $1\frac{1}{2}$  hr. further up the valley is *Bionaz* (1,600 m., 5,250 ft.), the second and last village in the Valpelline proper.

¶ Hence the ascent of two fine peaks may be made, each being a rather long day—the *Mont Clapier* (3,357 m., 11,014 ft.), on the N.W., in  $7\frac{1}{2}$  hrs. by its face, and the *Bec de Lusoney* (3,506 m., 11,503 ft.), on the E., in 6 hrs., by way of the Lusoney glen and the snow pass at its head. The *Bec d'Épicoun* (3,527 m., 11,572 ft.) may be reached in 5–6 hrs. by way of the Ciardonnet gl., the icefall being turned by its E. bank. For the

passes from Bionaz to Chanrion see § 18. Rte. H. and for those to the St. Barthélemy glen § 19. Rte. G.]

The flora of the Valpelline well deserves more examination than it has yet received. *Silene vallesia* is common about Bionaz, and the warm slopes on the N.W. side of the valley seem to promise much variety. They should be visited in June or July.

Above Bionaz the mule path mounts (always above the r. bank), by a tolerably continuous and gentle ascent, through scenery constantly increasing in grandeur, to the chalets of **Prarayé** 1,993 m., 6,539 ft. (2 hrs. from Bionaz), which stand just beyond the opening of the Combe d'Oren. This side glen (through which lead the Col d'Oren to Chanrion and the Col de Collon to Arolla, § 18. Rte. H. and § 19. Rte. D) is, next to the Sassa glen (joining the main valley  $\frac{3}{4}$  hr. above Bionaz), the most considerable glen on the N.W. side of the valley; on the S.E. side those of Vessona, Montagnaia, Livournea, and Cournera are the most important, though none of them are very large.

(For the passes from Prarayé to the Valtournanche and the St. Barthélemy glen see § 19. Rtes. F and G.)

The head of the Valpelline is closed by the very extensive *Za de Zan gl.*, which occupies an upland valley, shut in between two nearly parallel ranges. That on the W. runs N. from the peaks S. of the Mont Brulé to the Dents des Bouquetins, where it bends E. to the snowy summit of the Tête Blanche, which marks the extreme N. point of the valley; this range divides the *Za de Zan gl.*, first from the Combe d'Oren, and then successively from the uppermost snows of the Arolla, Mont Miné, and Ferpècle gls. The range on the E. side of the *Za de Zan gl.* runs at first S.E. from the Tête Blanche to the Dent d'Hérens, separating the gl. we are describing from the Z'Mutt gl., and then due S., forming the limit between the Valpelline and the Valtournanche. At the

*Mont Redessau* (3,217 m., 10,555 ft.) this E. range splits into two ridges, which enclose between them the St. Barthélemy glen, described in Rte. G. below.

About  $\frac{1}{2}$  hr. above Prarayé the path crosses to the l. bank of the torrent. Beyond are a little chapel and a solitary chalet (the last in the Valpelline), beside a little knoll, crowned by the remains of a wooden cross. The view hence is even finer than that from Prarayé, but the *Za de Zan gl.*, on the N., is, though near at hand, concealed by a projecting buttress. 'Starting from this chalet,  $\frac{1}{2}$  hr. takes the mountaineer across the pastures and rough ground at the head of the valley to the l. lateral moraine of the *Za de Zan gl.* On the W. slopes above is the cattle alp, one of the wildest to be found. The lower portion of the great *Za de Zan gl.* descends in an almost straight and tolerably level course from the N., bounded on the W. by the black precipices extending from the Mont Brulé to the Dents des Bouquetins, whilst on the E. there stretches up a wilderness of snow slopes and rocks towards the Dent d'Hérens, seamed by a great ice stream, up the S. moraine of which lies the way to the Dent d'Hérens and the Tiefenmattenjoch' (for which see below). 'This ice stream is of great breadth, and the medial moraine formed by the junction is strongly defined. Looking back, the *Château des Dames*, 3,489 m., 11,447 ft. (Rte. F), rises imposingly beyond the level gl.' (Here the traveller bound for Arolla by the S. Col du Mont Brulé (Rte. D) should have already left the *Za de Zan gl.* and ascended the grass slopes.) 'At the end of 2 hrs. from taking to the gl., the foot of the great icefall, which separates the Lower and Upper *Za de Zan gls.*, and apparently bars all passage in that direction, is reached. Here the mountaineer must leave the gl. and turn N.E. towards a gap in the ridge of rocks, marked 3,291 m. on the Italian

map, which bounds the icefall on the E. After crossing the lateral moraine you climb up the steep slopes of scree, dotted with patches of rock, which afford fine specimens of *Edelweiss*. In an hour from the level lower gl. a big patch of névé is gained, passing up which and the short, but rotten, rocks above, the above-mentioned gap is attained in  $4\frac{1}{2}$ –5 hrs. from Prarayé. The mountaineer now finds himself on the edge of the extensive névé of the *Upper Za de Zan* gl., forming an undulating plateau, or basin, which falls away to the S.W. towards the icefall' (F. W. J., revised).

¶ Across the ridge between the Mont Brulé and the Dents des Bouquetins two passes have been made, which it is most convenient to notice here. Both are now called **Cols du Mont Brulé**. The **S. Col** lies just N.E. of the Mont Brulé (3,621 m., 11,880 ft.), and was discovered in 1863 by Messrs. Blanford and Rowsell, who named it Col de Za de Zan. It is reached on the Arolla side by the Arolla gl., and easy snow slopes in 3 hrs. from the inns, but the descent by steep rocks is not easy, and leads to the *lower* portion of the Za de Zan gl. in 1 h.; it is therefore really but a variation of the Col de Collon, and mainly visited by those bent on traversing the Mont Brulé from one pass to the other, whether as an excursion from Arolla or on their way from Arolla to Prarayé. The **N. Col** has far greater importance. It was first crossed in 1862 by Sir G. Young, the Rev. C. H. Pilkington, and Mr. E. E. Bowen, who named it Col du Mont Brulé. It lies between the points 3,351 m. and 3,364 m. on the Italian map, and S. of that marked 3,365 m. on the Siegfried map. On the Arolla side it is reached by the Arolla gl., a snow slope, and some easy rocks in 3 hrs. from the inns, while the descent on the E. side lies over easy snow to the *Upper Za de Zan* gl. By crossing this, keeping above the great Za de

Zan icefall, the Col de Valpelline route is joined high up and that pass attained in 2 hrs. from the N. Col du Mont Brulé. The importance of the N. Col lies in the fact that it enables a party of good walkers—under favourable conditions of weather and snow—to pass from Zermatt to Chanrion in a single day of no excessive length. As was briefly noted in the Introduction to § 18 and at the end of § 18. Rte. H. the exact times and route are as follows. In 1863 the first party to accomplish this feat, Messrs. E. N. Buxton and K. E. Digby, went from the Z'Mutt chalets, above Zermatt, to the Chermontane huts in rather more than 10 hrs.' actual walking. In 1876 Mr. Girdlestone's party, without guides, went from Zermatt itself to Chanrion in  $12\frac{3}{4}$  hrs.' walking. Probably less time would be required to make the route in the opposite direction. The way from Chanrion lies up the Otemma gl. by the Col d'Oren route (§ 18. Rte. H. 3) till not very far from that pass. It is then necessary to bear due E., so as to cross a broad, snowy opening marked 3,300 m. on the Siegfried map, and situated S. of the Petit Mont Collon; this Col might be called, for the sake of clearness, the *Col du Petit Mont Collon*. By this pass the head of the Mont Collon gl. is gained, and traversed in order to reach the *Col de l'Evêque* (3,393 m., 11,132 ft.)—originally called Col d'Arolla—whence a small lateral gl. leads down to the head of the Arolla gl., not far from the Col de Collon. A further traverse across this gl., in a slightly N.E. direction, brings the traveller to the *N. Col du Mont Brulé*, whence the Col de Valpelline is gained, as mentioned above. It is obvious that an expedition lying for so great a distance at so high a level, and almost altogether over névé, will be found practicable only under unusually favourable circumstances. It is possible to go along the ridge from the N. Col to the S. Col in 1 hr., and



it is worth while pointing out that the hump 3,364 m. of the Italian map, to the N. of the N. Col, is certainly higher than that between the two Cols, which the same map puts at 3,377 m.

This is probably the best place in which to notice yet another pass which also leads to the basin of the Upper Za de Zan gl., and which has caused great confusion—the **Col des Bouquetins**. It lies between the Dents des Bouquetins on the W. and the Tête Blanche on the E., and connects the great snow fields feeding the Mont Miné and Ferpècle gls. with the *Upper Za de Zan gl.* The Siegfried and Italian maps both mark it as lying close under the E. face of the N. bit of the Dents des Bouquetins ridge. On the N. side it is reached over rolling snow fields, easily gained from Arolla or Ferpècle by bearing respectively S.E. or S.W. from the routes of the S. Col de Bertol (Rte. C) or of the Col d'Hérens (Rte. H). When the broad depression of the Col 3,418 m. (11,214 ft.) comes in sight, it is best to keep level along the slopes of the Tête Blanche, as the actual point at which the ridge is passed is the last bit of rock seen to the E. of and about 200 ft. above the top of the icefall. On the S. side there is a great and impracticable icefall of about 200 ft. in height, which can, however, be easily turned by rocks or débris on its l. or E. side. The traveller thus attains the uppermost snowy basin of the Upper Za de Zan gl., and by traversing that basin to the E. soon joins the route to the Col de Valpelline, at the N.E. corner of that basin. The Col des Bouquetins, therefore, has scarcely a separate existence—at any rate a useful existence—of its own; it simply combines bits of the routes of the S. Col de Bertol, the Col d'Hérens, and the Col de Valpelline, being merely a cross route from one of these to the others. Messrs. W. E. Hall and K. E. Digby, who in 1862 first crossed this pass, made an un-

necessary détour over a high snowy plateau N.W. of the Tête Blanche, thus keeping too far to the E., though descending ultimately to the snowy basin of the Upper Za de Zan gl.】

To return from this long digression relating to some very intricate problems of Alpine history and topography. On the farther, or N.E., side of the snowy basin of the Za de Zan gl. is the Col de Valpelline, as yet unseen. Crossing the névé in a N.E. direction a secondary gl., broken up into séracs, descends on the r. hand. A rapid ascent up snow slopes leads the traveller round a projecting buttress on the S.E.; the **Col de Valpelline** soon comes into sight, and not long after it is attained, in about an hour from the top of the rocks, or 5½-6 hrs. from Prararé. It lies at a height of 3,562 m., 11,687 ft., across the snowy ridge joining the *Tête Blanche* (3,750 m., 12,304 ft.), on the N.W., with the *Tête de Valpelline* (3,813 m., 12,510 ft.), on the S.E.

【Either summit can be easily gained in ¾ hr. from the Col, and both command magnificent views, that from the Tête Blanche being perhaps the finer, though thence the Matterhorn hides Monte Rosa itself. The **Tête Blanche** is a snowy pyramid, lying between three glacier passes (Col de Valpelline, Col d'Hérens, and Col de Bertol, from all of which it is accessible without the slightest difficulty) that intersect the immense snow fields whence the Z'Mutt, Ferpècle, Mont Miné, and Za de Zan gls. diverge at about equal angles. Owing to this central position in the vast snow and ice country round, there are few points so easily attainable which command so magnificent a scene. The view includes the Mont Blanc, Grand Combin, Arolla, Monte Rosa, and Bernese Oberland peaks.】

After leaving the Col de Valpelline, half an hour's careful work over a crevassed gl. (the crevasses are often concealed by a covering of snow) is

required to join the route from the Col d'Hérens, by which (Rte. H) the Stockje rocks are gained in  $\frac{1}{4}$  hr., and Zermatt in about  $3\frac{1}{2}$  hrs. more, or from 9 to 10 hrs.' walking from Prarayé. In the reverse direction 6-7 hrs. up from Zermatt, and  $3\frac{1}{2}$  hrs. down to Prarayé should be allowed by ordinary walkers.

*Ascent of the Dent d'Hérens.*—This fine peak (4,180 m., 13,715 ft.) was first attained in 1863 by Messrs. W. E. Hall, R. J. S. Macdonald, M. Woodmass, and F. C. Grove, with Melchior Anderegg, Peter Perren, and J. P. Cachat, from Prarayé, by what is still the best route. The Col de Valpelline route is followed over the Lower Za de Zan gl., but left in order to mount by the S. moraine of the tributary gl. flowing down N. of the Tête de Roèse. A way must be found through the séracs to the upper basin of the Lower Za de Zan gl. (This névé basin may also be reached from Prarayé by the Viegli Alp, the Tête Bellaza, and the gl. E. of the Tête de Roèse, but this involves a much longer traverse across the névé.) From this high basin rocks must be climbed up the face of the peak to either its W. or S.W. arête (or the latter may be ascended from its foot, falling stones being thus avoided), by which the summit is gained in  $1\frac{1}{2}$  hr. from the névé, or 7 hrs. from Prarayé.

The foot of the S.W. arête is not very far from the *Col des Grandes Murailles* (3,869 m., 12,694 ft.), by means of which the Dent d'Hérens may be ascended in 8-9 hrs. from Breuil (§ 20. Rte. B). From the Za de Zan névé the *Punta Margherita* (3,877 m., 12,720 ft.)—the N. summit of the *Grandes Murailles* ridge, to the S. of the Col of that name—can be climbed in  $2\frac{1}{2}$  hrs.

In 1871 Messrs. A. W. Moore and H. Walker made a new pass from Zermatt to the Valpelline, the *Tiefenmattenjoch* (3,593 m., 11,788 ft.), the Swiss side of which is, however, very dangerous, as the final slope is a very steep icefall, and is constantly raked

by falling stones. The descent across a rock buttress on the l. to the Za de Zan névé is perfectly easy. The Dent d'Hérens can be climbed direct from the pass by following the W. arête throughout its entire length, or on reaching the Za de Zan névé it is easy to bear E. so as to join the usual route from Prarayé up the peak.

#### ROUTE F.

##### PRARAYÉ TO THE VALTOURNANCHE BY THE COL DE VALCOURNERA.

The range which separates the Valpelline from the Valtournanche is, perhaps, the most important and extensive of the lateral ridges which run in a S. direction from the main watershed of the Pennine Alps. It starts from the Dent d'Hérens and rises in a number of high summits, the altitude of which diminishes in a remarkably uniform manner. Its W. slope is in general covered by great glaciers, above which rises the final wall of peaks. The E. slope is exceedingly precipitous, notwithstanding which most of the summits on the main ridge are usually ascended from Breuil (§ 20. Rte. B). Great confusion has hitherto prevailed as to the correct names and positions of the summits of this ridge. The following summary is taken from the careful monograph by Mr. Alfred G. Topham, which was published in the 17th vol. of the 'Alpine Journal.'

Immediately S. of the Dent d'Hérens is the broad, snowy depression of the *Col des Grandes Murailles* (3,869 m., 12,694 ft.) Next comes the peak of which the N. end is marked 3,877 m. (12,720 ft.) on the Italian map, and the S. end 3,771 m. (12,373 ft.); the N. point is now known as the *Punta Margherita*, and the two together are

called the *Grandes Murailles*. Then comes the *Pointe des Cors*, or Punta Gastaldi, 3,855 m. (12,648 ft.), beyond which is the *Col des Cors* (c. 3,800 m., 12,468 ft.). Then we come to a sharp tooth, now called *Punta Liroy* (c. 4,000 m., 13,124 ft.), but unmarked on the Italian map, and first ascended in 1890. This is succeeded by the double-headed *Jumeaux de Val Tournanche*, or Gemelli, the N. point being specially called the *Punta Giordano* (3,873 m., 12,707 ft.) and the S. point *Punta Sella* (c. 3,860 m., 12,665 ft.). Next in order is the true *Bec de Guin*, 3,805 m., 12,484 ft., on the Italian map, which wrongly gives this name to the next peak to the S., rightly named *Bec de Créton*, 3,637 m., 11,933 ft. Between these two summits is the great snow saddle of the *Col Budden*. S. of the true *Bec de Créton* rises the *Tour de Créton* (3,583 m., 11,756 ft.), wrongly called *Bec de Créton* on the Italian map. Then come the *Col de Créton* (3,324 m., 10,906 ft.), the *Mont Blanc de Créton*, c. 3,420 m., 11,221 ft. (the local name for a low point, which is snow-covered on the W. side), and the fine snow-capped summit of the *Château des Dames* (3,489 m., 11,447 ft.). The S. ridge of this peak sinks to the *Col de Vofrède* (3,133 m., 10,279 ft.), and rises to form the *Mont Rouss* (3,241 m., 10,633 ft.), both being on a spur of the main chain. The watershed runs S.W. from the *Château des Dames*, is traversed by the *Col du Petit Glacier Bellazà* (3,063 m., 10,050 ft.), and then rises in a fine series of rocky peaks, the N. and highest summit of which (3,394 m., 11,136 ft.) is locally called the *Punta del Dragone*. Beyond them is the *Punta di Fontanella* (3,386 m., 11,109 ft.), climbed as far back as 1864 by Dr. A. Baltzer, and then the ridge sinks to the best known pass across it, the *Col de Valcournera* (3,147 m., 10,325 ft.) South of this pass is a long, sharp ridge, as yet without a name, and at its S. extremity the *Dôme de Cian*

(3,355 m., 11,008 ft.) The *Col de Cian* (c. 3,170 m., 10,401 ft.) separates this summit from the *Pointe de Cian* (3,321 m., 10,896 ft.), which throws out a buttress to the E., over which leads the *Col de Fort*, E. of which is the *Bec de Salé* (2,774 m., 9,101 ft., or 2,685 m., 8,809 ft.) From the *Pointe de Cian* the watershed runs nearly due W. towards the *Bec de Lusency*. Just S.W. of the *Pointe de Cian* is the small rocky tooth now called *Pointe de Chavancour* (3,195 m., 10,483 ft.), and beyond the *Col de Chavancour* (c. 2,970 m., 9,744 ft.), leading from the Chavancour huts, at the head of the Torgnon basin of the Valtournanche, to the Cournera glen. The peak W. of this pass is rightly called *M. Redessau* on the Italian map. It has two points (3,217 m., 10,555 ft., and 3,230 m., 10,598 ft.) The latter is on a side spur to the N., but from the former the watershed now runs between the St. Barthélemy glen and the Valtournanche, the only high summit on it being the *Cima Bianca* (3,010 m., 9,876 ft.) The *Col de Livournea* (2,851 m., 9,354 ft.) and the *Cima di Livournea* (3,207 m., 10,522 ft.) lead on from the *Mont Redessau* to the *Bec de Lusency* (3,506 m., 11,503 ft.), the loftiest summit in the ridges S. of the *Col de Valcournera*. S. of the *Bec* are the *Becca d'Arbiera* (3,442 m., 11,293 ft.), the *M. Montagnaia* (3,060 m., 10,040 ft.), the *Becca del Merlo* (3,245 m., 10,647 ft.), and the *Mont Pisonet* (3,215 m., 10,548 ft.), with the *Becca d'Acquelon* (3,324 m., 10,906 ft.), on a spur N.W. of the latter point, the succession of peaks above 10,000 ft. soon coming to an end at the *Mont Faroma* (3,072 m., 10,079 ft.)

The ascents of the peaks last named are described in Rte. G. below, and those of the summits N. of the *Château des Dames* in §20. Rte. B. as they are generally made from Breuil. The St. Barthélemy passes also are described in Rte. G. below. Of the



others the Col des Grandes Murailles is of practical use only as affording a means of approaching the Dent d'Hérens from Breuil, and is put in § 20. Rte. B. The remainder of this Route, therefore, describes only the Col de Valcournera and the peaks in its immediate neighbourhood.

The Col de Valcournera (3,147 m., 10,325 ft.) is a short, steep pass, without difficulty to the ordinary mountaineer, and interesting by reason of the fine views it commands of the little-known range on the W. side of the Valpelline. The pass was known to hunters as far back as the last quarter of the seventeenth century.

Starting from Prarayé the traveller crosses the Valpelline torrent by a plank bridge, and then mounts by a track through pine forest to the first hut (visible from Prarayé) in the *Cournera* glen. The path lies along a water channel on the r. side of that glen to the *Ciardonay* huts. Here the traveller must turn N.E., cross some screes, and then ascend moderately steep rocks and grass, above which large loose blocks and patches of snow lead up to a snow couloir, at the upper end of which the pass is gained (2½–3 hrs. from Prarayé). The descent on the other side lies for 5 min. over a small glacier, below which, to the N.E., is the small *Dragone lake*, at the head of the wild *Fontanella* glen, apparently closed in the direction of the Valtournanche by a ridge stretching from N. to S. Following the stream from the lake down a gorge to the r., leading a little E. of S., and climbing down some rather steep rocks, the traveller soon reaches a track that leads into the short and nearly level upland valley of *Fontanella*. Some way below are the *Cigana* huts, whence a mule path winds N.E. round the mountain-side, and leads to *Paquier* (commonly called *Valtournanche*), the chief hamlet in the Valtournanche (2 hrs. from the pass).

From the Col de Valcournera the *Punta di Fontanella* (3,386 m., 11,109 ft.), on the N.W., can be

climbed in 1¼ hr. by its S.E. ridge, but the highest summit of this group, the *Punta del Dragone* (3,394 m., 11,136 ft.), is best ascended in 1½ hr. from the Col du Petit Glacier Bellazà, on the E., by the N.E. arête. The *Dôme de Cian* (3,355 m., 11,008 ft.) is accessible in 1 hr. from the Col de Cian, between it and the Pointe de Cian; the latter point is also attainable in ¾ hr. from that pass, or by the N.E. ridge from the Balanselmo gl., on the N. The *M. Redessau* (3,217 m., 10,555 ft.) can be gained in ¾ hr. from the Col de *Chavancour* (which is reached in 3¼ hrs. from Prarayé), and the higher peak (3,230 m., 10,598 ft.) in 35 min. more by the steep rocks of its S. face.]

If the traveller is bound from the Col de Valcournera to Breuil the shortest way is from the Fontanella plain (¾ hr. from the pass) to bear round E., avoiding unnecessary descents, and so gain the wide opening of the Col de *Dza* (2,442 m., 8,012 ft.), S.E. of the Mont Rouss, in ¾ hr. Breuil is seen hence, and is gained in 1½ hr. more by a faint track over grass slopes. A longer but much finer way is by the Col de *Vofrède* (3,133 m., 10,279 ft.), just S. of the Château des Dames, the ascent of which may be easily made *en route*. From the Dragone lake an easy ascent leads to that Col (1 hr. from the first pass). Thence the upper snows of the Vofrède glacier are descended without difficulty; then snow and rocks on its r. bank, the moraine on the l. bank, and a ravine below bring the traveller down to a point below the Bayettes huts, whence a bridge soon leads over to the l. bank of the main stream in the Valtournanche. Here the mule path is joined and followed up to Breuil (2 hrs. from the pass). From the upper snows of the Vofrède gl. the Château des Dames (3,489 m., 11,447 ft.) may be attained by way of the rocky and snowy S. arête (3 hrs.) The view from the summit

is very extensive, including Mont Blanc, as well as the Combin group and the Arolla and Zermatt peaks. If it is wished to climb the peak on the way to the village of Valtournanche, it is best to ascend the steep rocks of its S.W. face, or to follow its easy S.W. rock arête from the *Col du Petit Glacier Bellazd* (1½ hr.) The last-named pass (3,063 m., 10,050 ft.) is a variation of the Col de Valcournera, and is a shorter route from Prarayé if the destination be Breuil or the Château des Dames.

#### ROUTE G.

##### THROUGH THE VAL ST. BARTHÉLEMY TO THE VALPELLINE OR THE VALTOURNANCHE.

About half-way between Aosta and Châtillon (7½ miles from either place), near the village of Nus (§ 15. Rte. A), a mountain torrent descends from the N. to join the Dora Baltea. This stream rises in the Lusény lake (2,620 m., 8,596 ft.), and in its course of 12 miles drains the **Val St. Barthélemy** and its tributary glens of *Dèche* and *Breva*. This district has been hitherto very little known to travellers, but the recent excellent monograph on it, published by Signori Mondini and Canzio in the 'Bollettino del C. A. I.' for 1894, should do much to attract attention to it. The valley of St. Barthélemy is very picturesque. It is enclosed between two ridges which split off from the watershed between the Valpelline and the Valtournanche at the peak of the *M. Redessau* (3,217 m., 10,555 ft.), thus forming as it were a fork. Of these two ridges that to the W. is by far the most important, for it contains the highest summits (of which the loftiest is the Bec de Lusény, 3,506 m., 11,503 ft.), its lower slopes ex-

panding into green pastures, whereon are all the chief hamlets. This W. ridge is furrowed by two side glens, through which lead the easiest passes to the Valpelline: these give access to Oyace, while four other passes across the N. bit of this W. ridge bring the traveller to Bionaz, or even to Prarayé. There are some easy passes across the E. ridge by which the Torgnon basin, in the Valtournanche, may be gained, the higher parts of that valley being reached by crossing buttresses.

From Nus there are paths on either side of the valley, as far as *La Pra* (that on the r. bank crossing the *Dèche* and *Breva* ravines), where they unite. The principal mule path runs along the l. or E. bank of the glen. It mounts rapidly at first to the hamlet of *Blavy* (1 hr.), then traverses a wide shelf of pasture and crosses in 1½ hr. to the r. bank, soon at a bifurcation zigzagging up a steep slope to the l. (by keeping to the r. at the fork *La Pra* is gained in 1¼ hr. along the r. bank of the torrent), in order to gain **Lignan**, the main hamlet of the commune of *St. Barthélemy* (1,628 m., 5,341 ft.), where is the church (3½ hrs. from Nus). 1½ hr. further over fine pastures on the same side of the valley is the last hamlet, *La Pra* (1,812 m., 5,945 ft.) Here the mule path ends. The chapel of *Champ Plaisant* stands on a promontory, ¾ hr. higher up the valley, and 2 hrs. beyond, just below the lake of Lusény, are the highest huts, *Crotes* (2,403 m., 7,884 ft.), a set of half-subterranean hovels. They are conveniently situated for night quarters, but the traveller will probably prefer to halt at the large *Preterier* huts, ½ hr. below *Crotes*, or at the poor inn at St. Barthélemy itself.

1. *By the Col de St. Barthélemy or de Verdone to Oyace.*—This is the most frequented of all the passes to the Valpelline, as it is the easiest and is traversed by a mule path. The path up the r. bank of the main valley is followed from Nus to the village of *Ville de Nus* (1¼ hr.), and

then bears N.W. up the *Dèche* glen. This glen (like that of Brevia) ends in a steep gorge, but its upper portion is occupied by pastures and many huts. The way mounts by these to the pass, c. 2,650 m., 8,695 ft. ( $3\frac{1}{2}$  hrs. from Ville de Nus), which is also called the Col de Verdon. On the other side opens the *Verdon* glen, through which Oyace may be gained in 2 hrs. from the pass.

2. *By the Col de Vessona to Oyace.*—This pass starts direct from the main hamlet of St. Barthélemy. The way lies N.W. over fine pastures to the *Chaleby* huts ( $1\frac{1}{2}$  hr.), at the head of the Brevia glen, whence a more rapid ascent leads in another hr. to the highest huts, named *Champannamen*. (These may be gained more directly from St. Barthélemy by way of the Fontaney huts in 2 hrs.) Hence a track over pastures and stones leads nearly due W. to the pass, 2,794 m., 9,167 ft. (1 hr.), which commands a noble view, including Mont Blanc. (This may be extended by mounting the *M. Faroma* (3,072 m., 10,079 ft.), on the S.W., 1 hr.) A faint track leads down over great boulders and shifting slopes of stones to the highest huts in the *Vessona* glen ( $\frac{3}{4}$  hr.), situated in a wild hollow. There is a path along the r. side of this glen, which makes a great bend to the r., and it is also possible to descend straight by a faint track (easy to lose) by the stream through a ravine, then amid gigantic larches, and huge fallen blocks, so as to gain the lower huts, *La Vieille*. These stand in a little green plain, formerly a lake basin, which is surrounded by an amphitheatre of rocks, those to the S. being jagged and very steep. The path soon crosses to the l. bank of the torrent, and lies through a glen wherein soft turf and moss-grown rocks alternate with pine forest. *Aquilegia alpina* is here abundant. Further down the high ranges on the opposite side of the Valpelline are well seen, and also the village of Bionaz. Near the mouth of the glen the path turns

W., and descends steeply under larch trees to the savage gorge of the Valpelline torrent. This is crossed by a stone bridge, bearing the date 1688 ( $1\frac{3}{4}$  hr. from the highest huts), whence a steep ascent leads in another  $\frac{1}{2}$  hr. to Oyace.

3. *By the Col de Cunei to Bionaz.*—On the Italian map this pass is called Col de Montagnaia, but this name properly belongs to another pass farther to the N., described below.

Not far from the head of the valley of St. Barthélemy, and nearly due W. of the Preterier huts, there nestles under the E. face of the Becca del Merlo a Sanctuary of considerable local renown, called *Cunei* (spelt Chiny on the Italian map). This consists of a church, dedicated to Notre Dame des Neiges, which was founded about 1650, and was rebuilt on a larger scale in 1869. Several rooms in the adjoining buildings serve to receive the priests who say mass here on August 5 annually, the inhabitants of the valley coming up in a solemn procession. It stands at a height of 2,656 m. (8,714 ft.), in a desolate, stony hollow, wherein grows a kind of juniper, locally known as 'cunea,' which has given its name to the spot. The Sanctuary may be gained from the village of St. Barthélemy by several routes. The most picturesque and direct way is to mount N. over the fine *Fontaney* pastures to the pass of that name, 2,563 m., 8,409 ft. ( $2\frac{1}{4}$  hrs.), whence  $\frac{1}{2}$  hr. suffices to reach the Sanctuary.

☐ From the Sanctuary the *Becca del Merlo* (3,245 m., 10,647 ft.), on the W., may be climbed in about  $3\frac{1}{4}$  hrs. by way of the rocks on the N. side of the conspicuous gully which runs up the E. face of the peak; the N. ridge is thus attained and followed, more or less, to the summit, the last bit being a rock tower. A shorter ascent is that of the *M. Pisonet* (3,215 m., 10,548 ft.), on the S.W., which is made by way of a gully leading up to the N. ridge and then for  $\frac{1}{4}$  hr. along that ridge itself,  $2\frac{1}{2}$  hrs. in all. ☐



To reach the Col de Cunei, it is necessary from the Sanctuary to follow a faint path in a N. direction, which gradually disappears before the traveller attains (1 hr.) a point to the E. of and rather higher than the lowest depression in the ridge, this gap itself (2,952 m., 9,685 ft.) being accessible by steep gullies which there is no need to climb. (20 min. off on the N.E. is the easily attained *M. Montagnaia*, 3,060 m., 10,040 ft.) Slopes of shifting stones lead down towards the *Montagnaia* glen, care being taken to leave on the r. the point marked 2,773 m. on the Italian map, as there are precipices below it. The green basin in which stands the large *Acquelon* hut is thus gained in  $1\frac{1}{4}$  hr. from the pass. Hence a path leads along the r. side of the valley, becoming steeper as it approaches the *Valpeline*, which is gained at the *Puillaye* hut in an hour from *Acquelon*. *Bionaz* is  $\frac{3}{4}$  hr. further down the valley.

4. *By the Col de Montagnaia to Bionaz*.—From St. Barthélemy the valley path is followed for  $2\frac{1}{4}$  hrs. to *Champ Plaisant*, whence a path leads N.W. upto the *Freideron* huts ( $1\frac{1}{4}$  hr.), which lie in a fine green basin dotted with tarns. A faint track runs slightly to the N. round a spur, and by steep grass and stone slopes leads N.W. to the narrow gap of the pass, 2,860 m., 9,383 ft. ( $1\frac{1}{2}$  hr.)

[Hence the ascent of the *Becca d'Arbiera* (3,442 m., 11,293 ft.), on the N., may be made. It is necessary to skirt the lower and serrated bit of the S. arête by descending a little way on the *Valpeline* side of the pass, regaining the ridge in  $\frac{1}{2}$  hr. from the Col, and clambering along it for  $1\frac{1}{4}$  hr. more to the S. and lower summit (3,400 m., 11,155 ft.), composed of two horns.  $\frac{1}{2}$  hr. along the ridge suffices to gain the higher N. summit, which commands a fine view. It is easy to descend by a short round to the N. to the depression marked 2,850 m. (9,351 ft.) on the W. ridge, and so join the route of the Col de

Cunei or of the Col de *Montagnaia* before reaching *Acquelon*. Either peak can be gained direct from the *Preterier* huts, at the head of the St. Barthélemy glen, by way of the gully leading up to the gap between them, 3 hrs.]

From the Col a great slope of stones enables the traveller to join the route of the Col de Cunei, the *Acquelon* hut being attained in  $1\frac{1}{2}$  hr. from the pass.

5. *By the Col de Lusency to Bionaz*.—This pass starts from the *Crotes* huts, at the extreme head of the St. Barthélemy glen,  $4\frac{1}{4}$  hrs. from *Lignan*. The way lies W. past the *Lusency* huts (20 min.), and S. of the lake of that name, over a stony plain, and then up a steep snow slope to the pass, c. 3,100 m., 10,171 ft. ( $2\frac{1}{2}$  hrs.), which is a glacier pass just N.E. of the *Bec de Lusency*.

[From it the *Bec de Lusency* (3,506 m., 11,503 ft.) can be ascended in  $1\frac{1}{2}$  hr. by way of the snowy N.E. arête and E. face. It can also be climbed direct from the *Lusency* huts by the rocky E. face. Mr. Adams-Reilly, who made the first ascent in 1866, climbed from the *Arbiera* glen by the W. and N. arêtes to the N.E. ridge. An easier and shorter ascent from the Col is the *Cina di Livournea* (3,207 m., 10,522 ft.), on the E., which may be gained in  $\frac{3}{4}$  hr. But the *Bec de Lusency* is to be preferred, as it is itself a most beautiful pyramidal snow peak, and being the highest of this group commands the finest view.]

To gain the *Valpeline* the glacier on the other side of the pass must be followed for  $\frac{1}{4}$  hr. Then the traveller must bear sharply to the l. in order to quit the glacier near a conspicuous rocky tower, as the great icefall is impassable. A stony ridge, gradually becoming grassy, leads down to the *Pra Dieu* huts, whence a path runs through the *Arbiera* glen, past the huts of that name, to the *Puillaye* hut, in the *Valpeline* ( $2\frac{3}{4}$  hrs. from the pass), which is  $\frac{3}{4}$  hr. above *Bionaz*.

6. *By the Col de Livournea to Prarayé.*—This is the most direct route from the St. Barthélemy glen to the head of the Valpelline. The pass (2,851 m., 9,354 ft.) is gained without difficulty in about 1 hr. from the Crotes huts past those of Lusoney. It is locally called the Col de Lusoney.

☐ Hence the *Cima di Livournea* (3,207 m., 10,522 ft.) may be climbed in 3½ hrs. by its N.E. and E. ridges, but the ascent is much shorter (¾ hr.) from the true Col de Lusoney, no. 5. above. ☐

Some stones lead down in a few steps to the small Livournea glacier, which is easily crossed. Beyond, the way lies through the *Livournea* glen past the *La Chaz* huts and the *Lei* lake, the Valpelline being attained at the hamlet of *La Nuova* (2½ hrs. from the pass), a short hour below Prarayé.

The passes to the Valtournanche across the ridge forming the E. limit of the St. Barthélemy glen are easier than those over the W. ridge. The *Fenêtre de Cian* (c. 2,750 m., 9,023 ft.) is N. of the Cima Bianca (3,010 m., 9,876 ft.), and leads from the Crotes huts to those of Chavancour, in the Torgnon basin. (After crossing that pass the traveller bound for the village of Valtournanche will do well to mount N. to the Col de Chavancour, and thence traverse N.E. over a level névé plain to the Col de Cian, descending to the village by the glen coming from the Col de Valcournera.) There are also two passes over the ridge S. of the Cima Bianca to the lower part of the Torgnon basin, whence the village of Valtournanche can be attained by way of the *Col d'Ersa* (2,255 m., 7,399 ft.), S. of the M. Ersa (2,769 m., 9,085 ft.)

But the most frequented way from the St. Barthélemy glen to the Valtournanche is by the *Col de Fenêtre* (2,185 m., 7,169 ft.), nearly due E. of the La Pra huts, in the former valley, and a long way S. of the

Cima Bianca. It may be reached in 1½ hr. from La Pra, and 1 hr. more is required for the descent to the hamlet of *Torgnon* (1,489 m., 4,885 ft.), whence a mule path leads down to the Valtournanche, gained (in 1 hr.) at a point ½ hr. above Châtillon.

#### ROUTE H.

#### EVOLENA TO ZERMATT BY FERPÈCLE AND THE COL D'HÉRENS. ASCENTS OF THE DENT BLANCHE.

In Rte. B we described the Arolla glen, the S.W. of the two glens into which the Hérens valley splits at Haudères, above Evolena. We must now proceed to describe the S.E. glen, or that of *Ferpècle*. At the head of the Ferpècle glen is found one of the most extensive snow fields in the Alps. The general form is that of an elbow, being defined by two sets of nearly parallel ridges. On the W. these snow fields are bounded by the ridge which stretches N. from the Dents des Bouquetins through the Aig. de la Za to the Grandes Dents. On the E. the limit is the lofty range which runs from the Wandfluh rock-wall, E. of the Col d'Hérens, through the beautiful peak of the Dent Blanche, N. to the Grand Cornier and Couronne de Bréonna. These two parallel ridges are about 4 or 5 miles from each other. Their S. ends are joined by a snowy ridge, which rises half-way in the snowy pyramid of the *Tête Blanche* (3,750 m., 12,304 ft.), the central point of this icy region, and consequently a panoramic summit of the first order. A ridge, at first scarcely perceptible, runs N. from the Tête Blanche to the rocky promontory of the Mont Miné, thus dividing these great snow fields into two parts. The ice stream flowing down to the W. of this ridge is called

the *Mont Miné* gl., while that to the E. is the *Ferpèche* gl. (the united streams bearing the latter name), both being fed from the same great upper plateau. Hence it is possible to gain this plateau by either of these icy arms, but the W. is more used by parties bound over the Col de Bertol to Arolla, the E. one affording the most direct route over the Col d'Hérens to Zermatt.

From Evolena follow the char road for 1 hr. to *Haudères*, as for Arolla (Rte. B). The rough, stony mule track then bends S.E., and mounts rather rapidly above the r. bank of the torrent past several groups of huts to (1½ hr.) those of *Salay*, near the foot of the *Ferpèche* gl. Here is the quaint little **Ferpèche Inn** (c. 1,800 m., 5,906 ft.), a pleasant sojourning place for several days, as there are a number of expeditions to be made from it.

[The *Col de Zarmine* or *de Veisivi* (3,062 m., 10,046 ft.) to Arolla can be crossed in 6 hrs., it being best to keep on the rocks N.W. of the snow couloir running down to the *Biegnette* gl. Either the *Grande Dent de Veisivi*, 3,425 m., 11,237 ft. (1 hr., quite easy), or the *Petite Dent*, 3,189 m., 10,463 ft. (the harder), may be climbed by its ridge from the Col (2 hrs.) The *Dent Perroc* (3,679 m., 12,071 ft.) may be ascended by its E. arête, this being a fine climb (? hrs.) The *W. Pointe de Mourti* (3,585 m., 11,762 ft.) is accessible easily by its S.W. ridge, but the rather lower E. peak (3,570 m., 11,713 ft.) commands a better view, though it is to be reached only by the N.E. or N.W. ridges (5 hrs. in each case). The *Dent des Rosses* (3,620 m., 11,877 ft.) can be reached in 7 hrs. by the *Rosses* gl. and the S. ridge, and the *Pointe de Bricolla*, 3,663 m., 12,018 ft. (5 hrs. from the inn), in a few minutes from the pass of that name, to the S.E., for which and other passes in the direction of Zinal see Rte. K. below. The *Grand Cornier* (3,969 m., 13,022 ft.)

is best reached by the great W. buttress between the *Bricolla* and *Dent Blanche* gls. of the *Siegfried* map, which is followed to its junction with the main S. arête; it is necessary to keep along the W. base of the teeth on this arête, and so climb up to the summit (6 or 7 hrs. from *Ferpèche*). It is possible to follow the entire very jagged S. arête from the Col du *Grand Cornier* to the summit, but this is very long. Another excursion from *Ferpèche* is to go, by the route to be described in detail presently, to the top of the Col d'Hérens, and back, perhaps ascending the *Tête Blanche* if the weather is favourable, as the view thence is very grand indeed.]

From *Ferpèche* it is possible to reach the upper snow fields near the Col d'Hérens in 3½ hrs. by way of the *Mont Miné* gl., turning both icefalls by the easy moraine on the l. bank of that gl. But (as pointed out above) this route is best suited for those bound for the *Aig. de la Za* and Arolla by the Col de Bertol. Travellers wishing to reach Zermatt direct will find the *Ferpèche* gl. their shortest route.

The **Col d'Hérens** is possibly a very ancient pass, for there is certain evidence of an ancient annual procession from Zermatt to Sion (changed into one to Täsch in 1666), and though it cannot be distinctly proved that it went thither over the glaciers, yet there are other bits of evidence in favour of the existence in the upper Val d'Hérens of a Teutonic colony from Zermatt, dating back certainly to 1455, and perhaps even to the fourteenth century. But the first known passage by a traveller was that by *Principal Forbes*, in 1842. It is a very easy glacier pass. From *Ferpèche* the traveller must follow a path above the r. bank of the *Ferpèche* gl., which mounts rapidly past (1½ hr.) the *Bricolla* chalets, where there was formerly a small inn, burnt down in 1864. Hence the r. bank and the *Manzette* moraine are



followed for 50 min. more to the ice, which is gained at a point close to and W. of the Roc Noir. Here the proper way crosses the N. bit of the gl., passes round above the icefall of the main Ferpècle gl., and then inclines S., keeping to the E. of the rocky island called *Mottarotta*, over the great gently inclined snow fields to the pass, 3,480 m., 11,418 ft. (2 to 3 hrs., according to the state of the snow.) Some grand objects are visible, of which the Matterhorn is pre-eminent, but, in spite of its great height, the pass does not command a very wide panorama. A most wonderful view, extending to the Grand Paradis group, may, however, be obtained from the snowy pyramidal peak to the S.W. of the pass, the **Tête Blanche** (3,750 m., 12,304 ft.), the very easy ascent of which over snow slopes takes only  $\frac{3}{4}$  hr. from the Col, and should not be omitted by any one on the pass in fine weather.

[From the Col d'Hérens the **Dent Blanche** (4,364 m., 14,318 ft.) is well seen. This is often one of the most difficult and dangerous mountains in the Alps, but in some years the conditions are extremely favourable. It was first ascended in 1862 by Messrs. T. S. Kennedy and W. Wigram, with J. B. Croz as leader, by way of the S.W. face and S. arête, the start having been made from the Bricolla chalets, from which the expedition, including a few short halts, took 16 hrs. Mr. Finlaison in 1864 struck out a new route straight up the W. face, but this is very difficult and dangerous, by reason of falling stones. The usual starting point (since the destruction of the *Stockje* hut, on the Zermatt side of the Col d'Hérens) is a very good bivouac (a cave under big boulders) on the Schönbühl, nearly opposite the Stockje. Thence the route keeps up the l. moraine of the Schönbühl gl. till the névé above the icefall is passed. The névé is then crossed, and a big snow and rock couloir leads up to the snow at the furthest N. end of the Wand-

fluh wall, where the S. arête of the mountain touches the snow. This couloir cuts diagonally across the face somewhere below the point marked 3,912 m. Overhanging it is a sort of snow and ice fall (at the top of the Wandfluh wall). It is a *most* dangerous mode of approach, but is much shorter than from the Stockje. The ascent of the peak is then made by the S. arête or its W. face, just below the crest of that arête. Unless the rocks are iced there is no very great difficulty on this route, though (save in exceptional years) none but good climbers should attempt the ascent. 6-7 hrs. are required from the bivouacking place on the Schönbühl, or 5-6 hrs. from the new Club hut on the S. Col de Bertol, Rte. C. The W. and E. arêtes have been forced by first-rate parties, as also the S.E. face, but none of these routes can be recommended for general adoption.]

The Wandfluh rock wall shows a bold front of rock on its S.E. side, but is lowest near the Col, where there are only about 100 ft. of easy but rotten rocks. These are sometimes overhung by a small cornice, which must be cut through. The most westerly arm of the Z'Mutt gl. (called *Stock* gl.) is thus gained. This is always very much crevassed, so that some time may be spent in gaining the W. end of the Stockje buttress. This is descended by a path in a S.E. direction to the edge of the lateral *Tiefenmatten* gl. ( $1\frac{1}{2}$  hr. from the Col), where a Club hut stood for some years, till it was swept away by an avalanche. It is by a path on the crest of the moraine of the Tiefenmatten gl. that the traveller gains the main stream of the great Z'Mutt gl. This huge ice stream, highly interesting to the geologist, from the varied rocks that are found in its moraines, borne down from the precipices of the Matterhorn, Dent d'Hérens, and Dent Blanche, &c., is unpleasing to the eye and tiresome to the feet, from the extraordinary

quantity of débris that covers its level portions, not merely accumulated in moraines, but strewn over the whole surface. It is with satisfaction that the weary traveller, after passing down its centre, finally leaves it on the *r.* bank just before the ice becomes quite covered with stones, and close to the two highest trees on this side of the valley. A path leads hence to the *Staffel* Alp Inn (before reaching it a mule path leads up in 1 hr. to the Schwarzsee Hôtel), from which a mule path, one of the regular tracks of the Zermatt tourist, leads down the *r.* bank of the Z'Mutt torrent to its junction with the path from the St. Théodule (§ 20. Rte. B), by which Zermatt is gained in an hour more (4-5 hrs. from the pass). Time is lost by leaving the Z'Mutt gl. on its *l.* bank, but it is a pleasant variation on the ordinary route to cross (some way below the *Staffel* huts) by a bridge high above the torrent to the hamlet of *Z'Mutt*, on its *l.* bank, and to follow the path along that bank to Zermatt.

as Vissoye, at which village, as well as at St. Luc, Chandolin, Grimentz, and Zinal, good mountain inns have now been opened, as well as the H. Weisshorn, at Têtafayaz, above St. Luc.

The main road up the Rhône valley crosses the Rhône by a bridge about  $\frac{3}{4}$  m. E. of Sierre, and soon after a branch char road bears *r.* (S. W.) gradually up along the mountain-side till, on nearing the gorge of *Pontis*, through which the *Navigenze* descends to join the Rhône, it mounts by zigzags above the *r.* bank to the village of *Niouc* (2 hrs. by carriage).

[A pedestrian may save 1 hr. or so between Sierre and Niouc by turning to the *r.* just beyond the church at Sierre, following the telegraph posts, and then crossing the Rhône by an iron bridge to the village of *Chippis*, from the church of which a very steep path, always following the line of the telegraph posts, leads up to the high road, crossing its zigzags several times and ending just below Niouc, reached thus in 1 hr. from Sierre.]

There are few finer defiles in the Alps than that through which the *Navigenze* has cut its way to join the Rhône. The ravine is in some parts reduced to a mere cleft, reminding the traveller of some of the more striking scenes in the gorge of the *Via Mala*. But little of this ravine is seen from the road which lies at a great height above the stream, and the new road, which in two or three places pierces the rock by short tunnels, is far less picturesque, though also less laborious and shorter, than the old way. The scenery, even with this deduction, is extremely beautiful. The hamlet of *Fang*, lying in the midst of fine walnut trees, is seen below on the *r.*, and soon after there comes into view the church spire of the principal hamlet of the valley, *Vissoye* (1,221 m., 4,006 ft.)

[5 min. before a saw mill (belonging to *Fang*) a mule path leads up on the *l.* in  $1\frac{1}{2}$  hr. to the high-perched village of *St. Luc* (1,643 m.,

ROUTE I.

SIERRE TO ZERMATT BY THE VAL D'ANNIVIERS. ASCENTS FROM ZINAL.

	Hrs.
Niouc . . . . .	1-2
Vissoye . . . . .	$1\frac{1}{2}$
Ayer . . . . .	1
Zinal . . . . .	$1\frac{1}{2}$

Carriage road to Vissoye: mule path thence to Zinal. Zinal to Zermatt: see the passes enumerated below.

Very few valleys in the Alps can boast of such beautiful and varied scenery as the *Val d'AnniviERS* (Germ. *Einfischthal*), or offer passes so singular and so grand as those leading thence to Zermatt. A good carriage road has been carried as far

5,391 ft.), which may also be gained in 1 hr. by another steep mule path direct from Vissoye, or  $3\frac{1}{2}$ –4 hrs. from Sierre. This mountain village, which has been burnt several times, commands a fine view of the Val d'Anniviers, as well as of the Matterhorn, seen over the depression of the Col Durand. The flora is extensive, but the slopes on which it stands are treeless just here. The chief object of most visitors to St. Luc is the ascent of the N.W. peak (3,001 m., 9,846 ft.) of the **Bella Tola** (the highest and S.E. point is 3,028 m., 9,935 ft.) It may be observed as a general rule that all the detached summits lying between the great ranges of the Pennine and the Bernese Alps command panoramic views that amply reward an ascent, when made with favourable weather. That of the Bella Tola is now one of the most easily accessible, as the villagers have made a mule track by which the summit is gained in 3 hrs. from St. Luc. A good walker can return to St. Luc by descending to the Bella Tola gl., E. of the peak, and then scrambling over the ridge between the peak and the Schwarzhorn. From that gl. it is easy to descend to Turtmann by the *Meretschi* and *Asp* Alps. Another interesting route by which St. Luc may be approached from the Rhône valley is by a torrent which joins that river opposite the town of Leuk, and leads up to the *Ill* lake, lying under the *Illhorn* (2,724 m., 8,937 ft.) This is a point commanding a fine view, and rising at the edge of the singular *Illgraben*, an extraordinary funnel-shaped hollow, about 1,500 ft. deep. The ridge enclosing it on the Rhône valley side is too narrow and crumbling to be traversed, but the *Illhorn* is easily gained from the mule path leading from Susten or Turtmann to St. Luc, and the edge of the chasm can also be reached at a lower point. This path passes in great part through forest, and then crosses a depression between the *Illhorn* and the Schwarzhorn, from

which the descent may be made either S.W. to St. Luc or to *Chandolin*, further N. About  $6\frac{1}{2}$  hrs. are required from Susten to St. Luc, and 5 in the reverse direction.】

【2 hrs. S.E. of Vissoye by a mule path through fine forests is the splendidly situated **Hôtel Weisshorn** (2,345 m., 7,694 ft.), which is  $1\frac{1}{2}$  hr. from St. Luc through another portion of the same great forest. Many rare Alpine plants are found near it, while it is a capital centre for many pleasant walks and easy excursions, amongst which the following may be mentioned. The little *Lac de Tounot* is  $1\frac{1}{4}$  hr. distant, while the *Pte. Tounot* (3,022 m., 9,915 ft.), above it, is easily gained in 2 hrs. from the inn;  $1\frac{1}{2}$  hr. further to the S.E. is the *Plumatt* (3,084 m., 10,119 ft.) The *Bella Tola* is accessible in  $2\frac{3}{4}$  hrs., joining the zigzag path from St. Luc. *Chandolin* may be reached in 3 hrs., keeping on the hill-side well above the woods. It is an agreeable excursion to go S. by a mule path over magnificent pastures, keeping high above the steep E. wall of the Val d'Anniviers, to the *Lirec* huts, whence a zigzag mule path leads down to Zinal,  $3\frac{1}{2}$  hrs.】

The stranger cannot fail to be struck by the large number of villages and scattered houses seen in the Val d'Anniviers near and above Vissoye. Even more than in the Val d'Hérens the natives lead a nomadic life in summer, and each family has a number of dwellings, which sometimes exceeds that of the inmates. Fires have been particularly destructive here, and few villages have escaped. Evidence of the industry of the people is seen in the unusual number of water channels, often several miles in length, by which the bare mountain slopes have been made to burst into verdure.

A mule track leads from Vissoye along the r. bank of the Navigenze past *Quimet*, *Mission*, and *Ayer*, all poor-looking places; the second-named is opposite *Grimentz*, at the fork of the valley where the stream from the Val de Torrent or de Moiry



joins the main branch of the Navigenze. Above Ayer there are no winter dwellings, the numerous hamlets consisting only of *mayens*, or houses inhabited in spring and summer and occasionally in winter. About 1 m. further the torrent is crossed to its l. bank. The track ascends through pine forests, and returning higher up to the r. bank passes by several clusters of houses, at one of which, called *Zinal* (1,678 m., 5,505 ft.), are the hôtels.

*Zinal* has now become a favourite resort of travellers, for even in its immediate neighbourhood, and still more from the Mountet Club hut, on the edge of the upper basin of the grand *Zinal gl.*, many excursions and ascents may be made.

One of the shortest excursions is to mount to the *Tracuit* alp, on the S.E., ascend the *Roc de la Vache* (2,587 m., 8,488 ft.), on the edge of the cliffs towards *Zinal*, and return by the *Arpilletta* alp (glorious view of the *Weisshorn* and *Rothhorn*, and the basin of the *Moming gl.*) and across the snout of the *Zinal gl.* This round may be agreeably lengthened by crossing from one Alp to the other over the ridge (whence there is a remarkable view) connecting the *Tête de Millon* and the *Pointe d'Arpilletta*. The *Tête de Millon* (3,698 m., 12,133 ft.) may be climbed in 6 hrs. from *Zinal*, the *Pointe d'Arpilletta* (3,140 m., 10,302 ft.) in 4 hrs., and the *Garde de Bordon* (3,316 m., 10,880 ft.), on the opposite side of the valley, in 4 hrs., mounting from the path to the *Col de Sorebois*, and returning by the *Alpe de l'Allée*. The *Pigne de l'Allée* (3,404 m., 11,168 ft.) is also frequently ascended from *Zinal* by way of its N. ridge in 6 hrs.; it is easy to continue along the ridge to the *Bouquetin*, 3,484 m., 11,431 ft. (see Rte. K.) The fine peak of *Lo Besso* (3,675 m., 12,058 ft.)—so conspicuous from *Zinal*—is best climbed from the *Mountet Club hut*. Of all the ascents close to *Zinal* that of the *Diablons*,

3,605 m., 11,828 ft. (5 hrs.), is perhaps most to be recommended for the view; it is best effected by the S.W. rock ridge, or face, but may be accomplished also by the S.E. ridge from the *Col de Tracuit*, while the N. ridge offers the most interesting climb. The panorama gained from the summit is of the grandest character.]

No visitor to *Zinal* should omit to make an excursion at least as far as the *Mountet Club hut*, as the view thence is one of the most magnificent in the Alps. The path up the valley soon crosses the torrent from the glacier, and mounts over a barrier of rock, through a cleft in which the stream has cut its way. The track keeps along the l. or W. bank, at some height above the ice, then takes to the steep lateral moraine (here there is now a small Restaurant), and finally leads the traveller to the ice of the *Zinal* or *Durand gl.* (2 hrs. from *Zinal*.) The lower part of this glacier is free from difficulty, and the course taken is to cross diagonally towards the foot of *Lo Besso*, which is here an extremely grand object. The traveller is now confronted by a series of rapids, in which the glacier descends from the upper basin to the lower level hitherto traversed. In order to turn the great icefall (which may be forced) it is best to take to the moraine on the r. bank, just under *Lo Besso*. Above these ice rapids the traveller reaches the upper level of the glacier, high above the r. bank of which, and in the midst of one of the grandest scenes in the Alps, stands the *Constantia* or *Mountet Club hut*, 2,888 m., 9,475 ft. ( $3\frac{1}{2}$ –4 hrs. from *Zinal*), which is now a sort of little inn, with resident caretaker in summer. The amphitheatre enclosing the head of the glacier comprises four glorious peaks, the *Zinal* or *Moming Rothhorn* (4,223 m., 13,856 ft.), the *Gabelhorn* (4,073 m., 13,364 ft.), the *Dent Blanche* (4,364 m., 14,318 ft.), and the *Grand Cornier* (3,969 m., 13,022 ft.), the steepness and the proximity of this mighty range greatly enhancing

the effect, which in its way is hardly equalled elsewhere. The traveller, who does not propose to cross any of the passes hence to Zermatt, should not fail to visit (1 hr. from the Club hut) the *Roc Noir* (3,128 m., 10,263 ft.), a rocky island in the very centre of this wonderful amphitheatre of ice and rock.

[The ascents of the Gabelhorn and of the Dent Blanche from the Mountet side are very difficult, and even dangerous, so that only the most experienced climbers should attempt them. That of the *Grand Cornier* is much easier, and takes about 4 hrs. from the Club hut by way of the route of the Col du Grand Cornier (Rte. K) and the E. ridge. *Lo Besso* (3,675 m., 12,058 ft.) is accessible in 3 hrs. from the Club hut by the S.W. ridge. The favourite ascent from Mountet (for good climbers) is that of the *Zinal* or *Moming Rothhorn* (6 hrs.) by its rocky N. arête, an expedition first made in 1864 by Messrs. Leslie Stephen and F. C. Grove, with Melchior and Jakob Anderegg; it is frequently traversed to Zermatt.]

Fifty years ago none but the most vague and contradictory notions existed at Zermatt as to the possibility of effecting a passage across the range extending from the Weisshorn to the Dent Blanche, and the common belief was that such a pass, if feasible, would lead into the Val d'Hérens rather than into the Val d'Anniviers. When the writer (J. B.) had satisfied himself (in 1853) that the latter valley ran into the heart of the snowy chain to the very foot of the Dent Blanche, it would have been very difficult, if not impossible, to find a native of either valley who would have agreed to accompany a stranger in the attempt to accomplish a pass between the adjoining valleys. Now at least four main glacier passes are known between the Anniviers and the Zermatt valleys.

1. *By the Col Durand* (10-11 hrs. from Zinal).—This pass forms the S. termination of the Durand or Zinal

gl., being the lowest point in the range connecting the Gabelhorn and the Dent Blanche. It is seen from many of the higher points in the Val d'Anniviers, and even from the village of St. Luc, with the peak of the Matterhorn towering over it. The first known passage by strangers was that effected in August, 1859, by Messrs. W. and G. S. Mathews, with J. B. and Michel Croz and Joseph Viennin, but a Zinal party had crossed it in 1858. It is best taken from the Zinal side, as the effect of the grand view from the summit is enhanced by the charm of surprise, and because the only difficulty is on the Zinal side. Projecting buttresses of rock descending from the great peaks round the head of the Durand gl. divide the snow fields into different bays; the main stream of that gl. leads straight to the Col Durand, while the bay leading to the Triftjoch is seen to the l. of the great buttress of the Gabelhorn.

The traveller starting from the Mountet Club hut must keep a course over the glacier in a nearly due S. direction, having the rocky island of the Roc Noir on his right hand. Some way higher up the slope there is a double bergschrund, which is sometimes troublesome. (Examined through a glass by the writer, in September 1853, it appeared to extend, without a bridge, right across the head of the glacier, with a breadth of from twenty to thirty feet.) Once over this barrier, a steep snow slope, only troublesome if it is ice and gradually decreasing in steepness, leads up to this pass, 3,474 m., 11,398 ft. (2½ hrs. from Mountet.)

The view from the summit which bursts suddenly upon the traveller, or better still from an eminence on the r. or W. of the Col, and marked by a cairn, is by competent judges considered to be the grandest in the Pennine Alps. Right opposite the marvellous peak of the Matterhorn presents its most imposing aspect, flanked on the r. by its rival, the

Dent d'Hérens. To the l. is the mass of the range of Monte Rosa, somewhat foreshortened, while N. of the Weissthor rise the Strahlhorn and the Rimpfischhorn. As compared with the neighbouring pass of the Triftjoch the panorama loses the highest summits of the Saasgrat, but the loss is more than made up by the Matterhorn, not seen from the rival pass. The peaks surrounding the head of the Zinal gl. must not be forgotten, the Dent Blanche seeming to be close at hand, though separated by the rocky point of the *Pointe de Zinal* (3,806 m., 12,487 ft.), which crowns the ridge dividing the *Hohwäng* and the *Schönbühl* glaciers.

The descent to the Z'Mutt gl. may be sometimes effected under favourable conditions direct down the centre of the icefall of the Hohwäng gl. The traveller will generally cross the gap between the Hohwänghorn and the Ebihorn, on the l. bank of the glacier, but it may be found best to bear r. from the upper Hohwäng gl. to the rocks on its r. bank, by which the Z'Mutt gl. is gained without difficulty (2 hrs.) The l. bank of that glacier and the track above it are followed, past the hamlet of Z'Mutt, to Zermatt (2 hrs.)

2. *By the Triftjoch* (9-10 hrs. from Zinal).—The remains of a ladder were found on this pass by a chamois hunter some years before 1845, and again by the curé of Täsch in 1849, so that at some unknown period it had been not unfrequently crossed by natives. But it was the first passage by a stranger, effected in 1854 by Mr. R. Fowler, with Arnold Kehrli, of Gadmen, and Ignaz Biener, of Zermatt, that made it known to mountaineers in general.

The traveller coming from the Mountet Club hut must bear S.E. across the glacier to the bay lying E. of the great spur of the Gabelhorn, and then gradually steer more and more to the E. A snow slope, broken by crevasses, leads up to the rocks of the Trifhorn, which are

easily climbed (there is an iron chain at the worst bit) to the pass, 3,540 m., 11,615 ft. (2½-3 hrs. from Mountet.) The only real danger is on the lower rocks and lower snow slope, by reason of fragments of rock that are loosened when the sun begins to tell on the crest of the ridge.

The pass is a mere notch in the ridge between the *Wellenkuppe* (3,910 m., 12,829 ft.), a summit of the Gabelhorn, and the *Trifhorn* (3,737 m., 12,261 ft.), a few feet in width, and so sharp that it is possible to sit astride of the ridge. The view of Monte Rosa and of the Saasgrat is of the grandest character, and is only surpassed by that from the two passes to be described below. The view backwards, where the rocks seem to plunge vertically down towards the head of the Zinal gl., is scarcely less striking.

A broad bent couloir runs down from the Col to the level *Trift* gl., across which a course due E. should be kept to the *Esaltschuggen* rocks, whence moraine leads down into the Trift gorge, in which the path from the Trift inn is found and followed to Zermatt (3 hrs. from the pass).

3. *By the Moming Pass* (13-13½ hrs. from Zinal).—This is the most difficult of the four passes here described. It was first crossed in 1864 by Messrs. A. W. Moore and E. Whymper, with Christian Almer and Michel Croz. The Editor (J. B.) is indebted to the former gentleman for the following notes (abridged in the present edition):—'The Moming gl. is fed by a great field of névé, which lies along the base of the ridge that circles round from the Schallhorn through the Rothorn to Lo Besso. This is supported, at a great elevation above the lower gl., by a wall of rocks, the general direction of which, speaking roughly, is E. and W. Between the W. end of this wall and Lo Besso there is a wide opening, through which the glacier streams in a broad icefall, but the space between its E. end and the



Schallihorn is very contracted, and the glacier is on that side squeezed through in a confused mass of precipitous séracs and ice cliffs of the most impracticable character. The true *Moming Pass*, or Ober Schallijoch (3,745 m., 12,287 ft.), lies at the head of this, but we crossed the ridge at a slightly higher point (3,793 m., 12,445 ft.) a very little farther S. and nearer the Rothhorn.' These two passes are separated by the *Moming* peak (3,867 m., 12,687 ft.), the N. pass being used if it is wished to attain Randa, and the S. pass, the easier, if Zermatt be aimed at. Mr. Moore's party, in order to have plenty of time for exploration, slept at the highest chalet on the Arpitetta Alp, 2½ hrs. from Zinal, but now that the route is known a good party can start from Zinal itself. 'Leaving the chalet at 5.40 A.M., we got on to the *Weisshorn* gl. in 35 min. without difficulty. This gl. flows from the ridge between the Weisshorn and the Schallihorn; in its upper portion it is separated from the *Moming* gl. by a spur from the Schallihorn, but lower down the two are united, the division being merely indicated by a medial moraine. We crossed it and the moraine beyond, and so reached the *Moming* gl. at a point where the ice was smooth and level.' Mr. Moore's party attempted to force a way direct up the ice cliffs below the Col, but had to make a dangerous traverse in order to gain the rocks of the Schallihorn. It has since been found better to climb these red rocks at once, and then to traverse a snow field to the rocks of the *Moming* peak, by which and a steep ice or snow slope either pass is reached (5 hrs. from the chalet). The view from the pass is magnificent. Nowadays the pass is generally taken from the Mountet Club hut, the Rothhorn route being followed till, shortly after the rocks on the W. arête are gained, it is easy to drop down on to the upper level of the *Moming* glacier.

Mr. Moore's party, in bad weather,

encountered considerable difficulty in forcing a way through the séracs on the Zermatt side of the pass. But generally these do not give much trouble, unless under exceptional circumstances, and the névé of the *Hohlicht* gl. is easily gained. 'The névé reached, we bore away to the r., and keeping close under the cliffs of the Rothhorn, without much ascent, got on to the ridge which runs from that peak to the Mettelhorn, and forms the r. bank of the Rothhorn gl.' It is best to aim at a broad opening in this ridge, farther E. than the point attained by Mr. Moore's party, this opening being attained by a considerable ascent in about 3 hrs. from the *Moming* Pass. This ridge is then followed till it sinks into the Rothhorn gl., or that gl. gained direct higher up by snow slopes. This gl. is crossed in a S.W. direction, till finally the Triftjoch route is struck at the Eseltschuggen rocks, and followed henceforth to Zermatt (5½ hrs. from the *Moming* Pass).

4. *By the Schallijoch* (10-11 hrs. from Zinal).—As above mentioned the pass called Ober Schallijoch is really the N. *Moming* Pass, and thence a difficult rock descent leads down to the Schalliberg gl. But the Schallijoch proper lies on the other side of the *Schallihorn* (3,958 m., 12,986 ft.), and leads from the Weisshorn to the Schalliberg gl. It was first traversed in 1864 by Messrs. J. J. Hornby and T. H. Philpott, with Christian Almer and Christian Lauener.

From the highest Arpitetta chalet (2½ hrs. from Zinal) the Weisshorn gl. is easily reached in 1 hr., and another hour suffices to force a way through the séracs to the upper plateau of that gl., at the foot of the final ascent to the pass. The first party cut up steep ice slopes direct to the Col. But it is in every way preferable to take to the Weisshorn rocks on the l. of the pass, and to mount them till a final steep snow slope gives access to the Col (4 hrs. from the chalet). More séracs lead

down to the Schalliberg gl., which is quitted in 1 hr. on its r. bank, 2½ hrs. more sufficing to reach Randa.

The *Weisshorn* (4,512 m., 14,804 ft.) has been scaled a few times by a very difficult and dangerous route from the Weisshorn gl. by its great W. face, while in 1895 Mr. Broome succeeded, under very favourable circumstances, in following the ridge from the Schallijoch to the summit (5½ hrs.); but these are *tours de force*, and the best route up the peak (§ 20. Rte. A) is from a bivouac on the Hohlicht, passed on the way from the Schallijoch to Randa.

## ROUTE K.

### EVOLENA TO THE VAL D'ANNIVIERS.

A glance at the map suffices to show that in order to go from Evolena to the upper portion of the Val d'Anniviers it is necessary to cross two ridges, save at points far to the N. and to the S. This is due to the fact that the ridge dividing the Hérens and Anniviers glens is split into two ranges by the *Val de Torrent* or *de Moiry*, the head of which is closed by the considerable *Moiry* gl., formed in the acute angle between two ridges that diverge from the peak of the Grand Cornier. The more westerly of these ridges separates the Val d'Hérens from the Torrent glen, while the more easterly runs due N. to the *Corne de Sorebois* (2,923 m., 9,590 ft.), and forms the boundary between the Torrent and Zinal branches of the Val d'Anniviers. The two points at which a single ridge is crossed on the way from the main Hérens to the main Anniviers valleys are the first and last of the passes described in this route, the *Pas de Lona*, leading to *Grimentz*, at the junction of the two branches of

the Anniviers valley, and the *Col du Grand Cornier*, direct to the Mountet Club hut. Travellers bound from Arolla to Zinal may cross the N. Col de Bertol, and then one of the passes (described below) from Ferpècle; but if it be wished to accomplish the distance in a single day an active traveller might cross the Col de Zarmine, and then the Col de Couronne and the Col de l'Allée, though it is far better to take a shorter route from Haudères direct to the hamlet of *La Sage* (conspicuous by reason of the white spire of its church), and then to cross some of the passes N. of the two just mentioned.

1. *By the Pas de Lona*.—This pass (2,767 m., 9,078 ft.) is traversed by a mule path, and takes about 6½ hrs. from Evolena to Vissoye. The way from Evolena lies over the *Volovron* alp, and the descent is made to *Grimentz*, an hour above Vissoye. From the pass the highest point of the *Becs de Bosson* (3,154 m., 10,348 ft.) can be reached in 1 hr. (hence a descent may be made by the pastures and wooded gorge of *Rechy* to the *Granges* rly. stat., in the Rhône valley below Sierre.)

2. At least three passes lead over from Evolena to the *Torrent* glen, below the Moiry gl. Of these the two most to the S.—*Col du Zaté* (2,875 m., 9,433 ft.) and *Col de Bréonna* (2,918 m., 9,574 ft.)—are rarely taken unless it is wished to visit the lower part of the Moiry gl. *en route*. The most northerly is the *Col de Torrent* (2,924 m., 9,593 ft.), which, combined with the *Col de Sorebois*, 2,825 m., 9,269 ft. (the N. foot of the ridge extending N. of which may be rounded at *Grimentz*, whence there is a good path through the forest to Zinal, one ridge only being thus crossed), is the usual route from Evolena to Zinal, as both are traversed by a good track (8-9 hrs.), though mules generally avoid the second pass and go by *Grimentz*.

'Leaving Evolena follow the road

towards Haudères for 10 min., and then mount a path eastwards up the mountain slopes past the hamlet of *Villa* and over the *Cotter* alp, in the direction of a gap dividing the Val d'Hérens from the Val de Moiry or de Torrent. In 3 hrs. the top of the slopes is gained, and  $\frac{1}{2}$  hr. more suffices for the last ascent, a stiff rise over flat rocks intermingled with snow patches and shale banks, to the **Col de Torrent**. A rude cross in the gap marks the Col. To the N. is the *Sasseneire* (3,259 m., 10,693 ft.), accessible in 1 hr. from the pass. *Leontodon Taraxaci* is found in abundance near the summit of the pass. Looking back westwards from the Col the view includes the range from the Mont Collon to the Pigne d'Arolla, with the Grand Combin and the Mont Vélan in the distance. The view eastwards is not so fine, but below the Col the little snow-fed *Lac de Zozanne* forms a pleasing object in the wild scenery around, the snow on this side being more abundant than on the Evolena side. The descent to the lake is made in 15 min. Descending the slopes beyond the route lies among groups of fantastically-shaped rocks. The descent lies over the *Torrent* alp, near a mountain stream, on the N. bank of which a steep, zigzag path leads in  $1\frac{1}{4}$  hr. from the lake to the *Zatelet Praz* chalets, in the Val de Torrent. The glacier at the head of this glen is not seen, and the scenery reminds the traveller of a Highland strath' (F. W. J., *revised*). These chalets are  $1\frac{1}{2}$  hr. above Grimentz, but the traveller bound from Zinal must cross the *Torrent* or main branch of the Navigenze, and then mount gently in a N.E. direction towards the **Col de Sorebois**. 'The last ascent is steep, amongst rocks and snow patches, but the mule path takes an easier route to the N. The pass may be gained in 2 hrs. from the valley. The *Corne de Sorebois* (2,923 m., 9,590 ft.), on the N., can be gained in a few minutes, and the *Garde de*

*Bordon* (3,316 m., 10,880 ft.) by a longer climb. The view westwards from the Col is confined, by reason of the greater elevation of the first chain crossed, but eastwards towards the Weisshorn and the range on the further side of the Val d'Anniviers it is more interesting' (F. W. J., *revised*). From the Col the path leads down in a S.E. direction over the *Singline* alp till the Navigenze is crossed a short distance above Zinal, which is reached in  $1\frac{1}{4}$  hr. from the pass. Pedestrians may take a short cut through the woods some way N. of the Singline huts.

3. The extensive *Moiry* gl. may be reached direct from Evolena by at least one pass, the *Col de Couronne* (3,016 m., 9,895 ft.), just S. of the *Couronne de Bréonna* (3,164 m., 10,381 ft., accessible in 20 min.); in this way a point far below the shrunken lower portion of the glacier is attained, and then either the very stony *Col de Bordon* (3,095 m., 10,155 ft.) or the *Col de l'Allée* crossed to Zinal (9 hrs. or so). It is more convenient, however, to make Ferpècle the starting point. Hence two passes give access to the upper portion of the great *Moiry* gl. The more northerly is the *Col de Moiry* (between the Dent des Rosses and the Pointes de Mourti), a pass suggested in the first edition of this book, and first effected in 1864 by Messrs. Hornby and Philpott, with Christian Lauener and Joseph Viennein. Steep rocks led up to the pass, and a very steep cliff of crumbling rocks down to the gl., which was crossed (the ascent is next to nothing) in a N.E. direction to the Col de l'Allée, whence steep rock, shale, and snow led down to the *Allée* alp, by which Zinal was gained in rather over 12 hrs. (including halts) from Evolena, i.e.  $9\frac{1}{2}$  hrs. from Ferpècle. The more southerly pass is the **Col de la Pointe de Bricolla**, just S. of the *Pointe de Bricolla*, 3,663 m., 12,018 ft. (accessible in 10 min.) The rocks on the Ferpècle side are easier than



those of the Col de Moiry, while the Moiry gl. is reached at once. The ascent of the *Grand Cornier* (3,969 m., 13,022 ft.) from the head of the Moiry gl. is not easy (3 hrs. from its N.W. foot by the N.W. ridge direct, this route being harder and shorter, but safer, than that up the W. face, which is dangerous from falling stones); but it is well worth while to visit the point in its N. arête, called **Bouquetin** (3,484 m., 11,431 ft.), which is perfectly easy of access from the gl., and commands a splendid view of the great cirque at the head of the Zinal or Durand gl. Both summits may be also ascended from Zinal (see last Rte.)

4. *By the Col du Grand Cornier.*—As observed above the traverse of this pass involves the passage of but a single ridge, while it leads direct to the Mountet Club hut, and so enables a mountaineer to reach Zermatt the same day by the Triftjoch, or to avoid losing half a day through the necessity otherwise of descending to Zinal, and reascending to the Club hut. By an unfortunate slip it is called Col de la Dent Blanche on the Siegfried map, a name which is perfectly suited to it, but has, in Alpine literature, been applied to two other, quite different, passes. This pass was first crossed in 1864 by the same party which traversed the Col de Moiry. The Col d'Hérens route is followed from Ferpècle to the *Bricolla* alp, where it is necessary to bear S.E., then E. by moraine and an easy gl. to the pass, 3,544 m., 11,628 ft. (4 hrs.) Rocks on the l. of a great couloir lead down a rock wall and across a bergschrund to the gl. on the other side, the séracs of which are generally best forced on its S. or r. bank. Mountet is gained in  $1\frac{1}{2}$ –2 hrs. from the pass. The *Grand Cornier* (3,969 m., 13,022 ft.) is best climbed either by gaining the S. arête high up (see Rte H.), and then keeping to its W. slope (to follow the ridge from the Col itself is long and very difficult), or from the E. side of the Col by its E. arête ( $2\frac{1}{2}$  hrs. from the gl.)

## ROUTE L.

## VAL D'ANNIVIERS TO GRUBEN.

The ridge between the Val d'Anniviers and the Turtmann valley on the E. (described in next Rte.) is a single one, unlike that mentioned in Rte. K. and is crossed by several passes. The first two passes described below are best taken from St. Luc, or the Hôtel Weisshorn; the Pas de Forcletta can be gained either from that place or from Zinal, while the last pair are most conveniently reached from Zinal as a starting point. The Col de Tracuit alone offers any real difficulties.

1. *By the Pas du Bœuf* ( $4\frac{1}{2}$ –5 hrs.)—This pass lies just S. of the Bella Tola (accessible thence in  $\frac{1}{4}$  hr.), and offers the most direct route to Turtmann. Pastures and slopes of stones lead up to the Col on the St. Luc side ( $2\frac{1}{2}$  hrs.), while there is a snow slope on the other side, by which the *Borter* glen and then the *Pletschen* chalets are attained. At these huts the traveller bound for the Turtmann village bears to the N., but in order to attain the inn at Gruben a S.E. direction must be kept past some other huts, whence a path leads down into the Turtmann glen, some way below Gruben.

2. *By the Z'Meiden Pass* ( $4\frac{1}{2}$ –5 hrs. from St. Luc,  $3\frac{1}{2}$  hrs. from the Hôtel Weisshorn).—This pass is traversed by a mule path, and so is the usual route between the two valleys. Ascending nearly due E. from St. Luc, the traveller gains a point whence he may take a last view of the beautiful Val d'Anniviers, and then mounts by a gentle slope towards the *Pointe Tounot* (3,022 m., 9,915 ft.), on the l. of which lies the pass. In approaching the Col an extraordinary scene of desolation is passed on the r. Some huge mountain mass seems to have fallen, and to have covered the slopes with its ruins, and

similar masses, not on quite so vast a scale, have covered the basin on the E. side of the pass. The botanist may gather *Woodsia hyperborea* and some other rare plants on the rocks near the top of the Col (2,772 m., 9,095 ft.) (A point N. of the pass, reached in  $\frac{1}{2}$  hr., commands a fine panoramic view.) A wild basin strewn with rocks is now traversed until, on approaching the verge of the steep descent into the Turtmann valley, at the *Meiden* huts, a very grand view of the head of that valley opens before the traveller. The great Turtmann gl. is seen, backed by the *Barrhorn* (3,621 m., 11,880 ft.) and the *Brunnegghorn* (3,846 m., 12,619 ft.) A forest is traversed on the way down to Gruben.

3. *By the Pas de Forcletta* (6 hrs.)

—This is an easy pass (mule path from Ayer, St. Luc, and Hôtel Weisshorn), but rather longer than the two just described. If coming from St. Luc a S.E. direction should be kept through the Tounot glen; if coming from Zinal (a mule path throughout) the cross path by the Lirec huts to the Hôtel Weisshorn is followed till the path mounting due E. from Ayer to the pass is struck. A bare valley leads down on the other side to the Turtmann glen some way above Gruben. The *Pointe Tounot* (3,022 m., 9,915 ft.) may be climbed by its S. face on the way from St. Luc to the pass, which is 2,886 m. (9,469 ft.), and 2 hrs. from the Hôtel Weisshorn.

4. *By the Frilijoch* (6 hrs.)—This is a rougher and higher pass than the Forcletta. It lies close to a hanging glacier of the Diablons, and just S. of the *Frilihorn*, 3,101 m., 10,174 ft. (accessible in  $\frac{1}{2}$  hr. from the pass, but is better reached direct from the N. fork of the *Barneuz* glen); the descent leads to the l. bank of the great Turtmann gl., on which an excursion can be made before descending by the l. side of the valley to Gruben. The Weisshorn is remarkably fine from both peak and pass. It seems probable that this is

the pass described by Mr. Moore in vol. i. of the 'Alpine Journal' under the name of 'Pas de la Forcletta.' By turning to the S. after leaving the Frilijoch, Zinal may be regained by the Col de Tracuit (8 hrs. from Zinal and back).

5. *By the Col de Tracuit* (7–8 hrs.)—Mountaineers going from Zinal to Gruben should certainly take this pass in preference to the others here described, for it passes through fine scenery, and, besides, the *Diablons* (3,605 m., 11,828 ft.) can thence be ascended by its S.E. arête in  $1\frac{1}{2}$  hr. A path leads past the *Tracuit* alp to the upper pastures (one of the regular excursions from Zinal), whence a stony glen and a steep slope of débris and snow give access to the pass, also called the *Col des Diablons*, 3,252 m., 10,670 ft. ( $3\frac{1}{2}$ –4 hrs.) More snow slopes lead down to the head of the upper icefall of the W. branch of the extensive Turtmann gl., which is turned by the débris on its l. bank. The lower icefall is turned by rocks on the same side, but the rock wall here is composed of rotten rocks, which are, too, very steep, and exposed to falling ice and stones. This is the only real difficulty of the expedition. The foot of the main Turtmann gl. is soon reached, and Gruben by the path along the l. bank of the torrent. By crossing the plateau between the two icefalls, and then climbing over the rocky ridge between the two branches of the Turtmann gl., the E. or main branch of that gl. may be gained, and in that way either the *Brunneggjoch* or the *Biesjoch*, both described in the next Rte., attained. The same route gives access by a steep slope of snow or ice to the *Bieshorn* (4,161 m., 13,652 ft.), W. of the latter pass and commanding a magnificent view.

## ROUTE M.

GRUBEN TO ST. NIKLAUS AND  
RANDA.

The **Turtmann glen**, which opens into the valley of the Rhône at the little town of that name, well deserves a visit from any traveller exploring this neighbourhood. Occupied by forest, rock, and mountain pastures, it contains no permanent habitations. The numerous hamlets which are laid down on the maps, and may be seen from the mountains enclosing the glen, all consist of *mayens* (or spring dwellings), which are closed in winter, when the people descend to their homes in the Rhône valley, and also in summer, when the herdsmen move up to the higher pastures. A little inn is, however, now open during the summer opposite the *mayen* hamlet called **Gruben**, or **Meiden**, and travellers will no longer be forced to pass the night there without food or shelter, as happened to the writer (J. B.) in August, 1845. As the temporary dwellers of this glen come up from the German-speaking town of Turtmann, it ranks as the most westerly on the S. side of the Rhône valley in which German has superseded French as the tongue of the inhabitants. It is  $3\frac{1}{2}$ –4 hrs. from Turtmann to Gruben by the mule track, which keeps mainly to the l. bank of the torrent. It ascends steeply above the gorge in which is a striking waterfall (sometimes visited at the cost of a few minutes' walk from Turtmann), and then passes through a magnificent pine forest, in which of late years the axe has made extensive clearings. The little inn at Gruben stands at a height of about 1,800 m. (4,906 ft.), in a green meadow, above the l. (formerly the r.) bank of the stream. *Linnaea borealis* has been found in the neighbourhood of Gruben.

The chief excursions to be made

hence are that to the extensive Turtmann gl., at the head of the valley ( $1\frac{1}{4}$  hr.), and up the Schwarzhorn (3,204 m., 10,512 ft.), on the E., both of which are described below, as they form part of the routes to the Zermatt valley. For the passes from Gruben to the Anniviers valley see Rte. L.

There are at least five main passes across the ridge separating the Turtmann glen from the Zermatt valley on the E., while many pleasant variations may be made by those so inclined. None of the passes here described offer any great difficulties, save the Randa side of the Biesjoch.

1. *By the Augstbord Pass* (6–6 $\frac{1}{2}$  hrs.)—This is the most direct and favourite route, as there is a mule path (frequently, however, closed by snow) all the way, and the Schwarzhorn can be climbed *en route*. The path winds up a steep and nearly uniform slope, due E. of the inn, and passes the chalets on the *Gruben* alp. In about 3 hrs.' easy walking the traveller may gain the summit of the pass (2,893 m., 9,492 ft.)

[No one in fine weather should omit to climb, in an easy hour, the peak of the **Schwarzhorn** (3,204 m., 10,512 ft.), just on the N., as the view thence is one of surpassing magnificence, and worthy of being better known to travellers. The panorama has been published with vol. vii. of the 'Jahrbuch' of the Swiss Alpine Club. (N.E. of this peak is the lower *Dreizehnenhorn* (3,056 m., 10,027 ft.), with which it is often confounded, while to the N.W. of this summit there is an easy pass from Gruben over into the *Ginanz* or *Mühlebach* glen, which joins the Rhône valley nearly opposite Raron, between Turtmann and Visp.)]

Slopes of stones lead down into the Augstbord glen. Here a traveller bound for the lower part of the Zermatt valley should bear N.E. to *Emd*, above the Kalpetran railway station. If St. Niklaus be his destination it is necessary to bear sharply round the mountain-side



in a S. direction, so as to gain the Jungen chalets, on the route of the pass next to be described.

2. *By the Jung Pass* (6-7 hrs.)—This is a rougher and more rarely traversed pass than the Augstbord. The ascent to it from Gruben is by a steep pathless slope over the *Hungerli* alp. The actual pass (crossed by the writer in August, 1845) is one of the notches (2,994 m., 9,823 ft.) in a jagged ridge, which on the E. overlooks a wilderness of huge blocks, mingled with snow, the resort of ptarmigan and chamois. By climbing a point to the r. of the Col a wide view is gained over the ranges to the W., extending to Mont Blanc. The descent is very rough until the traveller enters the upland glen called *Jungthal*, which leads to the chalets and white chapel of *Jungen*, on the edge of the cliffs immediately overhanging St. Niklaus. Hence a splendid view is gained of the Mischabelhörner, opposite, and the Weisshorn towers overhead, while in the distance are seen the Bernese Oberland peaks, as well as the range of the Lyskamm and the Breithorn. Bearing to the r. a long and very steep descent, in part along ledges of rock, leads down to St. Niklaus.

3. *By the Brandjioch* (8 hrs.)—This is an easy glacier pass (also called *Gässjoch*), which enables a traveller to see something of the little-known and tangled chain N. of the Brunnegghorn. The way up from Gruben lies over the *Hungerli* and *Brändji* alps, whence stones and rocks lead to the little *Brändji* gl. At the N.E. corner of this gl. is the *Jungthaljoch*, giving access to the Jung glen; at the S.E. corner the *Brändji-roch*, just N. of the lower (3,404 m., 11,168 ft.) of the two peaks of the *Stellihörner* (hence accessible in 40 min. by the E. face and rotten N.E. ridge). The higher (3,415 m., 11,205 ft.) peak can be attained in 1½ hr. or so by way of the N. branch of the *Stelli* gl., on the E. side of the pass. The S. arm of that gl. is easily gained

on the descent from the pass, and hence the loftiest summit of this group, the *Barrhorn* (3,621 m., 11,880 ft.), may be climbed by its N.W. face and ridge. The descent lies past the *Walkersmatt* hut, and is thence very steep to St. Niklaus.

4. *By the Brunneggjoch* (9-10 hrs.)—This is a circuitous and not very interesting glacier pass (3,383 m., 11,100 ft.), lying just N.W. of the Brunnegghorn, and connecting the head of the great Turtmann gl. with the *Abberg* gl. The route on the Gruben side is, save the last bit, identical with that to the Biesjoch (see 5. below), but the Col can be reached in 3 hrs. from the Col de Tracuit (Rte. L. 5), so that it may also be used as a pass from Zinal to St. Niklaus. The icefalls of the *Abberg* gl. are turned by their l. bank, and finally *Herbrigen*, halfway between St. Niklaus and Randa, is attained in about 4 or 5 hrs. The *Brunnegghorn* (3,846 m., 12,619 ft.) can be ascended in 1¼ hr. from the pass by an easy snow ridge.

5. *By the Biesjoch* (9-10 hrs.)—This is by far the finest pass between the two valleys, but the difficulties on the Randa side may be very serious, and it is best to take the pass from that side. It was first crossed in 1862 by MM. de St. Joseph and de Burges, with Franz Andermatten and François Dévouassoud. The second passage was made in 1864 by Messrs. Moore, Morshead, and Gaskell, with Christian Almer and Peter Perren. 6 hrs. may be reckoned for the ascent from Randa, and 3½ hrs. down to Gruben. The following notes are from the pen of Mr. Moore:—'Leaving Randa at 3.5 A.M., we crossed the Visp and ascended for 2 hrs. by a steep and rough sheep track up the gorge of the *Biesbach*, and the rocks on its l. bank, until we reached the scanty pastures above the lower line of cliffs. Mounting by the slopes of rock and shale above for 1 hr. 22 min., we then took to the *Bies* gl. considerably above its termination. The cirque of névé







which feeds this gl. is quite invisible from the valley. It is, however, of great extent, and is supported on the E. by a line of tremendous cliffs, the *Freiwänge*, through a comparatively narrow opening in which the glacier proper finds its way towards the valley. The natural result of this arrangement, combined with the great steepness of the ground, is that from top to bottom the glacier is a continued icefall, of a more than usually broken character.

Under favourable conditions, especially in a snowy year, this icefall can be forced. But it is generally better to climb the rock wall of the *Freiwänge*, which can be done in 40 min., if the right way be hit off, the rocks being very steep but good.

[From the field of névé above them the *Weisshorn* (4,512 m., 14,804 ft.) was ascended twice in 1871 by way of its steep N.E. snow and ice face and the N. arête. 9 hrs. at least are required from a bivouac on the hillock called *Kastel*, 3 hrs. above Randa.]

'Crossing the field of névé, we reached the Col without further difficulty in 25 min., or  $6\frac{3}{4}$  hrs. from Randa. The Col (3,549 m., 11,644 ft.), on which there is often a little frozen lake, lies between the *Brunnegghorn* and the *Bieshorn* (4,161 m., 13,652 ft.), and looks N. and S.' It is better to commence the descent from a point rather E. of the pass, to avoid an ice slope, the descent of which took Mr. Moore's party  $1\frac{1}{4}$  hr. 'We then traversed the whole length of the upper part of the great *Turtmann* gl. without encountering the slightest difficulty, the inclination throughout being very gentle, while scarcely a crevasse is seen. In a little more than an hour we left the glacier for the rocks on the r. bank, in order to avoid a slight icefall; but, after a steepish descent down a narrow gully in the rocks, took to it again for 30 min., and traversed it for 30 min. more, when we finally quitted it on its r. bank, slightly above its termination, and took to a slight

sheep track which led us to the head of the *Turtmann* valley. Crossing to the l. bank of the torrent, to avoid a sudden fall in the ground on the other side, we returned to the r. bank at *Plumatt*, and reached Gruben in  $1\frac{1}{2}$  hr. from the time of leaving the gl.,  $4\frac{3}{4}$  hrs. from the Col, or  $11\frac{1}{2}$  hrs. (including halts) from Randa' (A. W. M., revised). It is better to quit the gl. on its l. bank, and to follow that bank of the stream to the inn opposite Gruben. The *Brunnegghorn* (3,846 m., 12,619 ft.) may be reached in a short hour from the *Biesjoch*, by a broad snow arête with a corniche. It commands a superb view, especially of the *Weisshorn* and the *Mischelhörner*, and no one crossing the pass in fine weather should omit to make this short détour.

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## SECTION 20.

### MONTE ROSA DISTRICT.

IN describing the range of *Mont Blanc* (§ 16) it was seen that that mountain, with its attendant peaks, is naturally limited by two deep trenches, parallel to the direction of the range, and by well-defined passes which mark an orographic separation between it and the adjoining mountain groups. No such arrangement is found in the great mass which is included in the present Section.

The central range of *Monte Rosa*, which appears to originate in the intersection of two axes of elevation, throws out a number of ridges that radiate afar, and gradually subside into the plain of N. Italy, covering an area much larger than that of most of the other districts described in this work. No convenient mode of subdividing it has, however, been suggested, and we propose to include, along with the central mass, the range of the *Saasgrat* to the N., and the minor ranges to the S. and E.

VIII. THE CENTRAL PENNINES.



SCALE 1:200,000 1 ENGLISH MILE TO 1 INCH NEARLY



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that enclose the so-called Italian valleys of Monte Rosa. The natural limits of the district are, therefore, defined, on the N. side, by the two branches of the Visp torrent. Following the W. branch through the Zermatt valley, crossing the St. Théodule, descending by the Val Tournanche to Châtillon, and following the Dora Baltea to Ivrea, the line passes round the base of the foot hills to Arona: it then passes along the W. shore of the Lago Maggiore, and up the Tosa valley to Piedimulera, whence it ascends the Val Anzasca to Macugnaga, and crossing the Monte Moro to Saas completes the long circuit by descending the Saas valley to Stalden. Within the line so traced, exceeding 300 m. in length, all the ranges properly belonging to this group are included, with the addition of the Matterhorn, the famous peak which takes its name from the village of Zermatt, at its foot, now the chief centre of the entire district, largely owing to the fame and magnificence of its great peak.

It cannot fail to strike the reader who examines a map of this district that the direction of the ranges and of the depressions offers a marked contrast to that prevailing throughout the adjoining regions of the Alps. Save in a small part of the Italian valleys, the direction here is either parallel or perpendicular to the meridian. The mass of Monte Rosa itself (although its actual highest point is not at the intersection of the two ranges to be named, but rises somewhat to the N., where the N. and S. range is intersected by a short transverse rib, parallel to the main E. and W. range) is best considered as the intersection of a great N. and S. ridge (extending from the Balfrin through the Saasgrat, most of the highest peaks of Monte Rosa, the Vincent Pyramide, and the range on the E. of the Val de Lys nearly to Ivrea) with the transverse range lying between the Dent d'Hérens and the Pizzo Bianco, near Macugnaga. It

is worthy of remark that all the minor ridges on the N. side of the political frontier are parallel to the latter range; it is sufficient to point out the corresponding depressions occupied by the glaciers of Gorner, Findelen, Mellichen, Kien, &c.

Although the peak of Mont Blanc overtops by over 500 ft. any peak in the Monte Rosa range, yet the average height of the latter range greatly exceeds that of its western rival; for the three highest summits of Monte Rosa surpass 15,000 ft., and three others lie between 14,000 and 15,000 ft., while within the same limits are the four highest summits of the Saasgrat and the Lyskamm, in addition to the neighbouring summits of the Weisshorn, the Matterhorn, and the Dent Blanche. The same inference may be drawn from a comparison of the passes, for, with one or two exceptions, all the highest passes yet effected in the Alps cross the ridges of the Monte Rosa group.

It is the opinion of many of the most competent judges that for grandeur, beauty, and variety the valleys descending from Monte Rosa are entitled to pre-eminence over every other portion of the Alps, and, perhaps, if we regard the union of those three elements, over every other mountain region in the world. Nature is inexhaustible in the combination of her attractions, and certainly there are many other scenes in the Alps which may challenge comparison with whatever is most grand and most beautiful; but one who would learn thoroughly to enjoy Nature in those aspects cannot do better than give ample time to the exploration of the district included in this Section. After spending some weeks amid the sterner scenery of Zermatt and Saas, he will find fresh loveliness in the marvellous contrasts that abound in the valleys on the Italian side. A summer's tour devoted to this district, wherein days of exertion, spent in gaining the higher peaks, are made to alternate with days of repose, which need not

here be idleness, will certainly not exhaust the beauties of the country, and will probably leave deeper impressions than a rapid excursion extending over a considerable part of the Alps.

Good accommodation is now found everywhere on the Swiss side, particularly at Zermatt, on the Riffel, at Saas Grund, and at Saas Fee. On the Italian side the same is true of the most attractive headquarters—Breuil, Gressoney, Alagna, and Macugnaga, while the mountain inns at Fiéry and on the Col d'Olen are supplemented by many good Club huts. Among the Italian foot hills, too, the traveller will find good quarters, as at Fobello, Varallo, Ponte Grande, and in the environs of Biella. The mountaineer will, of course, not fail to provide himself with Sir Martin Conway's indispensable 'Central Pennine Alps' and 'Eastern Pennine Alps' (issued in 1890-1 in the 'Climbers' Guides' Series), while Part 2 of volume ii. (1896) of Signori Martelli, Bobba, and Vaccarone's capital 'Guida delle Alpi Occidentali' is useful for the Italian side. For the southern valleys of Monte Rosa Mr. S. W. King's charming 'Italian Valleys of the Pennine Alps' (1858) may still be consulted, while the following Italian local guide books contain much interesting information: Brusoni's 'Guida alle Alpi Centrali Italiani,' vol. i. (Domodossola, 1892), Ratti and Casanova's 'Guida Illustrata della Valle d'Aosta' (3rd edition, Turin, 1893), Tonetti's 'Guida Illustrata della Valsesia e del Monte Rosa' (Varallo, 1891), and Pertusi and Ratti's 'Guida pel villeggiante nel Biellese' (2nd edition, Turin, 1887). The beautifully illustrated work of Signori V. Sella and D. Vallino, entitled 'Monte Rosa e Gressoney' (1890), cannot be too highly recommended.

In addition to the attractions of magnificent scenery some of the valleys described below are otherwise most interesting. The Zermatt valley

was known to botanists and geologists long before it was discovered by holiday tourists, while it has an instructive local history of over 600 years (see the account in Mr. Coolidge's 'Swiss Travel and Swiss Guide Books,' 1889), particularly from the fact that the original Romance-speaking inhabitants gave way in the fifteenth century to a German-speaking population from the Upper Vallais, though some of the old place names still survive under a Teutonic veneer. On the other hand, about 1250, the Saas valley was colonised by Italian-speaking men from the Val Anzasca, while rather later some of the German-speaking inhabitants of the lower part of the Saas valley settled at Macugnaga, the effect on the local names being an interesting parallel and contrast to what happened in the Zermatt valley. In the thirteenth century, too, a German-speaking colony is found at the head of the Val de Lys, probably brought there in the twelfth century over the St. Théodule by the lord of that territory, the bishop of Sion, while it was this colony which probably sent out offshoots to Alagna and Rima, though possibly these are due to the energy of the Counts of Biandrate, who were the promoters of the Saas and Macugnaga colonies. The historical importance of the Théodule and the Monte Moro therefore deserves to be studied more carefully than has hitherto been the case, while the glacier and minor passes should not be overlooked, especially those leading over from the Saas to the Antrona valley. The historian, the philologist, and the ethnologist will thus find much to interest them in the wide area now to be described in detail.

## ROUTE A.

## VISP TO ZERMATT. EXCURSIONS AND ASCENTS FROM ZERMATT.

	M.
Stalden . . .	4½
Kalpètran . . .	6½
St. Niklaus . . .	10
Herbrigen . . .	13¾
Randa . . .	16
Täsch . . .	18¼
Zermatt . . .	22

Narrow-gauge rly. in about 2½ hrs. 4 trains a day each way.

For many years Zermatt was only accessible (save by glacier passes) by means of a mule path to St. Niklaus, and then by a char road for the rest of the way. But the opening of the railway in 1891 has rendered it possible to gain Zermatt in about 36 hrs. from London direct.

The line on leaving the Visp station (660 m., 2,165 ft.) makes a great curve and passes beneath the town in order to mount along the r. bank of the Visp, here running in a broad, stony bed. Some way beyond the picturesque old *Neubrücke*, over which passes the mule path, the line crosses the stream and mounts steeply to the station of **Stalden** (803 m., 2,635 ft.), which is S. of the village. (For the route hence to Saas see Rte. N. below, and for the Bistenen pass over to the Simplon, § 21. Rte. A.) Stalden stands at the junction of the two branches of the Visp, flowing from the Zermatt and Saas glens respectively. On the way up from Visp to Stalden the vines, which produce fair wine, and the wild flowers announce a climate contrasting strongly with the region of ice and snow in which both branches of the valley terminate. Among the wild plants are several scarce species—*Astragalus exscapus*, *Xeranthemum inapertum*, *Achillea nobilis*, and *A. tomentosa*, &c. The mountains rise steeply, and the snowy peak of the *Balfrin* (3,802 m., 12,474 ft.), properly Balenfirn, standing in the fork of the valley, is the first example of that beautiful pyramidal form which

prevails among the surrounding peaks.

After a short ascent the line passes nearly at a level at a great height above the l. bank of the Visp, traversing several tunnels and the imposing viaduct of *Mühlebach*, nearly 150 ft. above the ravine. It attains the level of the valley again beyond **Kalpètran** station, and immediately after crosses to the r. bank. Now follows the most picturesque portion of the route; the line keeps close to the stream and traverses some very striking gorges, in which the Visp makes many fine waterfalls. The stream is crossed once more, and another ascent leads to the green basin in which is the chief hamlet of the valley,

**St. Niklaus** (the station is 1,130 m., 3,708 ft.) (For the routes to Gruben see § 19. Rte. M, and for those to Saas Rte. P. below.)

■ An excursion may be made hence in 2 hrs. to the village of *Grächen*, on the E. side of the valley, and to the *Hannig Alp*, above it, immediately overlooking the junction of the two valleys and commanding a distant view of the Bernese Alps. Grächen was the birth-place of the sixteenth-century Swiss Humanist Thomas Platter, who in his autobiography has given an interesting sketch of his early life in his native valley; the house in which he was born is still shown. ]

St. Niklaus and the neighbouring hamlets suffered severely in 1855 from repeated shocks of earthquake, which were felt to a less extent in the adjoining districts, but whose force was mainly expended throughout the few miles between this place and Visp. Forty-nine shocks were counted, and slighter disturbances were renewed in the course of the three or four following years. Scarcely a house in the village escaped serious injury, and many were destroyed.

Above St. Niklaus the scenery increases in grandeur. The rocky walls on either side become higher



and steeper, and the valley is contracted to a trench, 2 miles in depth, between the opposite peaks of the Mischabelhörner and the Weisshorn. The line crosses to the r. bank in order to gain the station of **Herbrigen** (1,257 m., 4,124 ft.), and a further ascent leads to that of **Randa** (1,409 m., 4,623 ft.) Hitherto glimpses of the Bruneggorn (often taken for the Weisshorn) and of the Breithorn, at the head of the valley, have been gained, but at Randa the traveller finds himself close to the world of ice. The village stands on rising ground, a mud avalanche fan, opposite the small *Bies* gl., which streams down from the Weisshorn, but now ends at a great height above the valley. In 1636, according to the perhaps exaggerated records of the time, the entire gl. fell into the valley, spreading fearful havoc before it. Again, in December 1819, a considerable mass was detached, and, though it fell a little on one side of the village, was powerful enough to level most of the houses; it is said that solid beams and roofs were blown away like straw to the distance of a mile from their former site. A barrier formed across the river threatened to renew here the disaster of the preceding year in the Val de Bagnes (§ 18. Rte. E); but some brave men of the valley, working at the peril of their lives, succeeded in cutting an opening for the waters. Other similar falls, on a smaller scale, occurred in January 1848 and in February 1865, the noteworthy fact being that all these took place in winter. (For the passes to Gruben see § 19. Rte. M, and for the ascents to be made from Randa see under Zermatt, below.) Above Randa the valley is nearly level for 2 or 3 miles. A short distance beyond the village is the torrent from the *Kien* gl., on the E., and near at hand the remains of a bergfall which is said to have overwhelmed a village and all its inhabitants. In the green basin or plain of **Täsch** (1,441 m., 4,728 ft.),

seemingly the filled-up site of an ancient lake, the line runs along the dyke built to protect the valley against the ravages of the torrent, and extended in order to bear the railway too. A short distance beyond Täsch the line crosses for the last time to the l. bank of the torrent, and is carried along the side of a narrow gorge high above the roaring torrent. A sudden first glimpse of the Matterhorn is caught, and then a short tunnel through a rocky buttress leads to the green basin of **Zermatt**, the station being at the N. end of the village, both dominated by the Matterhorn. However long a traveller may remain at Zermatt, or however often he may return hither, the overpowering grandeur of that mavelous peak must continue to fascinate his eyes, and the problem of its origin and history to occupy his mind, even though he be unversed in natural science.

The little village of **Zermatt** (1,620 m., 5,315 ft.) bore during the greater part of its existence the name of 'Prato Borno' or Praborgne (*pré borné*, meaning a plain limited by high mountains all around); but at the end of the fifteenth century it is called 'Matt' (the old name being also used), this German translation marking its occupation by a Teutonic colony from the Upper Vallais. The form 'Zermatt' does not seem to be found before the eighteenth century. It was known for many years to botanists and geologists before Saussure came thither in 1789, and even much later pleasure tourists were extremely rare. These few wanderers found lodging in the house of the local doctor, Lauber by name, whose house became, in 1839, a regular inn on a small scale. It stood on the site of the Monte Rosa Hôtel. But it was not till 1854 that it was sold to M. Alexandre Seiler, who, with the aid of his energetic wife, improved the accommodation at Zermatt till it became suited to the requirements of the most helpless and

indolent class of travellers. Many obstacles were encountered by M. and Madame Seiler in their arduous undertaking, but all were successfully overcome, and the memory of the courteous and amiable husband and wife (both now at rest) will long remain green in the hearts of those who had the pleasure and privilege of being their guests.

There is little to see in the village itself, a collection of wooden houses black with age, overtopped by the great hôtels. The village church is of considerable antiquity, while few travellers will fail to spend a few moments in the small bit of the 'God's Acre' on the N. side of the church, wherein rest the mortal remains of many foreigners, climbers and others, who have lost their lives in the neighbourhood; the English Church above the village has been built in memory of some of the earlier of these victims.

The grandeur of the scenery around Zermatt, and the number of expeditions which can be made hence into the heart of the ice region, more and more recommended this place to mountaineers, though now the crowd of tourists threatens to swamp them almost entirely. The establishment of the first inn on the Riffelberg in 1854 contributed greatly first to the conquest, then to the frequent ascent of, several of the highest summits around it, which were thus reduced to the limits of a moderate day's walk. Hence Zermatt and the old Riffel inn were the centres whence ardent mountain-climbers successfully attacked almost all the highest summits of the Pennine Alps, with the exception of the Grand Combin and of Mont Blanc himself, who holds his solitary and regal state far away in the W.

Weather is, of course, an indispensable condition for the proper enjoyment of objects so new and vast as surround visitors to Zermatt, which cannot be appreciated or impressed on the mind in a moment. But patience is sometimes severely tested

by a continuance of wet days and heavy clouds veiling the peaks. Snow sometimes falls in August close to the village, but the moments of returning fine weather, and the intervals sometimes snatched from the midst of a broken season, amply reward the traveller's perseverance.

There are many guides resident at Zermatt in summer, the best of whom come from St. Niklaus, Saas, &c., though they are not equal, save in isolated cases, to the best men in the Bernese Oberland. There is an official tariff, as usual, for all the neighbouring peaks and passes.

Irrespective of other attractions, the neighbourhood of Zermatt is full of interest to the geologist, the mineralogist, the botanist, and the entomologist. 'Breithorn' Biner has a vast collection of the rarer minerals and plants for sale. A list of even the scarcest plants would include a large portion of the Alpine flora, but a few may be mentioned which appear especially interesting. Near the village are seen growing close together some plants of the warm region and some high mountain species that have descended from the neighbouring peaks, especially through the Trift ravine. Thus *Stipa pennata*, *Euphrasia lutea*, *Echinosperrnum deflexum*, and *Hieracium multiflorum* are seen behind the village close to *Gnaphalium Leontopodium*, *Avena distichophylla*, and *Artemisia mutellina*. Of the rarest species *Draba incana* var. *Thomasii*, *Artemisia spicata*, and *Scirpus alpinus* are found by the Findelen gl.; *Phyteuma humile* and *Carex hispidula* on the Riffelhorn; *Lychnis alpina*, *Oxytropis Gaudini* and *O. lapponica*, *Draba fladnitzensis*, and *Avena subspicata* on the Riffel and Gornergrat; and *Potentilla multifida* and *P. ambigua*, *Campanula cenisia*, and *Crepis jubata* on the Hörnli. *Gentiana tenella*, *Carex bicolor*, and *C. rupestris* are not uncommon.

Before describing the various excursions and ascents that may be

made from Zermatt or the Riffler a few words respecting the topography of the district may be useful. It has been remarked in the Introduction to this Section that the range of Monte Rosa may be considered as formed by the intersection, at right angles, of two great lines of upheaval. The centre of the cross is formed by a great snowy plateau of considerable extent and at a height of rather over 14,000 ft. Reckoning from hence the N. arm includes the *Zumsteinspitze* (4,573 m., 15,004 ft.), the *Dufourspitze*,<sup>1</sup> 4,638 m., 15,217 ft. (on a short buttress projecting W. from the frontier ridge, and so wholly in Switzerland), and the *Nord End* (4,612 m., 15,132 ft.) Beyond the latter peak the ridge falls to the *Jägerhorn* (3,975 m., 13,042 ft.), and then still more rapidly to form the *Weissthor ridge*, about 3 m. in length and 12,000 ft. in average height. About midway the snowy summit of the *Cima di Jazzi* (3,818 m., 12,527 ft.) rises a little above the general level. N. of this stretches a long range for about 10 m., which rises in the *Strahlhorn* (4,191 m., 13,751 ft.), the *Rimpfischhorn* (4,203 m., 13,790 ft.), the *Allalinhorn* (4,034 m., 13,236 ft.), the *Alphubel* (4,207 m., 13,803 ft.),

<sup>1</sup> Even in the first edition (published July, 1863) of this volume Mr. Ball made the following protest against this name in favour of 'Höchste Spitze': 'With the highest estimate of the services of General Dufour, as Director of the admirable Swiss Survey, the writer does not believe that the name of any individual can remain permanently attached to the highest peak of the second mountain in the Alps. Since that date the name Dufourspitze has been well-nigh universally recognized, and appears on both the Swiss and Italian Government maps. It is adopted in the new edition of this volume, as two other reasons may be urged in its favour which would probably have induced Mr. Ball, on further consideration, to alter his opinion. It is now known that this peak is not, as was formerly believed, on the frontier between Switzerland and Italy, for it rises on a buttress projecting W. of the frontier ridge, and is thus wholly in Swiss territory. Again, on January 28, 1863, the Swiss Federal Government formally and officially adopted this name for the highest summit lying within the land over which it bears rule.

the *Mischabelhörner* (*Täschhorn*, 4,498 m., 14,758 ft., and *Dom*, 4,554 m., 14,942 ft.), and the *Nadelhorn* (4,334 m., 14,220 ft.), terminating in the *Ulrichshorn* (3,929 m., 12,891 ft.) and the *Balfrin* (3,802 m., 12,474 ft.)

On the S. side of the central plateau are four minor summits of Monte Rosa, arranged in descending order—*Parrotspitze* (4,463 m., 14,643 ft.), *Ludwigshöhe*, 4,346 m., 14,259 ft. (wholly in Italy), *Schwarzhorn* (4,231 m., 13,882 ft.), and *Vincent Pyramide* (4,215 m., 13,829 ft.)—while the rocky crest of the *Balmenhorn* (13,500 ft.), to the W. of the latter point, is balanced on the E. by the *Punta Giordani* (4,055 m., 13,304 ft.) S. of the Pyramide this range sinks into the comparatively inconsiderable ridge dividing the Lys and Sesia valleys.

The E. arm of the cross is formed by the *Signal Kuppe* or *Punta Gnifetti* (4,561 m., 14,965 ft.), the *Punta dei Tre Amici* (3,541 m., 11,618 ft.), and the *Cima della Pissa*, or *Monte delle Loccie* (3,498 m., 11,477 ft.), and may perhaps be considered to include the *Pizzo Bianco* (3,216 m., 10,552 ft.)

More important than this is the W. arm, which includes the *Lyskamm* (4,538 m., 14,889 ft.), the double summits of the *Zwillinge* (Castor, 4,230 m., 13,879 ft., and Pollux, 4,094 m., 13,433 ft.), the *Breithorn* (4,171 m., 13,685 ft.), and the *Petit Mont Cervin* or *Klein Matterhorn* (3,886 m., 12,750 ft.), and is connected with the Matterhorn and Dent d'Hérens by the flattened ridge, about 11,000 ft. in height, that supports the Théodule and Furgg gls.

Several secondary ranges, parallel to this W. range, are connected with the Cima di Jazzi and the other peaks to the N. which divide the gls. descending towards the Zermatt and Saas valleys. The barrier above spoken of connecting the Nord End and the Strahlhorn presents a wall of formidable precipices towards the E., but falls away in a gentle slope to the



W. For a breadth of nearly three miles the upper snow slopes lie almost unbroken upon this slope, but as they begin to descend towards the main valley they are divided into two ice streams by a ridge which gradually emerges from the *névé*, and finally presents a rather bold front to the gls. on either side. The highest points of this range, appearing insignificant by contrast with the grand objects around, are the *Stockhorn* (3,534 m., 11,595 ft.), the *Hohthäligrat* (3,289 m., 10,791 ft.), the *Gornergrat* (3,136 m., 10,289 ft.), and the *Riffelhorn* (2,931 m., 9,617 ft.) The western slope, immediately overlooking Zermatt, is called the *Riffel* or the *Riffelberg*. On its south side is the *Gorner gl.*, formed by the confluence of all the minor gls. descending from the N. and W. sides of the Monte Rosa range, while on the N. side the *Findelen gl.* descends in the direction of the village of Zermatt. The position of the *Riffel*, surrounded by a complete circle of peaks of the first order, is perhaps unique in the Alps. It forms the starting point for many of the most interesting ascents to be made from Zermatt, and is the first excursion which every visitor to Zermatt is bound to make.

The visitor to Zermatt has a choice of many expeditions to all degrees of difficulty, most of which are greatly facilitated by the numberless inns on the heights around the basin in which is the village itself—the two inns on the *Riffel*, those on the *Gornergrat*, near the *Findelen gl.*, on the *Fluh Alp*, on the *Täsch Alp*, in the *Trift gorge*, on the *Staffel Alp*, at the *Schwarzsee*, on the way to and on the top of the *St. Théodule Pass*, not to speak of the new *Bétemps Club hut* (practically a small inn) on the *Plattje rocks* at the foot of *Monte Rosa* and  $2\frac{1}{2}$  hrs. from the upper *Riffel inn*. It is always hard to draw a hard and fast line, but it seems convenient to describe the expeditions to be made from Zermatt as a centre under the three heads of *Excursions*, *Easy*

*Ascents*, and *High Ascents*, or *Grandes Courses*.

1. *Excursions*.—(a) *Riffel and Gornergrat*.—This is the Zermatt excursion *par excellence*, and can be accomplished throughout by rail or on horseback. The upper inn on the *Riffel* appears, when seen from Zermatt, to stand on the topmost crest of the mountain, because the gentler slopes behind, leading to the *Gornergrat*, are concealed from view.

(i.) *By Railway* (1 hr. 20 min. from Zermatt to the *Gornergrat*). The line starts from the station opposite that of the *Visp line*, crosses the river, and at once commences to mount the E. side of the valley. The gradient is not very steep, and the stream coming from the *Findelen gl.* is crossed on the same gradient by means of a very lofty bridge. A tunnel is then traversed, and the same direction (S.W.) followed, till at a point about 200 ft. above *Fällstutz* the line enters a cutting, and by a tunnel bends to the E., thus affording a fine view down the valley. Near the *Riffel Alp* station a view of the *Findelen gl.* is gained. Shortly afterwards the line curves round, nearly at a level, and mounts rapidly to the *Riffelhaus*, the station here, like that at the *Riffel Alp*, being about 5 minutes from the *Hôtel*. From the *Riffelhaus* station the line traverses undulating pastures, and passes to the S. side of the watershed, when a sudden and marvellous view of the *Gorner gl.*, as well as of the peaks on its farther side, is disclosed. The N. side of the watershed is then regained, and the *Gornergrat* station is attained: it is on a plateau about 100 ft. below and due W. of the summit.

(ii.) *By Mule Path*.— $1\frac{1}{2}$  hr. is required to the lower inn, called *Riffel Alp*, 1 hr. more to the upper inn, or *Riffelhaus*, and  $1\frac{1}{2}$  hr. more to the *Gornergrat*. The good mule path crosses the *Visp* by a bridge just S. of the village, and ascends amid meadows to the hamlet of

*Winkelmatten*. Here (at a chapel) the path to the inns for the Findelen gl. goes straight on, but that to the Riffel bends to the r., crosses the stream from the Findelen gl., and then mounts steeply, before long entering a wood of larch and Arolla pine. At *Schwegmatten*, between the path and the snout of the Gorner gl., there are some transported blocks left by the ancient gl., 700 ft. above the present level of the Visp. Higher up the traveller passes the *Augst-kunnen* chalets, which command a noble view of the peaks between the Matterhorn and the Weisshorn. Here, above a flat meadow, the mule path bears to the l., *pedestrians* bound for the Gornergrat keeping straight on. In  $\frac{1}{4}$  hr. the splendid **Hôtel Riffelalp** (2,227 m., 7,307 ft.) is attained. It is admirably situated amidst a forest, and commands glorious views, but is now very fashionable, so that the ardent mountaineer will prefer to take up his quarters at the higher and simpler inn of the Riffelhaus. Near the H. Riffelalp are the English Church, and the Monument to the memory of Mr. T. W. Hinchliff, formerly President of the Alpine Club. The mule path soon crosses a small stream, and then mounts a bare and stony mountain slope rather steeply by a series of zigzags, in order to gain the **H. Riffelhaus** (2,569 m., 8,429 ft.), the original inn (now enlarged) built here in 1854. It is one of the highest in the Alps, and the view is very much the same as that from the Riffelalp. Monte Rosa is seen from neither, but the Matterhorn rises more and more grandly. The Riffelhaus is the best starting point for the high ascents round the Gorner gl., &c. The main object of tourists is to reach the summit of the **Gornergrat**, a guide to which is needless. After ascending some way in a S.E. direction, and approaching the shallow little tarn called the *Riffelsee*, the traveller finds himself shut out from the view on the r. by a very steep pinnacle of serpentine rock, called

the *Riffelhorn* (2,931 m., 9,617 ft.) It can be ascended from the lake in  $\frac{3}{4}$  hr. by a rough scramble up its E. ridge, and also by a variety of harder routes direct from the Gorner gl. Rising almost vertically from the Gorner gl., it commands the finest of all views of that immense ice stream; but the mountain panorama is less extensive than that from the Gornergrat. Mounting to the l. amidst huge slabs of slaty serpentine and other crystalline rocks, the summit of the *Gornergrat* (3,136 m., 10,289 ft.) is soon gained. It is now crowned by an inn, to the doors of which mules can go.

The panorama from this point presents an unequalled circle of Alpine peaks, from the Mischabelhörner right round to the Weisshorn, but only a few summits are seen besides those enclosing the Zermatt valley. The view is sometimes compared with that from the Eggishorn, but the Gorner gl. is not so deep below the spectator's eye as is the Aletsch gl. The upper basin of the Gorner gl. is, indeed, a noble object; but its middle and lower course are, in great part, concealed by the Riffelhorn and other intervening masses, while of the Findelen gl. only a small part is within sight. The first impression of Monte Rosa does not at all correspond with its great height. As seen from the Gornergrat none of the summits of the range on the S. side of the Gorner gl. seem entitled to pre-eminence over the rest; and it was long before their relative claims were settled. The earlier visitors to Zermatt were directed to the Breithorn as the highest part of the range. Later the name Monte Rosa was applied by the Zermatt people to the Lyskamm, and this is done on the plates to Agassiz's 'Etudes sur les Glaciers' (1840); but as early as 1840 (see Engelhardt's first book) the superiority of the Dufourspitze was acknowledged, though that summit was long called 'Gornerhorn' instead of by its proper name, 'Monte Rosa.' No

description can, however, prepare the traveller for the effect of the rest of the panorama, as he turns his eyes round the semicircle from the Matterhorn to the Strahlhorn. The only way to do justice to this scene is to return hither frequently during the spare moments of a traveller's stay in this region.

From the Gornergrat it is easy to scramble along the ridge to the *Hohthäligrat*, 3,289 m., 10,791 ft. (1 hr.), and to continue along the ridge and the snow slopes on the N. to the *Stockhorn*, 3,534 m., 11,595 ft. (1 hr.) The view from either includes a greater part of the Findelen gl., but both are overtopped by the Cima di Jazzi (3,818 m., 12,527 ft.), which is, therefore, to be preferred to either (see below under 'Easy Ascents').

Another way for walkers is to go through the gorge at the end of the Gorner gl. (b. below), rejoining the route described above at the *Fällistutz*, below Augstkummen.

Visitors to the Gornergrat may extend their excursion so as to make nearer acquaintance with the Gorner gl. E. of the Riffelhorn and running along the S. base of the Gornergrat is the stony slope called *Rothe Kumme*, which is covered with rare plants. A mule track traverses this, at first many hundred feet above the gl., but gradually approaching nearer to the ice. The glacier is free from difficulty, and may be crossed in 1 hr. or so to the new Bétemps Club hut (inn), on the Plattje rocks, at the foot of Monte Rosa. On the gl. the traveller will not fail to notice a series of circular pits of considerable size, that recur at about equal intervals on the N. side of the gl.

The return to Zermatt may be varied by taking the mule path which leads from the H. Riffelalp to the *Grünsee inn* (also reached by a new mule path branching to the r. from the Gornergrat path a little below the summit, and leading direct to this inn), near the end of the Findelen gl., a visit to which may be thus combined

with the Gornergrat, the descent taking no more time. Good walkers may cross that gl., mount to the Fluh alp inn, on its r. bank, and rejoin the Grünsee path to Zermatt at the hamlet of *Findelen*.

(b) The **Gorner Glacier**.—A visit to the lower end of this gl. is within range of an afternoon's stroll from Zermatt. After flowing due W. for 6 miles the Gorner gl. sweeps round the base of the Riffelhorn, and descends nearly due N. into the head of the Zermatt valley. The easiest way lies along the W. bank of the Visp for rather more than a mile; then after crossing the Z'Mutt torrent a very picturesque path leads to the ravine through which the Visp descends from its parent gl. This ravine or gorge has now been fitted up with ladders, &c. (fee), and is worth a visit. As indicated above, it is easy for pedestrians to pass through it (though this is not *necessary*, as across either bridge over the Z'Mutt torrent a path leads towards the gl. itself) and join the Riffel path at Fällistutz. The gl. itself has retreated greatly, and left a bare track of débris and glacial mud. Unpractised visitors should be cautioned against approaching close to the ice, as blocks of stone, lightly poised, hang on the terminal slope, and from time to time slide with great force down the declivity. The lower slope of the Riffelhorn is steep, but it is possible to mount some way along it, so as to observe the process by which the glacier smooths and polishes the surfaces of rock over which it moves. The appearances may be compared with those seen on the upper ridge of the same peak, in the hollow between the Riffelhorn and the Gornergrat, where an arm of the gl. passed when the ice rose many hundred feet higher than its present level. The pinnacles of ice formed in the steep part of the descent to the glacier cannot fail to excite admiration.

Practised icemen may take the glacier on the way to the Riffel, and good climbers may climb the Riffel-



horn by one or other of several routes direct from the gl.

(c) The **Findelen Glacier**.—This is indicated under *a.* as it may be combined with a visit to the Gornergrat. It is about 2 hrs. by a mule path from Zermatt to the Grünsee inn, on the l. bank of the gl., and about  $2\frac{1}{2}$  hrs. to the inn at the Fluh alp, on the r. bank (foot path from the hamlet of Findelen).

(d) The **Schwarzsee, Hörnli, and Z'Mutt Gl.**—This is deservedly one of the excursions most made by strangers. It is possible to ride to the Schwarzsee Hôtel, and thence by the Staffel alp back to Zermatt, but the Hörnli is only accessible to walkers. From the very base of the E. foot of the Matterhorn a nearly level ridge or promontory of rock extends a little N. of E., terminating abruptly in a bold point, conspicuous from Zermatt, called the **Hörnli** (2,893 m., 9,492 ft.) In the angle between this and the higher ridge connecting the Matterhorn with the Breithorn is formed the *Furgg* gl. Below the Hörnli the ridge separating the torrent of this gl. from that of Z'Mutt spreads out, and in one of its undulations forms the basin of a small lake, the **Schwarzsee** (2,558 m., 8,393 ft.), with a solitary chapel beside it. On a knoll to the E. is a large new Hôtel. The mule path bears to the r. at the *Hermättje* huts from that to the St. Théodule (Rte. B), and by it the Hôtel is gained in about  $2\frac{1}{2}$  hrs. from Zermatt. On the ascent one of the finest views of the Gorner gl. is obtained; it is here seen while undergoing the process of rapid flexure, at the same time that it falls rapidly round the base of the Riffelhorn, with its surface torn by various systems of crevasses, which finally intersect each other, forming a wild confusion of tottering pinnacles of ice. The view from the Hôtel well rewards the ascent; but those who do not object to a short, rough climb should ascend the *Hörnli* (1 hr.) Nowhere perhaps on the N.

side does the Matterhorn appear more overpoweringly grand than from this point. Other peaks, such as some of the Chamonix Aiguilles, may appear as bold in outline, but they want the air (alas, nothing more!) of solidity peculiar to this unmatched peak. With an audacity that seems to defy the universe it rears its front 5,000 ft. above the snow fields at its base, as though its massive framework could support the shock of a world in ruins. Its stability is but apparent. Those who have passed days or nights on the mountain have witnessed the continued progress of destruction that, stone by stone, is unbuilding that marvellous structure, though it is not yet possible to calculate how many millions of ages would be required to bring it down to the level of the lower ridges that surround its base.

There is no difficulty in following the nearly level ridge which connects the Hörnli with the actual base of the great mountain, where is the *Lower Matterhorn Club hut*, 3,298 m., 10,821 ft. (1 hr. or so.)

On the way back to Zermatt it is usual to follow a mule path which leads from the Schwarzsee Hôtel in  $\frac{3}{4}$  hr. to the Staffel alp inn, at the lower end of the great Z'Mutt gl. (it is also possible to gain this inn direct from the Hörnli). A visit may be paid to that great but moraine-covered ice stream described in § 19. Rte. H. A mule path takes the traveller thence in 1 hr. to Zermatt along the r. bank of the Z'Mutt torrent. A remarkable chasm, cut through the rock by that torrent, well deserves attention. It is crossed by a bridge, over which leads a foot path to the hamlet of **Z'Mutt** (1,940 m., 6,386 ft.), the largest of those above Zermatt. Hence a path runs down the l. bank of the torrent to Zermatt.

(e) The **Trift Gorge**.—Some travellers may care to explore this wild, rocky gorge (rich in rare plants), which opens just N.W. of Zermatt.

The mule track for some way is the same as for the Mettelhorn (2. *a.* below), and a steep foot path follows the gorge (mainly along its l. side), passing a small inn ( $\frac{3}{4}$  hr.) to the large Trift inn (2 hrs.) This inn is a good headquarters for several ascents to be described below.

2. **Easy Ascents.**—(*a*) *The Mettelhorn.*—The *Mettelhorn* (3,410 m., 11,188 ft.) is the highest point of a promontory extending eastward from the Moming Rothhorn, and immediately overlooking the village of Zermatt. It commands one of the finest views—some think the very finest—in this neighbourhood, and is distinguished from others of the same class by its proximity to the noble peak of the Weisshorn, and by including a considerable portion of the Bernese Alps in the opening between that peak and the Mischabelhörner. The ascent is a laborious climb of 4–5 hrs. from Zermatt, but is within the reach of an average walker, and many ladies have reached the summit. The mule path mounts N.W. from Zermatt, at first steeply, then, without ascending much, in a N. direction. It is that leading to the Trift inn. When a view of the Trift gl. is gained the ascent (now for pedestrians only) continues direct to the summit. The last part for about 1 hr. is very steep, in part over a snow slope, and in part over débris often mixed with loose snow. From the top a fine view is gained of the extensive Hohlicht gl. on the N.W.

(*b*) *The Unter Gabelhorn.*—This is an excellent climb for a traveller seeking to prepare himself for more arduous expeditions. The summit (3,398 m., 11,149 ft.) may be best gained from the Trift inn (3–4 hrs.), either by way of the gap to the W. of the peak or by a steep rock gully in the E. face. From the gap mentioned it is easy to return to Zermatt by the Z'Mutt gl.

(*c*) *The Wellenkuppe.*—This peak too affords good practice for aspiring beginners. It is a snowy dome

(3,910 m., 12,829 ft.) on the ridge between the Ober Gabelhorn and the Triftjoch. The E. arête is gained from the Gabelhorn gl. by rocks and snow, and beyond is a steep wall of good rocks, up which a pleasant scramble leads to the snow cap forming the summit (5 hrs. from the Trift inn). It is said that after the Breithorn this climb and the Rimpfischhorn are the most popular at Zermatt among those who do not propose to attack the great peaks.

(*d*) *The Breithorn.*—This favourite excursion is best made from the St. Théodule Pass (Rte. B. below), in connection with which it is described: it can, however, be ascended by the N. face by a route which passes immediately under the summit.

(*e*) *Ober and Unter Rothhorn.*—Those two points form as it were a pendant to the Mettelhorn, on the other side of the valley, as they stand at the W. end of the ridge extending from the Rimpfischhorn. Either peak may be gained in 2–3 hrs. from the inn at the Fluh alp, and the return to Zermatt may be made by the highland glen of *Riederkummen*, lying to the N. The lower (3,106 m., 10,191 ft.) is more detached from the main range than the higher (3,418 m., 11,214 ft.), and commands, therefore, the better view, though the panorama gained from either peak is very fine.

(*f*) *The Cima di Jazzi.*—This is the highest summit (save the *Jägerhorn*, 3,975 m., 13,042 ft., which is properly a spur of the Nord End) on the long Weisssthor ridge connecting the Nord End with the Strahlhorn; but though 3,818 m. (12,527 ft.) is attained in 4–5 hrs. from the upper inn on the Riffel, or from the Fluhalp inn, provided an early start be made, as there are vast snowfields to be traversed, when the snow is soft this perfectly easy excursion becomes most fatiguing and laborious. No other summit of the Alps, nearly equal in height, is so completely within the reach of moderate walkers, and so

free from difficulty or danger, provided reasonable caution be used. The Gorner gl. is gained by the mule path described above under the Gornergrat. After ascending gently over the ice, close to its r. bank, this becomes crevassed, and it is usual to go back for a short time to the rocks at the foot of the Stockhorn. Thence easy snow slopes lead up towards the peak, but it is best to bear at the last towards the l., so as to gain the summit from the N.W., where it is less steep. On approaching the summit it is seen that while the side facing Zermatt has the form of a flattened cone, the Cima itself and the entire ridge connecting it with Monte Rosa, as well as the E. side of the great mountain itself, form a continuous range of precipices. Travellers are strongly cautioned against approaching too close to the verge, as the cap of frozen snow that covers the summit usually forms a cornice projecting several feet from the rock, and liable now and then to break away and fall some thousands of feet on the Italian side. The view includes a great part of the circuit of peaks forming the panorama from the Gornergrat, seen from a point in the circumference instead of from the centre. In the opposite direction the eye ranges for an enormous distance over the valley of the Po and the Alpine ridges that enclose the lakes and valleys of Lombardy. The snowy chain stretching farthest to the S. is the Adamello range (§ 40), not the Ortler.

3. **High Ascents.**—Within our limits the principal routes alone up the great peaks can be indicated, full details being given in Sir Martin Conway's two books in the 'Climbers' Guides' series, mentioned in the Introduction to this Section.

(a) **Monte Rosa.**—*Monte Rosa* is not a single peak (though the name is often applied to the culminating point of the mass), but a cluster of peaks, which rise on or close to a line running roughly S. from the Weisssthor

ridge. The fact of this cluster was the cause of the fanciful conjecture according to which the name was derived from a rose and its petals, but it is now recognised that the true explanation is the patois word (found in the valley of Aosta and its glens) 'roësa, ruise, roise,' meaning a 'glacier,' as these were *par éminence* the great glaciers visible from the S. In this group ten summits are usually distinguished, apart from the Jägerhorn (3,975 m., 13,042 ft.), which is a buttress of the Nord End. Reckoning from the N. the names and heights are as follows: *Nord End*, 4,612 m., 15,132 ft.; the *Dufourspitze*, 4,638 m., 15,217 ft.; the *Zumsteinspitze*, 4,573 m., 15,004 ft.; the *Signalkuppe* or *Punta Gnifetti*, 4,561 m., 14,965 ft.; the *Parrotspitze*, 4,463 m., 14,643 ft.; the *Ludwigshöhe*, 4,346 m., 14,259 ft.; the *Schwarzhorn*, 4,231 m., 13,882 ft.; the *Vincent Pyramide*, 4,215 m., 13,829 ft.; the *Balmenhorn*, 13,500 ft.; and the *Punta Giordani*, 4,055 m., 13,304 ft. The Ludwigshöhe and the four points to its S. are situated wholly within Italy; all the others are on the frontier ridge between Switzerland and Italy, save the Dufourspitze, which rises on a W. buttress, and so is wholly within Switzerland, of which it is the culminating point. The Punta Giordani was the first of these summits to be climbed (in 1801), the Dufourspitze not being conquered till 1855. An excellent summary of the history of Monte Rosa up to 1855 is given in an article by M. Pierre Puiseux in the 18th vol. (1891) of the 'Annuaire du Club Alpin Français.' As to the S. summits (the topography of which is very intricate), Sir Martin Conway's article in vol. xii. of the 'Alpine Journal,' Signor G. Rey's two in the 'Bollettino' for 1892 and 1893, and Signori V. Sella and D. Vallino's work (already mentioned), 'Monte Rosa e Gressoney,' should be consulted. It seems most convenient to describe first the Dufourspitze, as of



course it is the most frequently ascended, and then to speak briefly of the other summits, in due order from N. to S. The upper inn on the Riffel (2,569 m., 8,429 ft.), or the new Bétemps Club hut (2,990 m., 9,810 ft.), on the Plattje rocks ( $2\frac{1}{2}$  hrs. from it), are the best starting points on the N. side, while on the S. side there are the inn on the Col d'Olen (2,865 m., 9,400 ft.), the *Gnifetti Club hut* (3,647 m., 11,966 ft.) on the Hohlicht (3 hrs. from the inn), and the *Regina Margherita Club hut* (4,560 m., 14,961 ft.), close to the summit of the Punta Gnifetti (3 hrs. from the Gnifetti hut), the last-named huts being very convenient for exploring the minor summits of Monte Rosa.

(i.) *The Dufourspitze*.—As seen from the Gornergrat a considerable gl., now called the *Monte Rosa* gl., flows down in a N.W. direction from the depression, the *Silbersattel* (4,490 m., 14,732 ft.), between the two highest summits of Monte Rosa. But while the Nord End is on the frontier ridge the Dufourspitze is not. The latter summit rises on a great rocky buttress which projects from the frontier ridge towards the W., thus separating the head of the Monte Rosa gl. from that of the *Grenz* gl., which fills the huge basin between the Dufourspitze and the Lyskamm. It follows, therefore, that the Dufourspitze is wholly within Swiss territory, and that the view thence does not plunge *direct* down the precipices towards Macugnaga, as stated in many old accounts. This great W. buttress parts off from the main frontier ridge at a rocky knob, known as the *Grenzgipfel* (4,631 m., 15,194 ft.) W. of this knob is a gap, and then the ridge rises again to form a rocky crest of considerable length, the two horns or extremities of which are of about equal height; the E. horn is called the *Ostspitze*, while the W. horn is the *Dufourspitze*, the highest point of all. W. of the Dufourspitze the ridge sinks to form a wide snowy depression, known as the *Sattel*

(4,354 m., 14,285 ft.) These topographical remarks will serve to clear up the history of the early attempts on the Dufourspitze. As it was clearly quite practicable to reach the Silbersattel the early explorers all tried from that side. MM. Puiseux and Ordinaire gained the Silbersattel by way of the Monte Rosa gl. as early as 1847. Later parties—the first Prof. Ulrich's two guides in 1848, Johann Madutz and Matthias z. Taugwald—gained the *Grenzgipfel*, but considered the higher W. ridge to be inaccessible. Probably the Ostspitze was first attained on September 1, 1854, by the three Messrs. Smyth, and later in that year by one or two other parties; though M. P. Puiseux holds (with some show of reason) that the Ostspitze was not reached till 1872 on its way up from Macugnaga by Messrs. Pendlebury and Taylor's party, which in any case was the first to traverse the crest from the Ostspitze to the Dufourspitze. But the Dufourspitze itself had been overcome long before, for on July 31, 1855, Messrs. G. and C. Smyth, Hudson, Birkbeck, and Stevenson, with Ulrich Lauener, of Lauterbrunnen, Johannes z. Taugwald, and two other Zermatt guides, had at last succeeded in finding the true way up it—by leaving the Silbersattel far to the N.E. and by gaining the Sattel, whence the rocky ridge was climbed to the highest and W. horn of the final crest. This is still the usual way, and nowadays it is hard to conceive that it was never tried till 1855, as it was successfully accomplished at the very first time of asking.

From the upper inn on the Riffel the mule path to the Gorner gl. is followed to that ice stream, which is then crossed to the *Bétemps Club hut* (2,990 m., 9,810 ft.), at the base of the Plattje rocks ( $2\frac{1}{2}$  hrs.) These rocks are then ascended without any difficulty, and then endless snow slopes beyond, which gradually get steeper as the *Sattel* (4,354 m., 14,285 ft.) is neared. It then remains

to clamber along the final rocky ridge on the E., which offers no difficulties to those with any mountain experience, and may be scaled in 1 hr. or less. 5-6 hrs. thus suffice, in the case of average walkers, for the ascent from the Bétemps hut, but fast climbers will, of course, take far less time. The view from the summit is very extensive indeed, and it is said that in clear weather the cathedral of Milan can be distinguished; but as a rule there are light vapours on the Italian side, which spoil that bit of the view, unless the summit be reached very early in the day. The panorama from the top has been drawn by Herr X. Imfeld, and is published with vol. 15 of the 'Jahrbuch' of the Swiss Alpine Club. The eye plunges from the summit to an extraordinary depth towards the valley of Macugnaga, thousands of feet below.

It is a pleasant variation for good climbers to mount by the rocky S.W. rib to the Sattel, or to mount from the head of the Grenz gl. by a steep rock rib direct to the Dufourspitze. Those interested in working out the history of the mountain will like to climb up from the Silbersattel over the Ostspitze to the top ( $1\frac{1}{2}$  hr.), or to join that route by climbing from the Grenzsattel over the Grenzgipfel to the gap on its W.

The ascent of the Dufourspitze from the E. or Macugnaga side was one of the boldest feats of modern mountaineers. It was first accomplished on July 22, 1872, by Messrs. W. M. and R. Pendlebury and the Rev. C. Taylor, with Gabriel Spechtenhauser, Ferdinand Imseng, and G. Oberto. The party bivouacked on the *Jägernetzen* rocks (5 hrs. from Macugnaga), then mounted direct the formidable ice and snow slopes which in the day time are swept by avalanches, and in 8 hrs. gained the base of the rocks leading up to the highest crest. Traversing successively the Grenzgipfel and the Ostspitze, the Dufourspitze was finally gained. A

Club hut has now been built on the *Jägernetzen* rocks (3,200 m., 10,499 ft.) by the Italian Alpine Club. It is called the **Marinelli hut**, from an unfortunate climber who perished in an avalanche while trying the ascent from this side. It cannot be too strongly impressed on the minds of our readers that this side of the mountain, though offering no serious climbing difficulties, is extremely dangerous, by reason of avalanches which fall continually. Those who undertake this route should, therefore, consider themselves favoured by great good luck should they meet with no misfortune. The Marinelli hut can be used for several similarly dangerous climbs—the ascent to the Silbersattel, or to the Grenzsattel (also called Zumsteinsattel), or to the Colle Gnifetti, or direct up the Nord End. But none of these expeditions can be recommended to mountaineers who consider that their craft is based on something more than exposure to inevitable and unavoidable danger.

(ii.) *The Nord End*.—This summit was reached for the first time in 1861, by Sir T. F. and Mr. E. N. Buxton and Mr. J. J. Cowell. It is best attained by way of its N.W. buttress, but is also accessible by a sharp ridge from the Silbersattel. By the last-named route it is possible to combine the ascent with that of the Dufourspitze in one day.

(iii.) *The Zumsteinspitze*.—Like all but one of the points to the S., this peak was first gained from the S. by way of the great snowy plateau N. of the Lysjoch, by Herren Zumstein, Molinatti, and A. and J. N. Vincent, in 1820. The ascent from the Regina Margherita Club hut takes about 1 hr. There is still an iron cross on the summit, left by Zumstein, while his initials and those of the two Vincents are still seen carved in the rock.

(iv.) *The Signal Kuppe or Punta Gnifetti*.—After several unsuccessful attempts Signor Gnifetti, the *curé* of Alagna, at last attained this summit

in 1842, and hence his name was given to it. Close to the top, on the Italian side, is the **Regina Margherita Club hut** (prices very high), built by the Italian Alpine Club, and named in honour of the Queen of Italy, who has visited it. Two men reside in this all summer. The view from the summit is unusually fine. This summit can, of course, be easily reached from the Riffel (as was first done in 1861 by Messrs. F. F. Tuckett, C. H. and W. J. Fox) on the way over to the Col d'Olen inn. 6 hrs. suffice for the ascent from the latter inn.

(v.) *The Parrotspitze*.—Dr. Frederic Parrot, in 1817, made a journey round the S. side of Monte Rosa, in order to determine the lowest limit of eternal snow, and his name has been given to this hump, which is easily accessible from either the Sesiajoch, on the N.E., or the Lysjoch, on the W. It was first visited by Messrs. Macdonald, Grove, and Woodmass, in 1863.

(vi.) *The Ludwigshöhe*.—Another explorer of the group, Ludwig, Baron v. Welden, made the first ascent of this snowy point in 1822, and his name was rightly given to it, as he published in 1824 the first monograph on the Monte Rosa group. The climb up from the gap between the peak and the Schwarzhorn takes  $\frac{1}{2}$  hr. by snow slopes.

(vii.) *The Schwarzhorn*.—The exact position of this point was long uncertain, though it actually stands on the main ridge. Hence it was not ascended till 1873, when Baron v. Rothschild and the Marchese Marco Maglioni went up it. It is accessible in a short  $\frac{1}{2}$  hr. by snow and rocks from the gap between it and the Ludwigshöhe.

(viii.) *The Vincent Pyramide*.—Besides Zumstein, other Gressoney men took part in the early explorations on the S. side of Monte Rosa, the Vincents. So after J. N. Vincent had, in 1819, first climbed this peak, his family name was most appro-

priately given to it. From the Gnifetti hut the ascent takes 2 hrs., the usual route making a circuit and finally mounting the snowy N. face.

(ix.) *The Balmenhorn*.—Few summits have given topographers more trouble than this comparatively small point. It is clear now that it is a rocky crest rather W. of the ridge between the Schwarzhorn and the Vincent Pyramide. It can be climbed in 5 min. by rocks from the snow field between it and the Vincent Pyramide, and was probably first attained by Signori Pedretti and Mariotti, in 1875.

(x.) *The Punta Giordani*.—This point too takes its name from its first conqueror, Dr. Pietro Giordani, of Alagna, who climbed it in 1801, this being the first recorded occasion on which any peak of the Monte Rosa cluster was scaled. It is accessible in 3 hrs. from the Col d'Olen inn by the Indren gl., or from the Gnifetti Club hut by any of the three ridges which join to form the peak.

It appears probable that a quick walker starting from the Col d'Olen inn might, with good snow, climb in succession all the S. peaks of Monte Rosa up to the Punta Gnifetti, where he could spend the night; next day it would be practicable to continue this splendid excursion, ending at the Dufourspitze, or even the Nord End, and gaining the Riffel that night. If the start were made from the Gnifetti Club hut a good climber might take all the summits up to the Zumsteinspitze, and yet gain the Riffel the same night.

(b) *The Lyskamm*.—The greatest of the tributary glaciers flowing from the mass of Monte Rosa is the *Grenz* gl., descending from the central plateau between the Dufourspitze and the Lyskamm. At the head of this gl. is the Lysjoch (Rte. D), and it was hence that the first ascent of this peak was made in 1861 by a large party, headed by the Rev. J. F. Hardy. The climb takes about 3 hrs. and is not difficult, but the ridge



is very often heavily corniced, so that very great care should be taken. The summit may also be attained from the Felikjoch, on the W., by a very long and in part narrow arête. But Messrs. C. E. Mathews and Morshead in 1867 showed that the easiest, safest, and most direct route is by way of the rocky S.W. ridge, which may be gained either from the head of the Felik gl. or from the Lys gl. by a traverse (6 hrs. up from the Quintino Sella Club hut). An even shorter route is by the S. arête (4 hrs. from the Gnifetti hut).

(c) *The Zwillinge, or Twins.*—These are two snowy points, also called the *Weisse Brüder*. The higher and more southerly, *Castor*, is accessible from the Felikjoch in 1 hr. (or in  $1\frac{1}{4}$  hr. from the Zwillingenjoch). The lower and more northerly, *Pollux*, may be gained by its S.W. ridge in  $1\frac{1}{4}$  hr. from the Schwarzthor, or in 1 hr. from the Zwillingenjoch. They can easily be climbed together in one not very long day from the Riffel and back, or on the way from the Riffel to Fiéry or Gressoney, Pollux being taken first.

(d) *The Matterhorn.*—This is now the accepted Swiss name of the great Zermatt peak, and is taken from the 'Matten,' or meadows, which have also given their name to the village at its foot. On the Italian side the mountain is called 'Cervin,' probably a form of 'Sylvius.' All these names were originally applied to the St. Théodule pass, and later transferred to the great peak which dominates it. The three names seem to be first given to the mountain in 1804, in 'Ebel's' Guide Book. Its height is 4,505 m. (14,781 ft.) according to the Swiss, and 4,482 m. (14,705 ft.) according to the Italian engineers.

The history of the successive attempts to vanquish this formidable peak, and of the catastrophe that marked the first victorious attack, is well known to those interested in Alpine adventure, and has been

graphically told in Mr. Whymper's classical work, 'Scrambles amongst the Alps' (1st edition, 1871; 4th and definitive edition, 1893). The first complete ascent on the Swiss side was made on July 14, 1865, by Mr. Whymper, Rev. C. Hudson, Lord F. Douglas, and Mr. Hadow, with Michel Croz and the two Taugwalders; but, save Mr. Whymper and the two Taugwalders, all the party perished on the descent, owing to a slip on the iced final slope. Three days later the first ascent from the Italian side was made by a party of men from the Val Tournanche. In 1867 Mr. F. Craufurd Grove made the 3rd ascent, climbing up on the Italian side, but finally traversing a very difficult shelf (the 'galerie') across the W. face of the peak to the N.W. arête. In 1868 the Rev. J. M. Elliott, with Peter Knubel, made the first ascent on the Swiss side since the accident, and a few days later the late Prof. Tyndall (one of the earliest and most persevering explorers of the mountain) ascended on the Italian side and descended on the Swiss side. The same year Signor F. Giordano made geological observations on the occasion of his traverse. He has shown that, although in great part crystalline in structure, the rocks exhibit a very regular structure-like stratification, and that, about mid-height, a mass of gabbro, 1,600 ft. in thickness, and conspicuous on the W. side, takes the place of talcose gneiss on the E. face of the mountain. In 1871 an English lady gained the summit by the Swiss route, and later in the same year an American lady traversed the peak from Switzerland to Italy. Ascents by either route are now very frequent during the summer, and good climbers have not only succeeded in climbing the peak in a single day from either Zermatt or Breuil, but have passed from one place to the other in the day. Difficult and dangerous routes have also been forced up from the Z'Mutt gl. by the W. face, and by the N.W. ridge.

(i.) *The Swiss Route.*—Under or-

dinary circumstances this way offers no great difficulties save to an inexperienced climber. It is usual to spend the night in the **lower hut**, 3,298 m., 10,821 ft. (4 hrs. from Zermatt), unless the Schwarzsee Hôtel be preferred. Beyond, there is some danger of falling stones (particularly in the afternoon), while getting from the snow on to the E. face, but then the latter is climbed without difficulty, past the abandoned *upper* hut, to the 'shoulder,' whence the rest of the climb is made by the N.E. ridge (leaving to the r. the slope on which occurred the great accident of 1865), there being fixed chains and ropes. 4-5 hrs. suffice for the ascent from the lower hut. When there are several parties on this side of the peak at the same time great care must be taken to keep together, as it is easy to dislodge stones, by which the advance parties are exposed to great danger. A Rly. from Zermatt is projected up this side of the peak.

(ii.) *The Italian Route.*—This is a harder climb than the former, though many ropes have been fixed on the way, but it is safer, as there are no falling or loose stones. It is usual to sleep at the new **Luigi di Savoia Club hut** (3,890 m., 12,763 ft.), at the foot of the 'Grande Tour,' reached in 6 hrs. from Breuil by keeping far to the W. of the couloir leading up to the Col du Lion, and traversing along the face of the Tête du Lion (fixed rope), whence steep rocks lead direct to the Club hut. Steep rocks lead up hence to the 'Cravate': here the *old hut* (4,122 m., 13,524 ft.) lies  $\frac{1}{4}$  hr. out of the way on the r. Next the end of the great S.W. buttress, the *Pic Tyndall*, is gained, and a nearly level ridge traversed to the gap at the foot of the last precipitous rocks. These are scaled by a series of fixed ropes and a short ladder, and so the summit reached in 4-5 hrs. from the new Club hut.

The prospect from the summit of the Matterhorn is very extensive, and

has been photographed by Signor Vittorio Sella. It extends to the Viso and the Dauphiné peaks, while Zermatt itself is but a speck far below.

(e) *The Dent d'Hérens.*—This ascent from the Zermatt side by way of the Tiefenmattenjoch is very dangerous, and the peak is best taken from the head of the Valpelline (§ 19. Rte. E), though it may also be gained from Breuil (Rte. B. below).

(f) *The Dent Blanche.*—Of all the peaks round Zermatt this, perhaps, save under exceptional circumstances, is the most consistently difficult. It is usually climbed (since the destruction of the Club hut on the Stockje) in 6-7 hrs. from a bivouac on the Schönbühl promontory, near the head of the Z'Mutt gl. (see § 19. Rte. H.), or in 5-6 hrs. from the new Club hut on the S. Col de Bertol (§ 19. Rte. C.)

(g) *The Ober Gabelhorn.*—This splendid peak (4,073 m., 13,364 ft.) was not conquered till 1865, when it was gained from the Zermatt side by Messrs. A. W. Moore and H. Walker, followed next day by Lord F. Douglas, who scaled it from the Zinal side. At least 6 routes have now been discovered to its summit, and this gives it an exceptional position among Alpine summits. That most usually taken is by the N.E. arête. The best starting point is the inn at the Trift gorge. Thence the Gabelhorn gl. is mounted and the N.E. arête (often heavily corniced) gained just at the foot of the final peak. The climb takes 6-7 hrs. from the inn. Sometimes the rocky E. face is traversed to the N.E. ridge, but it is better to gain that ridge direct.

(h) *The Zinal or Moming Rothhorn.*—As indicated in § 19. Rte. I, this summit (4,223 m., 13,856 ft.) was first attained, from the Zinal side, in 1864, but it was only in 1872 that Messrs. C. T. Dent and Passingham succeeded in forcing a way up from the Zermatt side. Nowadays the Zermatt route has become the chief mode of access, and the ascent is

perhaps the most popular among those at Zermatt, save that of the Matterhorn. It is an easier climb than those of the Matterhorn and Weisshorn, and is often made even by active beginners. From the Trift inn the S.E. ridge is gained by the Eseltschuggen rocks and a long snow slope, and then followed to its junction with the main mass of the mountain. A traverse across the S. face leads to a notch in the S. ridge, at the base of the final rocks, which are scaled mainly by a long crack. 5-6 hrs. suffice from the inn. It is a pleasant variation to traverse the peak to the Mountet Club hut, on the Zinal side.

(i) *The Weisshorn*.—This summit (4,512 m., 14,804 ft.) is perhaps the most beautifully sharp and symmetrical of the pyramidal peaks of the Alps, but its ascent, though long feared, is rather laborious than difficult, at least by the usual route along the E. arête. It is formed by the intersection of a main N. and S. ridge with another that descends towards Randa on the E. The N.E. and S.E. faces of the pyramid, as well as the upper parts of the three ridges leading to the top, are mainly formed of hard-frozen snow. On the W. side the pyramid is broken, and displays those vast precipices that present so grand an aspect from the heights above Zinal. The honour of making the first ascent fell to the late Prof. Tyndall, who achieved it in 1861, with Ulrich Wenger and J. J. Bennen, and has given a narrative of the expedition in his genial little volume entitled 'Mountaineering in 1861.' The second ascent was made in 1862 by Mr. Leslie Stephen. The lower two-thirds of the E. arête are formed of successive teeth of rock which start out of steep snow slopes, seamed by couloirs of ice. The earlier ascents were made by a dangerous traverse across the gullies on the S. face of the E. arête, but it has now been found better to keep along the crest of the ridge itself. The final snow ridge is sharp, and ends abruptly on

l. on the edge of precipices of which Mr. Stephen says, 'I have never seen more fearful cliffs.' The summit is a solid angle of frozen snow, ending in a point, the three ridges of the mountain here meeting. For this ascent it is necessary to bivouac on the Hohlicht slopes, 3 hrs. above Randa; thence the ascent takes usually about 6 hrs., but can be done in less.

The peak has also been scaled by the great W. face, by the S. arête from the Schallijoch, and by the great N.E. face and N. ridge from the Bies gl., but all these routes are difficult and dangerous in varying degrees, and cannot be recommended for general adoption.

(k) *The Mischabelhörner*.—This is the loftiest of all the ridges round Zermatt, next after that of Monte Rosa itself. It is crowned by two pointed summits (visible from Zermatt itself) of nearly equal height: the N. summit is the *Dom* (4,554 m., 14,942 ft.), the highest peak in Switzerland after the Dufourspitze, and the S. one is the *Täschhorn* (4,498 m., 14,758 ft.) Between them is the lofty *Domjoch* (4,286 m., 14,062 ft.) These two summits and the ridges N. and S. of them are sometimes called the *Saasgrat*. The ridge continues N.E. from the Dom, and at *Südlenspitze* (4,300 m., 14,108 ft.) sends off a great buttress to the N.W., which is crowned by the *Nadelhorn* (4,334 m., 14,220 ft.) and the *Hohberghorn* (4,226 m., 13,865 ft.) This buttress divides the Hohberg gl. from the extensive Ried gl., and is often called the *Nadelgrat*; its higher points may be climbed from the Randa side, but are more usually ascended from Saas, and so may be considered in Rte. O. below. The Dom was first ascended in 1858 by the Rev. J. Ll. Davies, who, with the Rev. J. W. Hayward, was also the conqueror, in 1862, of the Täschhorn. The usual starting point for the *Dom* (as well as for the *Nadelgrat*, if climbed from this side) is now the new *Festi*



*Club hut* (2,936 m., 9,633 ft.), on the r. bank of the Festi gl., which flows due W. from the desired peak (3 hrs. from Randa). Hence a gap in the ridge dividing the Festi and Hohberg gls. is gained, and then this ridge followed to the top, which may also be gained by the great snowy N. face. By neither route is any serious difficulty encountered. 6-7 hrs. are required from the Club hut. The view from the summit is considered by Mr. Stephen (who made the second ascent) as 'the very finest in the Alps,' and this opinion has been confirmed by many other competent judges. The ascent of the Dom from Saas by the E. face is difficult, and very dangerous by reason of falling stones. Active climbers may, however, follow the ridge from the Dom across to the Täschhorn, and descend to the Zermatt valley by the Domjoch (this is a magnificent climb in fine weather); or may *first* take the Täschhorn from the Mischabeljoch and then the Dom.

The *Täschhorn* is less easy of access. It is necessary to bivouac under a rock near the end of the Kien gl. (3 hrs. from Randa), and then to make a way up the N. arm of that gl. to its head, whence a steep climb up snow or ice slopes leads to a high gap in the S.W. arête, by which the ascent is completed (6-7 hrs. from the bivouac). The summit may also be gained from the Täsch alp inn, or the Mischabeljoch, by the long and usually heavily-corniced S.E. ridge, while the climb up the E. face from Saas is very steep, though not as dangerous as that of the Dom from the same side.

(l) The *Alphubel*, the *Allalinhorn*, and the *Strahlhorn* may all be made the object of a visit from Zermatt, but are usually climbed on the way over one or other of the passes to the Saas valley, and may best be described in connection with these (Rte. O. below).

(m) The **Rimpfischhorn**. — This summit, too, may be gained from

either of the passes between which it lies, but, though the view thence over Piedmont is perhaps not so fine as from the slightly lower Strahlhorn, it is more frequently ascended direct from Zermatt, and so may best find a place among the ascents from Zermatt. The first ascent was made by Messrs. Leslie Stephen and Liveing in 1859. The start may be made from either of the inns on the Riffel, but now most conveniently from the little inn on the Fluh alp, 2½ hrs. above Zermatt. Thence the long ridge of the *Rimpfischwänge*, projecting far to the W. from the peak, is easily gained, and followed to the foot of the final rocks, the climb up which seems more formidable from a distance than it is in reality. 5-6 hrs. are required for the ascent from the Fluh alp. Good climbers will find it an interesting rock climb of 3 hrs. from the Adler Pass, or of 5 hrs. from the Allalin Pass.

In bringing to an end this brief sketch of the chief excursions and ascents round Zermatt, it may be as well to add that a very favourite and easy excursion is to the summit of the St. Théodule Pass (described in the next Rte.), whether the ascent of the Breithorn be combined with it or not.

#### ROUTE B.

ZERMATT TO CHÂTILLON BY THE ST. THÉODULE PASS. ASCENTS FROM BREUIL.

The **St. Théodule** is one of the most frequented, and in fine weather one of the easiest, glacier passes in the Alps. Mules may sometimes be taken across from Zermatt to Breuil, and in any case go on the Swiss side nearly as far as the lower inn, and on the Italian side up to the foot of the gl. The short bit of gl. on the Italian side is easy; the longer gl.

on the Swiss side is also quite easy, but large concealed crevasses do often occur, so that the rope should never be neglected, however unnecessary it may seem; and though good climbers may dispense with a guide, yet they should never go less than three. Accidents of a fatal kind have followed on the neglect of these obvious precautions. The inn on the summit of the pass has been much improved of late, and is used as a starting point by those who wish to secure an unclouded view from the Breithorn. Ascending from Zermatt 3 hrs. suffice to reach the lower inn, and 1 hr. more to gain the pass, whence it is an easy 2 hrs. down to Breuil; in the reverse direction reckon 3 hrs. up from Breuil and  $2\frac{1}{2}$ –3 hrs. for the descent to Zermatt.

There is no certain evidence that the Théodule was known to the Romans, but it was certainly traversed in the Middle Ages. The first distinct mention of it is by Ægidius Tschudi in his treatise 'De prisca ac verâ Alpinâ Rhætiâ' (1538), who calls it 'Mons Gletscher.' Other sixteenth-century topographers give it also the names of 'Mons Matter,' 'Mons Sylvius,' and 'the pass to Aosta.' The two former names were gradually transferred to the great peak on the W., though the pass is still sometimes called *Matterjoch*. One or two writers even call it 'Mont Rose' (roëse = glacier). But it is better known as the *St. Théodule*, from a great wooden statue of that saint (the first bishop of Sion and the patron saint of the Vallais) which existed there at the end of the seventeenth century, about the time when a redoubt was thrown up on the pass by order of the duke of Savoy then (1688) seeking to prevent the Waldensians from re-entering their native valleys near Turin.

The mule track from Zermatt passes along the l. bank of the Visp, crosses the stream from the Z' Mutt gl. by the second or higher bridge, and beyond the Zum See huts splits

into two branches. That to the r. leads to the Staffel Alp. The way to the St. Théodule lies up the l. branch, and at the next bifurcation, a little above, the l. branch must be again taken (the r. one going to the Schwarzsee inn). The ascent has now become steeper, and in about 2 hrs. from Zermatt the grassy pastures give way to the moraines of the Théodule gl. and the smooth rocks below them. The mule path is, however, taken over these to within a short distance of the *lower inn*, on the *Leichenbretter* rocks.

[Here falls in the route for pedestrians only, from the Riffel inns— $\frac{1}{2}$  hr. shorter than that from Zermatt—which crosses the Gorner gl., and then mounts along the E. edge of the Leichenbretter rocks.]

The ascent over the Théodule gl. is easy, though it is laborious after a fall of snow. There is usually a well-defined track over it in a due S. direction, which leads to the rock ridge of the Col (3,322 m., 10,899 ft.) 5 minutes' ascent from the snow up screes is the inn. On about this spot Saussure spent 3 days in 1792 in a temporary shed, making, during his stay, the first ascent of the Klein Matterhorn. Meteorological observations were made, at the expense of M. Dollfus-Ausset, of Basel, in the inn for three successive winters, about 1865.

[Mountaineers may take a shorter route from Zermatt to Breuil. This is the *Furggjoch* (3,357 m., 11,014 ft.), at the very foot of the Matterhorn. It is the most direct route from the Schwarzsee Hôtel. On the Swiss side the *Furgg* gl. is traversed, and there is another smaller gl. on the Italian side, but this pass presents no real difficulties. So much cannot be said of two other passes between the same places. These lie between the Matterhorn and the Dent d'Hérens. The more easterly is the *Col du Lion* (3,577 m., 11,736 ft.), the ascent to which on the Swiss side is by an excessively difficult and

dangerous couloir, though the Italian side is perfectly easy. The other pass is the *Col de Tournanche* (3,468 m., 11,378 ft.), which is very steep and long on both sides.]

The view from the pass may be greatly extended in the direction of the Dent Blanche, &c., by climbing in  $\frac{1}{2}$  hr. the *Theodulhorn* (3,472 m., 11,392 ft.), just N. of the pass. A still wider prospect may be obtained from the *Klein Matterhorn*, 3,886 m., 12,750 ft. (2 hrs.), a detached peak of bold form lying a little S. of the ridge connecting the Breithorn with the St. Théodule. This is most easily gained by snow slopes on its S. side from the route to the Breithorn. The **Breithorn** (4,171 m., 13,685 ft.) is, however, the favourite excursion. This is the massive, nearly flat-topped mountain which forms the W. end of the chain stretching from the Monte Rosa cluster of peaks. On the N. side it presents ranges of dark rocks rising above steep snow slopes and glaciers; it can be ascended on this side, but the climb is steep and rather dangerous. On the S. side it is perfectly easy of access ( $2\frac{1}{2}$ -3 hrs. up from the pass) by a continuous snow slope of moderate inclination; but the snow is exposed to the southern sun, so that it soon becomes soft, and hence an early start from the St. Théodule inn is advisable. The first ascent of this now frequently visited mountain seems to have been made by a French traveller, M. Henri Maynard, in 1813, with J. M. Couttet, one of Saussure's guides, who had been with him in 1792 on the neighbouring Klein Matterhorn. The first English traveller who is known to have certainly reached the summit is Sir John Herschel, whose expedition was made in 1821 or 1822, for Lord Minto's ascent appears to have taken place in 1830, though it is sometimes dated in 1818.

[The traveller bound from the St. Théodule to the Ayas glen may reach Fiéry, at its head, in 3 hrs. or so,

either by keeping nearly due S. from the St. Théodule, and crossing a gap N. of the Col des Cîmes Blanches, or by bearing due S. from the great snowy plateau just S. of the Breithorn, and going down the E. branch of the Aventina gl.]

In descending from the St. Théodule on the Italian side the traveller must avoid the broad smooth basin of névé before him, and bear well to the right, the track lying for about  $\frac{1}{2}$  hr. over gl. and below the remains of the redoubt of 1688. At the foot of the gl. a good new mule path leads over some rocks, and then over pastures to the *Hôtel du Mont Cervin* (2,097 m., 6,880 ft.), now much enlarged and very good headquarters. This is often said to be at Breuil, but is really at the *Jomein* or *Giomein* huts, the true Breuil huts lying in the basin below (2,004 m., 6,575 ft.), and having a small inn to themselves. To avoid confusion, however, the Giomein inn will in these pages continue to be named **Breuil**.

Breuil is an excellent station for the botanist, who, among other rare Alpine plants, may find *Saponaria lutea*, *Silene vallesia*, *Trifolium saxatile*, *Potentilla norvegica*, and *P. nivea*.

[A very fine view of the Matterhorn may be gained from the *Motta di Pleté*, 2,889 m., 9,479 ft. (2 hrs., accessible on mule back), and a still better one from the *Gran Sometta* (3,167 m., 10,391 ft.), on the E., a point which may easily be climbed from the Col des Cîmes Blanches (described in Rte. G) on the way over to the Ayas glen.]

Mountaineers will find many ascents to make round Breuil. The chief, of course, is that of the *Matterhorn*, described in Rte. A. 3. d. The *Dent d'Hérens* (4,180 m., 13,715 ft.) can be gained from Breuil by way of the Col des Grandes Murailles, on its S., which is attained by the difficult Mont Tabel gl. in 7-9 hrs. A harder route up the



peak is by way of the S.E. and E. ridges.

There are no easy passes across the jagged line of peaks stretching S. of the Dent d'Hérens till beyond the Château des Dames, though several high gaps have been traversed by adventurous climbers seeking routes from the head of the Val Tournanche to that of the Valpelline. But many of the peaks on this lofty ridge (enumerated in detail in § 19. Rte. F) offer good rock climbs, which may best be undertaken from the inn at Breuil. The *Pointe des Cors*, 3,855 m., 12,648 ft. (8 hrs.), is attained from the Cors huts by a route always bearing N., and a traverse under the Punta Giordano. The *Punta Lioy* (c. 4,000 m., 13,124 ft.) is climbed in 11 hrs. direct up the face. The gap between the Jumeaux de Val-tournanche can be reached by ascending to the cliffs under the Bec de Guin, and then bearing N. for 3 hrs. From this gap either of the *Jumeaux* (P. Giordano, 3,873 m., 12,707 ft., N. peak; P. Sella, 3,860 m., 12,665 ft., S. peak) can be ascended in  $\frac{1}{2}$  hr. The *Bec de Guin*, 3,805 m., 12,484 ft. (7 hrs.), is gained by way of the *Bayettes* huts, a traverse l. across the rock wall to the ridge S. of the summit, and then along this ridge. By turning S. on attaining the ridge the *Bec de Créton* (3,637 m., 11,933 ft.) may be climbed. The *Tour de Créton* (3,583 m., 11,756 ft.) may be reached in about 2 hrs. from the lofty Col de Créton, to its S. For the ascent of the Château des Dames and its neighbours see § 19. Rte. F.]

The mule track below Breuil enters a ravine and is carried along a steep slope of rock to the little chapel of *N.D. de la Garde*. It then traverses a green basin, below which the torrent has cut a very deep cleft through the serpentine rock, so narrow that in some places the opposite walls are in actual contact. This spot, called the *Gouffre des Busserailles*, has been made accessible from below and deserves a visit,

which well rewards the slight loss of time involved. Lower down the path crosses the torrent, and follows the r. bank until, after returning to the other bank, a short ascent leads to the principal hamlet in the valley,

Paquier, called commonly *Val-tournanche*, 1,524 m., 5,000 ft. (2 hrs. from Breuil.) The view hence down the valley, closed by the distant peak of the *Tersiva*, in the mountains of Cogne, is extremely fine.

The ascent of the *Grand Tourmalin* (3,379 m., 11,086 ft.), on the E., can be made in 5 hrs., there being a mule path to the summit, on which is the *Carrel Club hut*, and is strongly recommended, as the panorama is superb. It can be taken on the way over to S. Giacomo d'Ayas or to Fiéry. For the ascent of the Château des Dames and its neighbours on the W., and for the passes to the Valpelline, see § 19. Rte. F, and for the passes to the Val St. Barthélemy see § 19. Rte. G. *ad fin.*]

There is now a char road from the village all the way to Châtillon (11 m.) After descending the steep hill on which stands the village it passes nearly all the way along the r. bank of the torrent, amidst very beautiful scenery, the chestnut and walnut trees often forming a framework for the Matterhorn, which is seen on looking backward. On the way some extraordinary remains of a fifteenth-century aqueduct may be seen high up on the face of the rock on the r., built to supply water to the hamlet of St. Denis, above Cham-bave, in the Dora Baltea valley. These are continued at intervals for several miles. The finest portion consists of several arches, very perfect, hanging like a picture against a nearly perpendicular cliff, several hundred feet above the valley, opposite the village of *Antey*. Near the latter village another aqueduct (thirteenth century) on the l. bank of the valley leads down to the upper slopes above Châtillon and St. Vincent, this too being seen in part from the valley

road. The road for the last 2 m. rises high above the torrent, but pedestrians can find a path near the stream, leading more directly to Châtillon. (Those who are bound from Zermatt to the valley of Ayas may combine the finest part of the scenery of the Val Tournanche with a tolerably direct route to the former valley by crossing the Col de Portola from Antey to Ayas, Rte. H.)

Châtillon (551 m., 1,808 ft.) is a large village, the next in importance to Aosta, in the Dora valley, standing at the junction of the Val Tournanche with the Dora Baltea or Aosta valley. It is now a station on the railway from Ivrea to Aosta (15½ m. from the latter city), described in § 15. Rte. A. The chief objects of interest at Châtillon are the bridges. A Roman arch, still standing, is surmounted by a later bridge, which in its turn was superseded by the modern structure, a single arch, boldly thrown across at a great height above the stream. Ruined châteaux on the heights add to the picturesqueness of this part of the wonderful Aosta valley.

#### ROUTE C.

##### ZERMATT TO VERRÈS BY THE SCHWARZTHOR AND THE VAL D'AYAS.

It has been a difficult matter to decide how the valleys radiating from the S. and E. sides of the range of Monte Rosa, and the passes connected with them, may be most conveniently described. Formerly travellers, selecting either the higher passes nearest the central mass, or those more distant and easier, made, either partially or completely, the circuit of the entire group included in the present Section. But since the number of known passes between the adjoining valleys has been largely increased, and mountaineers have found their way across the range

of Monte Rosa from Zermatt to the head of each of the four principal valleys, over what was long deemed an impassable barrier, the number of possible routes open to visitors is multiplied to an extent rather inconvenient to the writer of a guide-book. In this and the three following Rtes. the passes leading from Zermatt across the main range of Monte Rosa, and the course down each of these four valleys to its lower extremity (where a railway is joined), are described, while in the subsequent Rtes. are included some of the countless passes lying in the circuit round the S. and E. sides of the range. As the passes to be described in Rtes. C, D, E, and F are among the highest known in the Alps, there is a manifest advantage in taking them from the upper Riffel inn, though the Sesiajoch is so difficult that it is better to *ascend* it from the Italian side.

It has been already observed that the long, nearly flat-topped, ridge of the Breithorn presents, towards Zermatt and the Gorner gl., ranges of very steep rocks. On its E. side it is separated from the broken masses of rock and ice that descend from the Zwillinge towards the Gorner gl. by the *Schwärze* gl., which expands gradually in width as it descends from the crest of the ridge, and is usually broken into a sort of giant staircase by broad, parallel, transverse crevasses. This is bordered on the E. side by a range of nearly vertical rocks, facing a little N. of E., at first very lofty, but diminishing in height as the gl., towards its source, approaches the ridge. At the head of this gl. there is a small, gently-sloping plateau, enclosed, as within a black gateway, by the rocks of the Breithorn and of Pollux, the N.W. summit of the Zwillinge. This gateway forms the pass of the *Schwarzthor*, first traversed in 1845 by Mr. Ball, whose vivid description of his passage, in the first series of 'Peaks, Passes, and Glaciers,' is well known. The Gorner gl. is gained by a descent from

the Monte Rosa path just E. of the Riffelhorn, and crossed to the foot of the ridge descending from Pollux. Higher up the crevassed portion of the Schwärze gl. may be turned by the rocks on the r. bank, but not unfrequently it is possible to ascend straight up from its foot. 5 hrs. suffice from the Riffel to the pass (3,741 m., 12,274 ft.), the view from which is limited by the projecting rocks of the Breithorn.

But it is easy to obtain a fine panorama by climbing *Pollux* (4,094 m., 13,433 ft.) by its S.W. arête or S. face (1¼ hr.), while *Castor* (4,230 m., 13,879 ft.) may be ascended by its W. face in 2 hrs. from the Schwarzthor. The two may thus be easily combined in the same excursion, and the return made by the Felikjoch, Rte. D, though now the new Club hut at the N. foot of Monte Rosa enables the expedition to be taken even better in the reverse direction. From Castor it is perfectly easy to go down due S. in 2 hrs. to the Quintino Sella Club hut (3,601 m., 11,815 ft.), on the ridge between the Ayas and Lys valleys; see Rte. D.]

On the Italian side it is necessary to keep at first to the l. along the base of Pollux, and then to bear S.W., so as to gain the snow at the W. base of the great rock ridge dividing the two arms of the *Verra* gl. The descent is completed by the l. bank of the W. arm (the E. arm is practicable, but harder), and so the highest *Verra* hut is reached. Some way beyond, at the meeting point of the two branches of the Ayas valley, are the huts of **Fiéry** (1,878 m., 6,162 ft.), where there is now a very comfortable and finely-situated inn, the best headquarters in these parts (4 hrs. from the Schwarzthor). (Hence it is 5-6 hrs. up to the Quintino Sella Club hut, mentioned above, while the passes to the neighbouring Italian valleys are described in Rtes. G and H.)

[In 1863 Mr. S. Winkworth effected a pass, now called the *Zwillings* or *Verra Pass* (3,861 m., 12,668 ft.),

between the two summits of the *Zwillinge*. The ascent on the Swiss side, by the *Zwillings* gl. and an ice slope, is much steeper than that to the Schwarzthor, while on the Italian side the route of the last-named pass is soon joined. Either of the *Zwillinge* is easily accessible in 1-1¼ hr. from this pass, which may serve as a variation on the Schwarzthor.]

Fiéry stands at the junction of the torrents from the *Verra* gl. and of the *Aventina* gl., the united stream being called *Evançon*, a name spelt in different ways. The dialect of the inhabitants of the upper part of the valley is rather different from the usual patois of the tributary glens of the Dora Baltea valley, and may represent an early form of Romance. ¼ hr. below Fiéry is the first hamlet, *S. Jacques*, or *San Giacomo d'Ayas* (1,676 m., 5,499 ft.) Lower down (char road all the way to Verrès) the scenery is very beautiful, and deserves more attention from English travellers than it has yet received. It is a walk of 3 hrs. more, passing about half-way the chief village, *Ayas* (1,710 m., 5,610 ft.), and the vestiges of a lake caused by a great landslip, to *Brusson* (1,332 m., 4,370 ft.), a finely-situated village (with a good mountain inn) on the most frequented route from Aosta to Gressoney (see Rte. I). (A traveller bound from Fiéry to Châtillon by the Col de Joux need not descend as far as Brusson, but may find a path which leaves the valley higher up.) Below Brusson the valley is called *Val Challant*. It is 3 hrs. from Brusson to Verrès, beneath the fine ruins of the castle of *Graines*, and past several villages of *Challant*, which gave their name to a powerful mediæval feudal dynasty, the lords of the entire Ayas valley. It is said that the inhabitants of certain villages in the glen held their lands by the quaint tenure of covering with earth the gl. on the *Becca Torché* (3,015 m., 9,892 ft.), S.E. of Brusson, so that the complexions of the ladies of the house of Challant might not suffer from the



glare during their summer sojourn at their castle of Graines.

The way down the valley is throughout very beautiful, but it is very hot, and many cretins and goitred persons are seen, though not in such large numbers as in former years. *Verrès* is a station on the railway from Ivrea to Aosta, 18 m. from Ivrea, and  $23\frac{1}{2}$  m. from Aosta, which is described in § 15. Rte. A.

#### ROUTE D.

##### ZERMATT TO PONT ST. MARTIN BY THE LYSJOCH AND THE VAL DE LYS.

It has been already pointed out (Rte. A) that the greatest of the tributary glaciers flowing from the mass of Monte Rosa is the *Grenz* gl., which descends from the great snowy plateau forming the central portion of that group, and lying between the Dufourspitze and the Lyskamm. As it is well seen from the Gornergrat it was natural that soon after the opening in 1854 of the inn on the Riffel mountaineers should seek a way across the ridge at the head of this plateau into the Val de Lys, or Gressoney valley. This was successfully achieved in 1859 by Messrs. W. and G. S. Mathews. But many years previously this watershed had been reached and traversed, though the descent to the Gorner gl. had never before been made. In the Val de Lys there was a tradition that behind the snowy ranges which close its head there was a 'lost valley,' and it was to verify this that in 1778 seven young men of Gressoney, led by N. Vincent, set out on an adventurous quest. This party gained a rocky tooth just W. of the lowest depression in that ridge ( $\frac{1}{4}$  hr. W. of the point crossed by the route of the Lysjoch), and on the watershed. This was named by them the 'Discovery Rock'

('Entdeckungsfels'), as from it they looked down on the 'lost valley,' filled in its higher part by the ice stream of the Gorner gl., and girdled by a long line of savage peaks from the Mischabelhörner to the Dent Blanche. Many years later this ridge was traversed to the great snowy plateau on the N., first by Zumstein and J. N. Vincent (son of the hero of 1778), in 1820, when on their way up the Zumsteinspitze, and later in 1842 by Signor Gnifetti, on his way to the conquest of the Signalkuppe or Punta Gnifetti, not to mention the other expeditions of the adventurers before their final successes. But *as a pass* the Lysjoch was discovered and crossed in 1859 only. It is an easy expedition, but is very laborious if the snow is soft, so that an early start is most desirable. 10-11 hrs. suffice from the Riffel to Gressoney under ordinary circumstances.

The first part of the route, as far as the Bétemps Club hut on the Plattje rocks, is identical with that to the Dufourspitze ( $2\frac{1}{2}$  hrs.) The Grenz gl. may be ascended without difficulty, but it is best, when high up, to make a bend towards the E., as the true pass, the lowest depression, is defended by an ice precipice, so that the ridge must be crossed at the next gap to the E., between a snow dome and the Parrotspitze. On the way up to the pass the traveller crosses the Grand Plateau of Monte Rosa, a nearly level snow tract, more than 1 m. in breadth, and about 4,200 m. (13,780 ft.) in height, the S. peaks of Monte Rosa rising round it as low hills of snow, broken by projecting rocks. The pass is 4,277 m. (14,033 ft.), and commands, as might be expected from its great height, a glorious view. The traveller looks upon the great plain of Piedmont, enclosed by the Ligurian Apennines, and the curving line of the Maritime and Cottian Alps, from which, at a distance of nearly 100 miles, rises the noble pinnacle of Monte Viso. In the immediate foreground

is the broad eastern arm of the Lys gl., bounded on the r. by a long spur of the Lyskamm, and on the l. by the line of peaks from the Parrotspitze to the Vincent Pyramide.

¶ From the pass most of the minor summits of Monte Rosa, from the Parrotspitze southwards, can be climbed directly in 1 hr. or less, while the Lyskamm is accessible in 3 hrs. along the E. arête, on which great care is always required, as it is often heavily corniced.】

In about 1 hr. the descent is made without difficulty by the E. side of the E. arm of the Lys gl. to the **Gnifetti Club hut** (3,647 m., 11,966 ft.), on the Hohlicht, the best headquarters for all expeditions on the S. side of the mass of Monte Rosa.

¶ Hence there is a very fine view over the wide E. arm of the Lys gl., which unites with the W. arm, flowing from between the Lyskamm and Castor, below the steep rocky promontory called the *Nase*. This is the S. end of the great S. buttress of the Lyskamm, and its highest point is 3,719 m. (12,202 ft.) It may be easily visited from the Club hut by crossing the E. arm of the Lys gl., and, notwithstanding its great height, produces several kinds of flowering plants.】

¶ From the Gnifetti hut the inn on the Col d'Olen can be reached in 1 hr., or Alagna, in the Sesia valley, in 3 hrs.; for both, the Garstelet and then the Indren gls. are crossed in a S.E. direction to the Colle delle Pisse. To gain the inn hence it is necessary to keep nearly due S. by a good made path, while if bound for Alagna the track from the Colle delle Pisse is followed in an E. direction down the Bors glen to the main Sesia valley, which is descended past the Pile Alp to Alagna.】

½ hr. below the Gnifetti hut is the ruined *Linty hut*, on the Unterlicht. Hence there are several ways to Gressoney (3 hrs. from the higher hut). The *usual* way descends nearly due S. to the *Lavetz* chalets, a little

beyond which the Col d'Olen mule rack is struck, and followed past *Orsia* to Gressoney La Trinité, but it is a more attractive route to leave the mule track at the first Gabiet chalets, and descend past the lake of that name and through the lateral glen of *Netschio* direct to Gressoney La Trinité. It is also possible to go S.W. from the Linty hut, and traverse the *Salzafurka* to the glen of the same name, by which the *Cortlis* chalet (2,007 m., 6,585 ft.) is attained.

¶ In 1861 Messrs. W. Mathews and F. W. Jacomb discovered a lower but more difficult pass from the Riffel to the Val de Lys, which can also be used as a route to the Ayas glen. This is the *Felikjoch* (4,068 m., 13,347 ft.), between Castor and the Lyskamm. The ascent from the Riffel across the Gorner and up the crevassed Zwillings gl. takes about 5½ hrs. From the pass the Lyskamm can be climbed by a very long and in part narrow arête, while Castor can be gained in 1 hr. by an easy snow ridge, and is worth ascending for the very fine panorama to be obtained from the summit. *The point at which the ridge is passed lies close to the E. foot of Castor*, the lowest depression lying farther E., above an ice precipice the descent of which by mistake has cost one party their lives. Thus the actual line which must be taken does not lead from the Zwillings to the Lys gl., as might be expected, but from the Zwillings gl. to the Felik gl., near the ridge between the Lys and Ayas valleys. On this ridge, due S. of Castor, is the **Quintino Sella Club hut** (3,601 m., 11,815 ft.), gained in about 1 hr. from the pass by most parties, whether bound for Gressoney or Fiéry, unless those bound to the latter village prefer to bear S.W. much higher up, and go down the narrow Castor gl. and the E. side of the E. arm of the Verra gl. direct. From the Club hut Fiéry may be reached in 3 hrs. by descending S. towards the Bettliner

Pass, and crossing the ridge to the N. of that pass, so as to gain the chalets at the foot of the Verra gl. Travellers bound for Gressoney may gain the Cortlis chalet direct from the pass by going from the Felik gl. by a rocky ravine to the moraine on the r. bank of the Lys gl. From the Club hut, however, Gressoney may be more conveniently gained by going S. to the Bettliner Pass track, not far from that pass, and then following it to the Cortlis hut.】

This chalet commands a fine view of the Lys gl. and the peaks around it, and was used as night quarters by some of the early explorers of this district; this is no longer possible without permission from the owner, M. de Peccoz, and its place has been taken by the Q. Sella Club hut. (From Cortlis the *Telchenhorn*, 2,834 m., 9,298 ft., may be ascended in 2 hrs., and commands a very fine view of the neighbouring gls.) It is about 1 hr. down the valley from Cortlis to Gressoney La Trinité. On the way the hunting box of *Stavel* (the summer sojourn of the Queen of Italy) is passed. It belongs to the Baron de Peccoz, whose family, of Gressoney origin, made its fortune in Germany and was ennobled by the late King of Bavaria. The late Baron was a great chamois hunter, and in his house at Gressoney St. Jean is deposited his collection of stuffed animals and birds, killed by himself, which deserves a visit. At *Orsia* the mule track from the Col d'Olen is joined.

**Gressoney** is the name of the basin which includes all the upper part of the Val de Lys. The upper village is called *Gressoney La Trinité* (1,627 m., 5,338 ft.), and is about 4 m. ( $\frac{1}{2}$  hr.'s drive) by a carriage road from the lower village, *Gressoney St. Jean* (1,385 m., 4,544 ft.). 20 min. below La Trinité, in a very fine position at a sudden drop in the valley, is the new and splendid *Hôtel Miravalle*. Some way below is *Noversch*, the

home of Zumstein, one of the early explorers of the upper regions of the Monte Rosa group. The situation of these villages, amidst meadows and fruit trees, in a green basin formed by the widening of the valley, and yet in full view of the eternal snows, is very beautiful. The best book on the region is that by Signori V. Sella and D. Vallino, mentioned in the Introduction to this Section, while the Gressoney Section of Ratti and Casanova's 'Guida Illustrata della Valle d'Aosta' appeared in a separate and revised form in 1897.

【Many pleasant excursions and ascents may be made in the neighbourhood. Foremost among them is a visit to the Gnifetti, or the Q. Sella Club huts (5-6 hrs.), whence there are very fine views, easily extended by ascending some of the neighbouring eminences. The *Corno Bianco* (3,320 m., 10,893 ft.) may be best reached by the Rissuolo pass and the S.E. ridge, and may be taken on the way over to Alagna. Other ascents are more conveniently described in connection with the easy passes whence they are best made—the *Telchenhorn* (see above), the *Grauhaupt* (Rte. H), and the *Mont Néri* and the *Combetta* (Rte. I).】

The traveller will be struck by the fact that the tongue spoken in the Gressoney basin is German, resembling the dialect prevailing in the upper Vallais. It is known that long before 1218 this basin was a fief of the Bishop of Sion, who, probably before that date, brought in Vallaisan colonists over the St. Théodule. Some poems in the local dialect are printed in Signor Sella's book. The Vallaisan settlement here has historically nothing to do with that at Macugnaga, which is known to have taken place from the Saas valley in the second half of the thirteenth century.

There is now a first-rate carriage road from St. Jean to Pont St. Martin



(about 17 m.,  $3\frac{1}{4}$  hrs.' drive). About  $\frac{1}{2}$  hr. below St. Jean the valley contracts. The road crosses to the r. bank of the stream on leaving the Gressoney basin, and is very picturesque beyond, being carried among huge blocks that have fallen from the heights above. After a double crossing it returns to the l. bank at *Gaby*, where the appearance of the walnut denotes a change of climate.

[Hence several passes lead over in 5 hrs. to Piedicavallo, at the head of the Andorno valley : see Rte. K.]

Beyond is ( $8\frac{1}{2}$  m.) *Issime*, about half-way between St. Jean and Pont St. Martin.

[Hence the *Mont Néri* (3,070 m., 10,073 ft.) may be reached in 6 hrs. by way of the Col de Chasten, while the *Becca Torché* (3,015 m., 9,892 ft.)—celebrated from the quaint feudal tenure connected with it (see Rte. C)—is accessible in 6 hrs. by way of the *Col de Dondeuil*, leading over to Verrès. Both summits command magnificent panoramic views.]

Below Issime the torrent traverses the remarkably deep and narrow *Guillemore* chasm, which it has cut through the gneiss rock. The difference between ice-worn and water-worn rocks may be well studied here, as they are seen in close proximity. The chestnut becomes the prevailing tree as the traveller descends to ( $2\frac{3}{4}$  m.) *Fontainemore*, where the new road crosses to the l. bank.

[A path leads hence in about 6 hrs. to the Sanctuary of Oropa, Rte. K, by the *Col della Barma d'Oropa* (2,261 m., 7,418 ft.) The ascent is rather long through a lateral glen richly wooded below, wild and stony towards the top. Thence to the Alpe della Strada, about 1 hr. above Oropa, the path is faintly traced, and a guide is almost necessary.]

The scenery of the main valley is throughout very fine. The first vines are met with at ( $1\frac{1}{2}$  m.) *Lilianes* (for the pass to Graglia see Rte. K). Hamlets and scattered houses are seen perched on steep

slopes up to a height of 2,500 ft. above the stream. A steep descent over ice-worn rocks takes the traveller down to ( $4\frac{1}{4}$  m.) **Pont St. Martin**,  $9\frac{1}{2}$  m. from Ivrea and  $7\frac{1}{2}$  from Verrès, on the railway from Ivrea to Aosta, which is described in § 15. Rte. A.

#### ROUTE E.

##### ZERMATT TO VARALLO BY THE SESIA-JOCH AND THE VAL SESIA.

In a former edition the pass here described was not admitted without hesitation, and in the present edition it is retained for topographical reasons, so that this Rte. may range with its neighbours. The *Sesiajoch* must always be a difficult and dangerous expedition, especially the descent on the Italian side, made in 1869 by two English ladies, with Jean Martin. The pass itself was first crossed in 1862 by Messrs. H. B. George and Moore, and has since been traversed by a small number of travellers.

A traveller who has reached the Grand Plateau of Monte Rosa, after ascending the Grenz gl., has on the E. the Signalkuppe, and on the S.E. the Parrotspitze, connected together by a ridge which rises about 300 ft. above the level of the Plateau. On gaining this ridge he looks down upon the Sesia gl., and the head of the Val Sesia, lying some 8,000 ft. below him, and separated by a series of precipices and ice slopes that are only less formidable in appearance than those of the E. face of Monte Rosa. The attempt to force a direct passage across this barrier, 4,424 m., 14,515 ft. in height (one of the loftiest in the Alps), must be counted among the most daring exploits ever achieved in the Alps. The Editor (J. B.) has been favoured with the following notes by Mr. H. B. George. The guides were Christian Almer and Matthäus z.

Taugwald:—‘We slept at some good chalets about  $2\frac{3}{4}$  hrs. from Alagna, reached by the l. bank of the torrent from the Sesia gl., and left our quarters at 2.35 A.M. For 3 hrs. we marched over slopes generally knee-deep in rhododendron, and at last very stony, to a point some way up the l. bank of the Sesia gl. After a short halt we made our way across the gl. to the r.-hand corner of the base of the Parrotspitze, which lay nearly opposite us, and began climbing the rocks of which it is composed. After 2 hrs. of very easy but rapid ascent we had some steep snow slopes to mount, and then came to the foot of the arête, which took us almost to the top. The ascent of this is an affair of extreme difficulty, and would scarcely have been possible but for Almer’s skill and determination. After climbing some way we bore to the r., and tried to get along the ice slope to the couloir between the Parrotspitze and the Signalkuppe, with a view to making our way up to the lowest point between them, but the couloir itself looked frightfully steep, besides being dangerous from avalanches: so we relinquished it for the arête. This consisted of extremely steep rocks, often affording very slight footing, intermixed with narrow edges of snow, so steep as hardly to admit of steps being cut in the sides of them. After  $3\frac{1}{2}$  hrs. of this work we came to a slope of ice, covered a few inches deep with snow varying from  $43^{\circ}$  to  $50^{\circ}$ , which in rather more than an hour, or nearly 13 hrs. from our starting point, brought us to the top, i.e. to a point on the ridge going up from the true pass to the Parrotspitze, about (?) 120 ft. below that peak, and perhaps 60 ft. above the true col, which is practically inaccessible. The descent of the Grenz gl. was straightforward. It would be impossible to take this pass from Zermatt, or either way late in the year when the snow was gone from the gaps in the rock arête, and off the snow slope below the top. Christian Almer led the

way throughout, never being at fault for a moment, although he had only seen the mountain for 10 minutes through a break in the clouds two days before, our whole route remaining in cloud till we were fairly on the base of the Parrotspitze. The view from the summit, including the Italian lakes and Monte Viso, was marvellous.’ (H. B. G.)

On the second passage the party slept at chalets higher up, and reached the pass in  $9\frac{1}{4}$  hrs., exclusive of halts.

(The ridge between the Parrotspitze and the Ludwigshöhe has also been crossed by a difficult pass, called *Piödejoch*, or *Ippolita Pass*.)

The Sesia gl. is formed in the angle between the E. ridge of Monte Rosa, extending from the Signalkuppe to the Monte delle Loccie, and the S. ridge connecting the Parrotspitze and the Vincent Pyramide. Owing to the great steepness of the walls of rock that enclose it, no great accumulation of snow takes place at a high level, and the dimensions of the gl. are small as compared with the height of the neighbouring mountains. The N. branch, now called the *Vigne* gl., descends from the Col delle Loccie (Rte. G), and the S. branch is the *Piöde* gl.

To the S.W. of the Piöde gl., on the E. side of the ridge connecting the Vincent Pyramide with the Colle delle Pisse (Rte. G), is the *Bors* gl., which sends down its torrent through the Bors glen to join the Sesia. Travellers visiting the Val Sesia should not fail to approach the base of Monte Rosa at least as near as this point, which may be reached in 2 hrs. from Alagna. The view may rank as second only to that from above Macugnaga. A still nearer view may be gained by ascending the ridge N. of the Bors glen ( $1\frac{1}{2}$  hr. from the Pile huts). At the head of the latter valley is seen a very fine waterfall, that of *Pisse*, (?) 600 ft. in height, fed by the snows of the Vincent Pyramide.

In descending from the Piöde gl. to Alagna it is best to keep to the l.

bank of the torrent until, after joining the track from the Turlo Pass (Rte. H), a bridge, with an oratory beside it, is crossed. The way then lies chiefly on the r. bank, again crossing and re-crossing the Sesia. In coming down from the Pile alp huts the path lies on the r. bank of the Sesia, descending a steep staircase of rock at the base of the *Stoffelberg* (which shuts out the view of Monte Rosa), until, at the oratory above mentioned, it joins the main track to Alagna.

The position of **Alagna** (1,191 m., 3,908 ft.) is not very striking, but the neighbourhood offers some of the finest scenery in the Alps. The fullest guide book for the Val Sesia and its tributary glens is that by F. Tonetti, published at Varallo itself.

【Besides the passes described in Rtes. G, H (especially the Col d'Olen), and I, the mountaineer may devise many excursions of the highest interest. One deserving of especial notice, hitherto much neglected by English tourists, is the ascent of the **Corno Bianco** (3,320 m., 10,893 ft.), the highest summit in the ranges S. of the mass of Monte Rosa. From Alagna it is best gained by way of Riva Valdobbia, the Vogna glen, the path to the Risuolo Pass, and the S.E. ridge (c. 7 hrs.), but the most convenient starting point is the Hospice on the Col de Valdobbia (Rte. I), whence the ascent takes 6 hrs. More difficult routes have been forced up from the Pujo gl. on the N.E., and along the N. arête.】

The upper part of the **Val Sesia** is German-speaking, the language being of the Upper Vallais type, though frequent intercourse with the Italian-speaking folk of the lower part of the valley has caused some intermixture of dialects. The Counts of Biandrate (who settled the Vallais colony at Macugnaga) were very powerful in the upper Val Sesia before 1270, and if the German-speaking population of Alagna and Riva was introduced by them it must have been before that date. But it is far more probable that

it is an offshoot of the Vallais colony at Gressoney, with which place there is easy communication over low passes.

There is now a good carriage road from Alagna to Varallo (23 $\frac{3}{4}$  m., 4 $\frac{1}{2}$  hrs.' drive), the road keeping throughout on the l. bank of the Sesia.

1 $\frac{1}{2}$  m. below Alagna is **Riva Valdobbia** (for the Col de Valdobbia see Rte. I), at the junction of the *Vogna* glen with the main valley. There is a striking contrast between the apparent poverty of the people and the comparative splendour of the church, covered without by fresco paintings of considerable merit, the work of a native artist, one of three brothers, all of whom attained great local celebrity. From the village there is a grand view of the peaks and glaciers at the head of the valley. The Abbé Carestia, of Riva, is an excellent botanist. The flora of the southern and eastern valleys of Monte Rosa offers a great general resemblance, but includes several species very rare or unknown elsewhere in the Alps. Of these may be noted *Senecio uniflorus*, *Campanula excisa*, *Potentilla grammopetala*, and *Saxifraga stenopetala*. Still more interesting is the discovery by M. Carestia of *Cherleria imbricata* on the Nase, and near the old Vincent hut, above the Lys gl.

Close to Riva the schists constituting the rocks at the head of the Val Sesia give place to gneiss, which extends hence to the Val d'Aosta, and farther E. is represented by syenite.

The descent is easy and agreeable from Riva to (5 $\frac{1}{2}$  m.) *Mollia*. The valley, which is throughout its length very sinuous, here makes a sharp turn nearly due S. A little way beyond is (6 $\frac{1}{2}$  m.) *Campertogno*, soon after which there falls in from the W. the char road from Rassa, in Val Sorba, through which leads a pass to Piedicavallo (Rte. K). The scenery is extremely grand, though without distant views. At (9 m.) *Piode* the road turns E. and passes by (11 $\frac{1}{4}$  m.) *Scopello*, where formerly the copper ore raised near Alagna and elsewhere in the valley



was smelted (now nickel and cobalt only), and where the valley bends N. of E. The next village is *Scopa*. The vegetation increases in richness as the road reaches (14½ m.) *Balmuccia*, at the junction of the *Val Sermenza*, or *Val Piccola* (Rte. I), with the main valley, called, by contrast, *Val Grande*. Here the stream turns again due E, and the valley gradually opens out as the traveller approaches **Varallo**.

The situation of this little town, at the junction of the *Val Sesia* with the *Val Mastallone* (Rte. L), and in the immediate neighbourhood of much beautiful scenery, suffices to render it attractive. But the main object of interest to most visitors is the *Sacro Monte*, a famous Sanctuary founded in 1486, and adorned by famous artists with works that mark a stage in the development of Italian art. The hill, now called *Sacro Monte*, is covered with a series of nearly fifty chapels or oratories, containing modelled groups of life size, painted and clothed, representing events nearly all taken from the New Testament. (English readers may consult Mr. Samuel Butler's book, entitled 'Ex Voto Sacro Monte; or, New Jerusalem at Varallo,' 1888.) Some of these groups and individual figures, modelled by Tabachetti, are extremely fine, while those of the chapels painted by Gaudenzio Ferrari and his pupils are very interesting. The chapels are numbered, and those best worth examination are: 5, the Appearance of the Star in the East; 17, the Transfiguration; 38, the Crucifixion. The paintings on the walls and ceiling of the last-named chapel are the best on the *Sacro Monte*, and are fine works of Gaudenzio Ferrari. Other works of importance by the master are the frescoes which cover the screen between the choir and the nave in the church of *Santa Maria delle Grazie*, at the foot of the *Sacro Monte*, and an altar-piece in the parish church of *San Gaudenzio*.

A branch of the Italian Alpine Club has been opened at *Varallo*, and mem-

bers of the English Club who may call there will find books, maps, &c., in addition to the courteous kindness usual among all ranks in Italy.

*Varallo* stands upon true granite, which forms a band extending N. to the head of the *Val Bagnola*, and S.S.W. to *Biella* (Rte. K). Outlying masses of the same rock are seen in the well-known sites of *Mont'Orfano* and the *Mottarone*, near the *Lago Maggiore*. (For the routes from *Varallo* to *Omegna* and the *Val Anzasca*, see Rtes. L. and M.)

There is a lovely way from *Varallo* to *Orta* by the *Colle della Colma* (Rte. L). But most travellers will probably take the railway, which runs in 34 miles from *Varallo* to *Novara*. 8 miles from *Varallo* is *Borgo Sesia*, at the meeting of delightful routes from *Biella*, and from *Orta* by the *Valduggia* (Rte. K). Between *Borgo Sesia* and *Romagnano* the line runs between porphyritic rocks, in which masses of Jurassic limestone and marine tertiary molasse are strangely intermixed. From *Borgo Sesia* the route lies amidst richly-wooded slopes, picturesque with churches and ruined castles, to (16¼ m.) *Romagnano*. Here the river *Sesia* enters the plain of Piedmont, and flows to *Vercelli*. 18 miles further is *Novara*, at the junction of the lines from *Turin*, *Genoa*, *Milan*, and *Domodossola*.

#### ROUTE F.

ZERMATT TO DOMODOSSOLA BY  
THE WEISSTHOR AND THE VAL  
ANZASCA.

It has been pointed out above (Rte. A) that the *Gorner* and *Finde-len* gls. flow from a common *névé*, which reaches to the crest of the steep black precipices, streaked with gullies, that close in the head of the *Val Anzasca*. It seemed from the

Swiss side as if a way must lie over this gently sloping névé into Italy; but in early days the Italian precipices were regarded as too formidable to be even tried, and the usual route (connected with a sixteenth-century pilgrimage from Zermatt to Varallo by way of Macugnaga) lay round the N. side of the hump (3,612 m. of the Swiss map) which rises at the junction of the main ridge running N. and S. with a great spur running E. and W. This is, no doubt, the oldest of all the Weissthors, and was crossed certainly in 1825 by Brantschen; it is now known as the *Schwarzberg Weissthor*. But there was also a tradition of a more direct pass, which is now believed to be the present *Fi.larjoch*, or *Old Weissthor*, between the Jägerhorn and the Cima di Jazzi; it was traversed in 1851 by Herr A. Schlagintweit, and rediscovered independently by Sir Martin Conway in 1882. By 1848 an easier, yet very direct, route had been discovered by Stephen Biner and Matthias z. Taugwald; this lay N. of the Cima di Jazzi, and is now known as the *New Weissthor*, being the pass commonly used by parties going from Zermatt to Macugnaga. The history of all these passes is very intricate, and those wishing for further details on historical points are referred to Sir Martin Conway's article in vol. xi. of the 'Alpine Journal' (corrected in one important point as to the true Old Weissthor by his 'Eastern Pennine Guide,' p. 67) and to two articles by Dr. Schulz in vols. 17 and 18 of the 'Jahrbuch' of the Swiss Alpine Club.

It seems most convenient to describe the three main Weissthors in topographical rather than in historical order.

(a) *The Old Weissthor*.—The true pass (3,485 m., 11,434 ft.) lies just N. of the Jägerhorn, and is quite an easy pass if the right line be taken up the final rock wall, which should be climbed to the N. of the more

southerly of the two snow couloirs. The ascent is made from the Fillar gl.

Another route over this ridge starts from the *Castelfranco* gl., on the N. of the Fillar gl. Hence one of the three great couloirs, or the rock ribs between them, is ascended, but all are more or less dangerous by reason of falling stones. It was by two of these gullies that Prof. Tyndall and Mr. Tuckett mounted in 1861, searching for the lost Old Weissthor.

(b) *The New Weissthor*.—The lowest point in the ridge N. of the Cima di Jazzi is the *Mittelthor*, and is accessible on the E. side by a great snow couloir. But the pass now usually called the *New Weissthor* is rather higher (3,580 m., 11,746 ft.), and lies on the S. shoulder of the snow hump marked 3,645 m. on the Swiss map. The ascent to the pass from the Riffel by way of the Gorner gl., or from Zermatt by the Findelen gl. (4–5 hrs.), is perfectly simple; but on reaching the crest of the ridge the scene is changed as if by enchantment. Instead of toiling over a snow field with no object visible save boundless fields of névé and occasional black rocks, the traveller finds himself on a narrow ledge of rock apparently overhanging a precipice, which extends far to the S. till it is united with the tremendous E. face of Monte Rosa. The highest summit on this long ridge is the *Cima di Jazzi*, 3,818 m., 12,527 ft. (Rte. A. 2. f), accessible by a snow slope in  $\frac{1}{2}$  hr., but generally crowned by a snow corniche, so that caution should be used in approaching the edge of the precipice. Looking downwards, the traveller sees, if the valley below be clear, the lower end of the Macugnaga gl., about 6,000 ft. below him, but appearing so near that a stone flung from the hand might reach it. It far more commonly happens, even in fine weather, that a sea of cloud hangs like a pall between the spectator and the valley

below. Lying, as do these clouds, some thousands of feet below him, he supposes that they fill the valley, while the people of Macugnaga, seeing clouds three or four thousand feet above their heads, imagine that they cover the mountain tops. The rocks adjoining the pass afford a home to a few flowering plants, e.g. *Androsace glacialis*, *Eritrichium nanum*, *Gentiana brachyphylla*, and *Saxifraga planifolia*. This is one of the highest stations at which flowering plants have been found in the Alps.

Some rocks lead down to a great snow shelf, which is followed for some distance (*not* to its end), when easy rocks give access to the foot of the *Roffel* gl. Here is the **Eugenio Sella Club hut** (3,150 m., 10,335 ft.),  $\frac{3}{4}$  h. from the pass. The descent thence to Macugnaga offers no difficulties, and the N. side of the Anza is followed to Macugnaga (2½–3 hrs. from the pass). It is, of course, easy to vary the pass by climbing another broad shelf of snow on the face of the Cima di Jazzi, and so mounting direct to the summit of that peak (2 hrs. from the Club hut). Or travellers who fear the steep descent may in a few steps reach the pass next to be described.

(c) *The Schwarzberg Weissthor.*

—This is the pilgrims' pass, and is quite easy, while it is as short to descend from it to Mattmark, in the Saas valley, as to Macugnaga. Prof. Ulrich's party in 1852 seems to have been the first to go down to Mattmark, while Mr. Marshall Hall, in 1849, seems to have been the first English traveller who actually crossed it to Macugnaga.

If coming from the Riffel, it is necessary to bear a little to the l. at the last, while if coming direct from Zermatt a slightly more E. course must be taken than if the New Weissthor itself was the object. In either case the snow hump (3,612 m., 11,851 ft.) at the junction of the main ridge and the great E. spur is attained.

5 min. descent E. along the crest of the latter (this is the narrow 'Arête Blanche' of the old books) then leads to the parting of the ways. A party bound for *Mattmark* should then bear to the N.E., so as to gain the *Schwarzberg* gl., down the l. bank of which, and the r. bank of the stream issuing from it, the route lies, the *Mattmark* inn being gained in 3½ hrs. from the pass. If it be desired to descend to *Macugnaga*, this may be effected by going down rotten rocks to the *Roffel* gl. (1 hr.), or by passing the same ridge farther to the E., or by traversing the upper snows of the *Schwarzberg* and *Seewinen* gls. to the *Monte Moro* Pass itself (Rte. N), by the track from which *Macugnaga* is attained.

**Macugnaga** is a wide grassy basin, shut in on all sides by towering mountains. There are many hamlets scattered throughout it, the inns being at that called *Staffa* (1,327 m., 4,354 ft.) A short way off is the *old church*, which has a Gothic S. doorway and choir windows, and is thus a monument of the German-speaking colony settled here for the last 600 years, so that the local tongue is the Vallaisan dialect of German. For many hundred years the basin of *Macugnaga*, the history of which was long quite distinct from that of the *Val Anzasca*, of which it forms the termination, was simply a pasture belonging to the *Benedictines* of *Arona*; but in the thirteenth century it passed (as did the *Val Anzasca*) into the possession of the Counts of *Biandrate*, a powerful *Piedmontese* family. About the same time a lucky marriage brought to the chief of the family the extensive possessions of the lords of *Visp*, at the mouth of the united *Zermatt* and *Saas* valleys. Owning, therefore, the two *Alpine* glens, which are only separated by the easy pass now called the *Monte Moro* (Rte. N), and finding the head of each valley inhabited only by shepherds in summer, Count *Godfrey* conceived and carried out a bold plan, which has left its mark on their local history. In 1250 it is recorded that



he established a colony of Italian-speaking people, from the Val Anzasca, in the valley of Saas, above the Martinswald, which therefore became Italianised, while a few years later he transported a band of German-speaking colonists from the neighbourhood of Visp to the pasture basin of Macugnaga. Hence we find German names at Macugnaga; e.g. the Anza is called the Visp. But the similar colonies in the Val Sesia, perhaps due to Biandrate influence, are probably not an offshoot of the Macugnaga settlement (see Rte. E).

☐ Besides the Weissthor, Macugnaga may also be reached by mountain routes from the Val Sesia and from Saas (Rtes. G, H, I, and N), but in any case the excursion to the Belvédère and the Macugnaga gl. should be made, while that up to the Monte Moro Pass is strongly recommended to those who do not propose to cross that pass to Saas, and active walkers will be tempted by the ascent of the Pizzo Bianco.

It is best to go to the *Macugnaga gl.* by one route, and to return by another, so as to vary the points of view. In approaching it the traveller has before him the precipices up which lie the routes to the different Weissthors described above. Mounting along the r. bank of the Anza, he will gain (2 hrs. by mule path) the steep, rocky eminence called the **Belvédère**, 1,932 m., 6,339 ft. (where there is now a small inn), which breaks the descending ice stream of the Macugnaga gl. and divides its lower end into two branches. The traveller should then cross the W. arm of that gl. to the *Jazzi* huts, at the base of the Cima di Jazzi, and should continue along the slope to those of *Fillar*, at the foot of the gl. of that name, and higher up than the *Jazzi* huts. Crossing a steep moraine, he should now return to the Macugnaga gl., here much crevassed, and make his way for some distance towards its head, immediately under the 8,000 ft. of precipice that is crowned by the highest summits of

Monte Rosa. (For the dangerous ascent from this side see Rte. A. 3. a. i.) The usual limit of the excursion is a waterfall—fed by the snow slopes that here and there cling to the face of the precipice—which disappears in a chasm in the ice. The monotonous roar of the cataract is broken from time to time by the thunder of avalanches. Language is incompetent to give any idea of the grandeur of the scene.

Returning, and bearing towards the E. moraine, the gl. is left near the chalets of *Petriolo*, at the base of the Pizzo Bianco, which forms the E. side of the great amphitheatre. The enormous size of the blocks that cover the lower slopes near the chalets excites wonder. A very rough path leads along the mountain-side, for the most part high above the gl., and descends into the main valley near the foot of the Belvédère. It is better to keep along the great r.-hand moraine of the gl., and then cross the gl. to the Belvédère. The whole excursion need not take more than 8 hrs.

The ascent of the **Pizzo Bianco** (3,216 m., 10,552 ft.), made in 1789 by Saussure, offers a view which is in some respects unsurpassed in the Alps. It can be effected in 4-5 hrs. from Macugnaga. The way is by the track leading to the Belvédère. When near its base a cattle track turns sharply to the l. and mounts the rocky slope by zigzags. Bearing always to the l. an alp is passed, and an ascent made towards the ridge connecting the *Pizzo Nero* (2,739 m., 8,987 ft.), a prominent point overlooking Macugnaga, with the much higher Pizzo Bianco. Before attaining the ridge it is necessary to bear somewhat to the r., and to keep straight up over rocks and snow slopes. The summit lies some way back, and is reached by following the crest of a snow ridge. ☐

There is a mule track from Macugnaga (soon to be a carriage road) to the foot of the Morghen, whence a carriage road descends the valley to Piedimulera. A walker may reckon

about 6 easy hrs. from Macugnaga to Piedimulera (14 m.)

In descending from Macugnaga the traveller has the disadvantage of turning his back upon Monte Rosa, which at intervals comes into view; but the near scenery is throughout so beautiful that it fully engages his attention, and, if he be wise enough not to hurry, he may halt at intervals to enjoy the wonderful views of the great mountain. The first of these is found at *Borca* ( $\frac{1}{2}$  hr.), at the mouth of the Quarazza glen (Rte. H).  $\frac{1}{2}$  hr. lower is *Pestarena*, a poor-looking village with a mining population. Gold, associated with iron pyrites, is found here in quantities which repay working, and this is one of the few spots in Europe where it has been continually extracted for centuries, apparently since the time of the Romans. These mines are now worked by an English company. A short way below Pestarena the track passes to the r. bank of the Anza, and soon encounters a low rocky hill, the *Morghen* (a Teutonic name), which appears to bar the valley, and has long impeded the construction of a road up to the mines. Here the basin of Macugnaga is quitted. The Anza forces its way through an impracticable ravine, while the mule path and a miner's track (easier for pedestrians), after mounting a short way, descend more steeply on the E. side of the barrier, and at its base return to the l. bank at the hamlet of *Campioli*, where the carriage road (3 m. from Macugnaga) now begins. In the early summer the beautiful *Saxifraga cotyledon* is plentiful on the rocks hereabouts. A short distance farther is *Prequartera*, whence a path leads up a glen on the l. to the Saas valley, across the Mondelli Pass, which is shorter than the Monte Moro, but misses the grand scenery. In  $2\frac{1}{4}$  hrs. from Macugnaga the traveller reaches *Ceppomorelli* (753 m., 2,471 ft.), and  $\frac{3}{4}$  hr. lower down is *Vanzone*, where two churches connected together are worth a visit.

(For the passes from these villages to the Val Antrona see § 21. Rte. E.) At Ceppomorelli a view of the E. face of Monte Rosa, combined with a new foreground, but always surpassingly grand, opens out. It is hard to say that anything is wanting to complete the beauty of the Val Anzasca. Monte Rosa remains constantly in the background, unsurpassed in the boldness of its form and the vastness of its proportions. The middle distance presents mountain ridges of varied form, clothed with pine forest or broken into rocky masses. The vegetation of N. Italy is in the foreground, rich with chestnuts, and vines, and fig trees, and all the accessories are characteristically Italian. Instead of small, dark, wooden houses grouped round the pointed spire of a village church, we have here massive buildings in solid masonry, brilliantly white, and nearly all covered, within and without, with rude frescoes: and the square *campanile* marks from a distance the village place of worship.

$\frac{3}{4}$  hr. from Vanzone is *Ponte Grande* (524 m., 1,719 ft.), which takes its name from a high bridge across the Anza. (For the passes hence to the Val Sesia and Orta see Rtes. I, L, and M, and for those to the Val Antrona see § 21. Rte. E.) (A char road leads hence across the river in  $\frac{1}{2}$  hr. to the large village of *Bannio*, the capital of the Val Anzasca, which stands on rising ground, amidst fine chestnut trees, near the junction of the *Val Olocchia* (Rte. I) with the main valley.)

It is about 6 miles (2 hrs.' walking) from Ponte Grande to Piedimulera. The road is carried along the N. side of the valley, at first near the bank of the Anza, then gradually rising to a great height above the stream. A short way below Ponte Grande the torrent issuing from the *Val Bianca* on the N. forms a pretty waterfall, and some way farther is *Calasca*. Beyond the last-named village, on the S. side of the valley, is seen the opening of the *Val Segnara*, leading

to the Val Strona (Rte. M). About 4 miles from Ponte Grande is *Castiglione*. Beyond the village the traveller, once again looking back, may see the range of Monte Rosa in great perfection, and then the road begins to descend rapidly, passing through two short tunnels. The hamlet of *Cimamulera* is left on the way, and the road issues into the Val d'Ossola at *Piedimulera*. This picturesque village is a station on the railway from Domodossola to Novara (§ 21. Rte. A), and is 7 miles ( $\frac{1}{2}$  hr. in the train) from the first-named place.

### ROUTE G.

#### TOUR OF MONTE ROSA BY THE HIGH GLACIER PASSES.

By choosing a wider or a narrower circle round Monte Rosa, a traveller may completely change the character of the scenery through which he will pass in making the tour of the mountain, and in the same degree vary the difficulty of the undertaking. This and the two following Rtes. describe three sets of passes by which this tour may be made, from high glacier passes to easy mule passes.

By the recent erection of two high Club huts on the S. slope of the Monte Rosa range a very fine snow route may be made as follows:—1. From the inn on the St. Théodule Pass (perhaps a very active party could achieve the distance by starting from Zermatt itself) by the snowy plateau S. of the Breithorn to the Schwarzthor route, then ascending Castor and descending to the Q. Sella Club hut (Rte. D)—about 8 hrs. 2. Ascend the Lyskamm by the S.W. arête, and go down the S. arête to the Gnifetti Club hut (9 hrs.), and to the inn on the Col d'Olen (if preferred, the night might be spent at the Club hut, and next day some point of

Monte Rosa climbed, but this would lengthen the round by a day). 3. Sleep at the Faller Alp. 4. By the Colle delle Loccie to Macugnaga; and 5. By one of the Weissthors (Rte. F) back to Zermatt.

The route taken on the first two days has been described in bits in Rtes. A, B, C, and D. If preferred an easier way can be taken to the Q. Sella hut from the St. Théodule or Breuil. This involves crossing the *Col des Cîmes Blanches* (2,980 m., 9,777 ft.) This gap is reached from the St. Théodule by bearing due S., and from Breuil by mounting in a slightly S.E. direction. On the other side the descent is made through the Aventura glen to the Ayas glen, a little below Fiéry (Fiéry is reached in 3 hrs. from the St. Théodule, or in about  $4\frac{1}{2}$ –5 hrs. from Breuil.) From the Col the view may be extended by climbing the *Gran Sometta* (3,167 m., 10,391 ft.), unless the traveller is in haste and wishes to mount the same day from Fiéry by the gap N. of the Bettliner Pass to the Q. Sella hut (5–6 hrs.)

Again, if a traveller desires to see Gressoney on his way, he could reach Fiéry by any of the ways indicated above, and next day cross one of two passes direct to La Trinité. The N. pass is the *Bettliner Pass*, 2,896 m., 9,502 ft. ( $6\frac{1}{2}$  hrs.), which leads to the Cortlis chalet at the head of the Val de Lys, and does not seem to possess any advantages over the S. pass, the *Bettafurka*, 2,676 m., 8,780 ft. (5 hrs.), which is traversed by a mule path. The ascent from Fiéry lies past the hamlet of *Resy* and through the Furka glen, and the descent past the oratory of *Sant' Anna* (whence there is a fine view of the snowy chain on the N.) to *Orsia*, where the mule track from the Col d'Olen is joined. Another way of visiting Gressoney *en route* would be to descend direct thither from the Q. Sella hut.

The Col d'Olen and its neighbourhood are described in the next Rte.



The *Faller Alp* is 4 hrs. from the Col d'Olen inn, or  $2\frac{1}{2}$  hrs. from Alagna. (The *Flua Alp*, where fair chalet accommodation is to be had, is still higher, and about 3 hrs. from either Alagna or (by the Bors glen) from the Col d'Olen inn; it is the most conveniently situated night quarters for a party starting from the inn.) Thence the passage of the **Colle delle Loccie** to Macugnaga next day is not a very long expedition. It was first crossed in 1862 by Messrs. J. A. Hudson and W. E. Hall, but the difficulties encountered on that occasion are now in great part avoided. The ascent lies past the *Vigne Alp* and up the *Vigne gl.*, and the pass (3,353 m., 11,001 ft.) is gained without any difficulty (3 hrs. from the *Faller Alp*). The view may be much extended by following the ridge to the S.E. for  $\frac{1}{2}$  hr. up the *Monte delle Loccie* (3,498 m., 11,477 ft.), also called the *Cima della Pissa*.

The descent on the Macugnaga side is more difficult. A short steep ice slope (which can be partly turned by steep rocks on the W.) must be cut down, and then the *Loccie gl.* followed till due S. of the *Petriolo Alp*. Some séracs are encountered, which in case of necessity can be turned by the steep rocks on the W., but it is generally better to keep to the glacier all the way. Some way S. of the *Petriolo chalets*, on the r. bank, the gl. is left, in order to gain those huts through the glen of the same name, and henceforward the way is one of those described in the last Rte. in connection with the excursion to the gl. from Macugnaga. By this pass Macugnaga is gained in 9 hrs. or so from the *Faller Alp*. The pass must be reckoned as first-rate, both for the grandeur of the scenery and for difficulty.

## ROUTE H.

VALTOURNANCHE TO MACUGNAGA  
BY THE MIDDLE PASSES.

A traveller wishing to make the tour of the Italian valleys of Monte Rosa may choose an intermediate course between the somewhat arduous passes mentioned in the last Rte. and the easier and more frequented paths described in the next Rte. In four days (an active party could cross the Col de Portola and the Pinterjoch in one day) of very moderate walking much of the most beautiful scenery of this district may thus be seen.

1. The first pass is the **Col de Portola** (unless it be preferred to cross the Col du Tournalin, so as to combine with it the ascent of that fine panoramic point, the Grand Tournalin, Rte. B), which takes 5 hrs. from the village of Valtournanche to that of Ayas. The traveller must descend from the former village for a short distance along the l. bank of the stream, and soon take a path to the l., which before long begins to ascend through a wood. This splits up into numerous tracks, and a guide is here almost indispensable. The true path keeps a general direction nearly parallel to the main valley, mounting a little E. of S., until it gains a point about 2,000 ft. above the stream, whence the greater part of the beautiful Val Tournanche is seen, backed by the Matterhorn and the range extending S. from the Château des Dames. Quitting the verge of the mountain-side the path now bears S.E. across Alpine pastures, and before long reaches the village of *Chamois* (1,815 m., 5,955 ft.) (This hamlet may be gained direct by a path from the lower bit of the Val Tournanche, or in 2 hrs. by a mule path from the village of Valtournanche past *Chêneil*.) A rather long but gentle ascent in a slightly S.E. direction leads to the summit of the pass (2,415 m., 7,924 ft.), which is N. of the *Mont Zerbion* (2,721 m., 8,928 ft.), hence easily accessible in

$\frac{3}{4}$  hr., and commanding a magnificent view. The pass lies across a ridge of limestone rock that steeply overhangs the valley of Ayas. The descent is rapid, but free from difficulty, and the hamlet of *Ayas* (1,710 m., 5,610 ft.) is attained. Here a traveller may now find fair accommodation for a night, so that it is not necessary to ascend to *Fiéry* or to descend to *Brusson*.

2. A little higher up the valley is *Champoluc*, whence commences the direct ascent to the **Pinterjoch** or **Col de Cunéaz**, crossing the range between the *Ayas* and *Lys* valleys, and lying just S. of the *Grauhaupt*. This pass may be effected in 6 hrs., but the traveller, favoured by fine weather, should not omit the ascent of the *Grauhaupt*. The greater part of the ascent from *Champoluc* to the *Col* is easy enough, commanding at intervals fine views of the *Matterhorn*, but after about 3 hrs. the way becomes steep and difficult to find. It lies along the l. bank of a waterfall, and in  $\frac{3}{4}$  hr. more leads to the crest of the *Col* (2,780 m., 9,121 ft.) It has a wide view to the W., which includes *Mont Blanc*, but is shut out from *Monte Rosa* by the adjoining peak of the **Grauhaupt** (3,315 m., 10,876 ft.), accessible in  $1\frac{1}{2}$  hr., and commanding perhaps the finest view of the S. side of the *Monte Rosa* chain. The ascent is rough, lying in great part over and amidst large loose blocks, but except close to the top, where the rocks become steep, it presents no difficulty. It overtops all the nearer summits, and the panorama is one of the finest on the S. side of the *Pennine Alps*. *Campanula cenisia*, *Eritrichium nanum*, *Linaria alpina*, *Carex curvula*, and a few other flowering plants have been found close to the summit.

Mountaineers who do not fear a stiff scramble will find it more interesting to make the ascent of the *Grauhaupt* by the N. face and ridge, or the E. end of the mountain overhanging the *Val de Lys*, and to reach

the summit partly along the shattered ridge, partly along the ledges of its S. face; they can return to *Gressoney* by the *Pinterjoch*. The *bouquetin* still haunted this range in 1840.]

The descent from the *Pinterjoch* towards the *Val de Lys* is easy, and practicable for mules. In less than an hour the track, following at first the bank of an *Alpine rivulet*, reaches the highest chalet, and in  $\frac{1}{2}$  hr. more arrives at a larger establishment in the midst of fine pastures. The last part of the descent is steeper; the path is carried down the l. side of a waterfall, and joins, in about 2 hrs. from the *Col*, the high road in the valley, about  $\frac{1}{2}$  hr. above *Gressoney St. Jean*. In taking the pass from *Gressoney St. Jean* at least  $3\frac{1}{2}$  hrs. should be allowed for the ascent to the *Col*, and about  $2\frac{1}{2}$  hrs. for the descent to the *Val d'Ayas*.

3. The traveller following the line of the so-called *Middle Passes* will do best to select the **Col d'Olen** for his route from *Gressoney* to *Alagna*. This very beautiful pass is practicable for mules, but an active pedestrian can cross it in 7 hrs. It is 4 m. by the high road from *St. Jean* to *La Trinité* (Rte. D).  $\frac{1}{4}$  hr. farther up the valley at *Orsia* the mule track turns to the r., and mounts in 1 hr. more through beautiful scenery to the first huts on the *Gabiet Alp*. A steeper ascent up a side glen, bearing first N. and then N.E., leads in  $1\frac{1}{2}$  hr. more to the crest of the pass (2,871 m., 9,420 ft.), whence the view is very fine. Just below the pass on the *Alagna* side a fair-sized and comfortable inn was built, at a height of 2,865 m. (9,400 ft.), in 1878, and affords excellent headquarters for exploring the neighbouring ranges.

[The first stroll will be up the *Gemshorn* (3,026 m., 9,928 ft.), but half an hour's climb, and commanding a view of the nearer peaks of the great range preferable even to that from the *Grauhaupt*. There are many paths round the inn. One leads along the E. side of the ridge

extending N. of the Col to the edge of the Indren gl. ( $1\frac{1}{2}$  hr.) On the way the top of the *Colle delle Pisse* (3,162 m., 10,375 ft.) is touched. This pass leads also from the Lys to the Gressoney valley, but is not as interesting as the Col d'Olen. Close to it on the E. side is the old *Vincent hut*, originally built for the men engaged in working a supposed gold mine, long since abandoned, used as sleeping quarters by some of the early explorers of the Monte Rosa group, and occupied for 14 days in 1851 by the brothers Schlagintweit, while making scientific observations. The pass is unusually easy of access on the W. side, as a mule path, intended for the use of the miners, has been carried up to a large shed within  $\frac{1}{2}$  hr. of the Col.

Thence it is  $1\frac{1}{2}$  hr. more to the *Gniffetti Club hut* (3,647 m., 11,966 ft.), worth visiting for the fine view it enjoys, and the best starting point for the ascent of almost any of the S. summits of the Monte Rosa cluster (see Rte. A. 3. a). From the neighbourhood of the Colle delle Pisse it is easy to cross the Bors gl. to the *Punta Vittoria* (3,461 m., 11,355 ft.), on the ridge between the Bors and Piode gls. (1 hr.), with a glorious view, or to push on to the *Punta Giordani*, 4,055 m., 13,304 ft. ( $3\frac{1}{2}$  hrs. from the inn), at the head of the same gl.]

The descent from the Col d'Olen to Alagna is for some time rather steep. About  $1\frac{3}{4}$  hr. from the top, at a chalet, the pedestrian crosses to the S. side of the torrent, and by a steep zigzag path reaches Alagna in 3 hrs. from the summit. In the opposite direction 4 hrs. should be allowed up from Alagna, and 2 hrs. down to La Trinité.

¶ Several other unfrequented passes connect Alagna with Gressoney. The most direct of these are approached from Alagna by the *Val d'Otro*, which opens just below the village. After ascending rapidly for 2 hrs. the glen forks near some chalets. The r. branch leads to the *Passo di Zube* :

the way thither is trackless and lies over a considerable extent of rough rock, alternating with beds of snow, while a rather steep descent leads to the Gabiet lake, where the mule track of the Col d'Olen is joined. The l. branch of the Val d'Otro leads to the *Passo dell' Uomo Storto*, which is rather higher, but shorter, the descent on the Gressoney side being extremely steep. More to the S. is the circuitous way by the *Passo di Rissuolo*, S.W. of the Corno Bianco—to which it offers the easiest route, see Rte. D.—and N. of the Col de Valdobbia. It is approached by the track through the Vogna glen, leading to the latter pass. See next Rte.]

4. The traveller who would reach Macugnaga in one day from Alagna, and does not wish to cross the high Colle delle Loccie (see last Rte.), has only the choice between a combination of the Col de Moud and the Little Turlo (see next Rte.), or the dull and stony **Turlo Pass** (*Germ.* das Thürle = the wicket gate), which takes about 7 hrs., but is impassable for mules. The path along the Sesia is followed from Alagna, till in nearly 1 hr. it crosses to the l. bank (leaving on the opposite side the track along the base of the Stoffelberg to the Pile Alp). 5 minutes beyond the path leaves the valley (that straight on leading to the Vigne and Flua Alps), and begins to mount the slope to the r., with grand views of the Signal Kuppe and the Parrotspitze rising above the Piode gl. The ascent is rough and stony, especially when, after passing the poor *Faller* huts and keeping to the l. of the broad valley and of a small tarn, it climbs the final slope, and in about 4 hrs. from Alagna gains the Col, marked by a cross. The top, 2,736 m., 8,977 ft. (at the W. end of the rather broad depression), is a very sharp ridge of crystalline schist, shut out from the view of Monte Rosa by the *Fallerhorn* (3,130 m., 10,270 ft.), which is worth ascending ( $1\frac{1}{2}$  hr.) From a rocky point in the ridge to the r. the Tödi, Adula, and



Tessin Alps are visible. The descent on the N. side is for some distance rather steep, and pathless. After crossing the snow slopes the way winds to the l., and after reaching a chalet, the highest on this side of the pass, is carried down some steep ledges of rock. *Valeriana celtica* is rather abundant. A long descent from the Col finally lands the traveller at the head of the *Val Quarazza*, and, looking back, he finds himself surrounded by a semicircular range, in which tiers of rock alternate with green slopes, while several fine waterfalls complete the picture. The track descends gently through the lower part of the glen to *Borca* ( $2\frac{1}{2}$  hrs. from the pass), at the E. end of the pasture basin at *Macugnaga*. The hamlet where are the inns is  $\frac{1}{2}$  hr. further to the W. There is a track bearing to the l. across the buttress of the mountain, which avoids *Borca* and leads direct to the main road,  $\frac{1}{4}$  hr. below the inns at *Macugnaga*.

### ROUTE I.

#### AOSTA TO THE VAL ANZASCA BY THE LOWER PASSES.

The tour described in this Rte. is in great part a frequented line, traversed every year by numerous tourists. As it is that most generally followed by unambitious travellers who wish to combine a visit to Courmayeur with the easily accessible parts of the S. slope of the Monte Rosa district, it has been thought convenient to include in this Rte. the entire line from Aosta to the Val Anzasca. Assuming that the traveller adheres to the mule tracks described below, not less than four days must be allowed for covering the distance; but by using one or other of the passes connecting the

upper Val Sesia with the Val Sesimenza the distance might be brought into the compass of three days' journey. It is scarcely necessary to say that the judicious traveller will, when possible, give at least double that time to a route which traverses some of the most beautiful scenery of our Continent. Good accommodation is now found at most of the places on the way.

1. Now that there is a railway through the lower part of the Val d'Aosta (§ 15. Rte. A) most travellers will make use of it in order to gain **St. Vincent** (c. 17 m. from Aosta),  $1\frac{1}{4}$  m. beyond Châtillon. Here the mule path turns off to the l. from the main valley, which now bends S.S.E. For a while the magnificent chestnut trees screen the traveller from the hot sun, which beats upon him with full force as he emerges on the slope of the mountain. As he winds upwards the view along the Val d'Aosta becomes more and more commanding, and at the little chapel of *St. Grat* he may well halt to enjoy the prospect, which lays before him the finest part of that beautiful valley for a length of more than 25 m., backed by the mass of Mont Blanc. Towards the summit of the **Col de Joux** (1,638 m., 5,374 ft.) the way lies over broad sweeps of pasture on the S. slope of the *Mont Zerbion* (2,721 m., 8,928 ft.) (The summit of that mountain commands a noble view, and may be gained in  $\frac{3}{4}$  hr. from the Col de Portola—see last Rte.—or in 5 hrs. or so from Châtillon, St. Vincent, or Brusson.) In ascending from St. Vincent  $2\frac{1}{2}$  hrs. must be allowed to the Col, and  $\frac{3}{4}$  hr. suffice for the gentle descent to *Brusson*, in the Val d'Ayas (Rte. C), where a day or two may well be spent in exploring that valley and the ranges that enclose it.

2. In ascending from Brusson by the mule track to the **Col de la Ranzola**, leading to Gressoney, the traveller looks due S. over the lower portion of the valley of the *Evançon*, called here *Val Challant* (Rte. C). On

approaching the summit (2,171 m., 7,123 ft.) an unexpected view of Mont Blanc is gained by looking back towards the W.; but Monte Rosa, much closer at hand, is shut out by nearer masses. After descending some way on the E. side of the pass, a portion of that great mountain comes into view, and in the middle distance the village of Gressoney St. Jean, set in a framework of green meadows, pine forest, and rugged rocks, forms an exquisite picture. A still finer and more extensive view is obtained from a summit called *Pointe de Combetta*, or *Punta della Regina* (2,390 m., 7,842 ft.), just S. of the Col, whence it is accessible in  $\frac{1}{2}$  hr. Those who make the détour may find their way direct to Gressoney without returning to the mule path. The descent from the Col is in part rather steep, lying for some time through a pine forest, and in 4 hrs. from Brusson the traveller reaches *Gressoney St. Jean* (Rte. D).

[A somewhat circuitous way from Brusson to Gressoney will enable the traveller to make the ascent of the **Mont Néri** or **Bec de Frudière** (3,070 m., 10,073 ft.) It commands a panoramic view of the first order, considered by Mr. W. A. Ward, to whom the Editor (J. B.) owes much information as to the Val de Lys, to be decidedly superior to that from the Grauhaupt, which is 800 ft. higher. It lies on the S. side of the *Col de Frudière* (a pass leading from Brusson to a point in the Val de Lys, about 1 hr. below Gressoney St. Jean) and N. of the *Col de Chasten* (which leads from the Val Challant to Issime, in the Val de Lys). The peak may be gained from either of these passes, but most easily from the latter (7 hrs. from Issime), whence too the *Becca Torché* (3,015 m., 9,892 ft.), on the S., can be climbed in  $1\frac{1}{2}$  hr.]

3. Travellers bound from Gressoney to the Val Sesia, who are deterred by bad weather or the fear of fatigue from attempting the Col d'Olen

(Rte. H.), choose the easier but less interesting way by the **Col de Valdobbia**. The ascent towards the Col begins a little below the village of Gressoney St. Jean, and is so well marked by a frequented mule path that a guide is quite unnecessary. (There is a more agreeable foot path ascending behind Delapierre's inn along the edge of an ancient moraine, then mounting along the torrent until the mule path is joined at a point where it crosses the torrent, about 1 hr. from the village.) Except to the botanist, who will find a good many rare plants by the way, this pass offers less of interest than most of those in the neighbourhood; yet the views of the Val de Lys from the W. side, and of the Graian Alps from the top of the Col, are very fine. There is a small stone Hospice on the summit of the pass (2,479 m., 8,134 ft.), now also a meteorological observatory. Here simple refreshments may be had. (The ascent of the *Corno Bianco*—Rte. E—takes 6 hrs. hence.) On the E. side of the Col the path traverses Alpine pastures and the remains of a pine forest before reaching a miserable hamlet called *Peccia*. The remainder of the descent lies along the *Vogna* torrent, which in one place forms a fine waterfall. The glen narrows to a ravine before finally opening into the Val Sesia at *Riva Valdobbia*,  $1\frac{1}{4}$  m. below Alagna (Rte. E). Going from W. to E., 3 hrs. suffice for the ascent, and  $2\frac{1}{2}$  hrs. for the descent to Riva; in the opposite direction  $3\frac{1}{2}$  hrs. may be allowed to the Col, and 2 hrs. hence to Gressoney.

[Those who would vary the way from Gressoney to the Val Sesia may choose between several passes, all of which are reached from the hamlet of *Loomatten*, nearly 1 hr. below Gressoney St. Jean. A well-traced mule path leads thence eastwards to the Loo chalets, and to the Loo plateau, at the head of the upland glen of that name. Here many routes diverge.

(a) To the S. is the *Col de Loozoney*, by which and the *Col della Mologna Grande* Piedicavallo, at the head of the Andorno valley (Rte. K), may be gained in 7 hrs. from Gressoney.

(b) To the E. is the *Col de Loo* (2,437 m., 7,996 ft.), marked by a stone-man. Just S. is a rocky height, the *Punta Tre Vescovi* (2,579 m., 8,462 ft.), which may be easily reached in 20 min., and commands an admirable view, worthy of being ranked among the excursions from Gressoney. On the E. side of the Col the track descends through the rather uninteresting *Rassa* glen, traversed by the Sorba torrent (Rte. K), which joins the Sesia above Piode (Rte. E).

(c) To the N. is the *Col de Macagno* (2,495 m., 8,186 ft.), which leads N.W. into the *Val Macagno*, traversed by the Vogna torrent. In about 1 hr. the mule track from the Col de Valdobbia is gained. Only the upper part of this glen is called Val Macagno, the greater part of it being known as the *Val Vogna*.

If the traveller bear nearly due E. from the Col de Macagno, he will gain a low pass called *Col della Gronda*, which properly leads into the *Artogna* glen, though by keeping round to the S.E. to the *Col de Campo* the *Sassolenda* branch of the *Rassa* glen may be gained, and the route of *b.* above joined in it. Rather N. of the Colle della Gronda is the *Colle della Meja*, which leads from the Val Macagno into the *Artogna* glen, by which Mollia, in Val Sesia, is gained. ]

4. There is but one easy pass from the Val Sesia direct to the Val Anzasca—the Turlo, described in the last Rte. A glance at the map will show that otherwise the Val Sesia is cut off from the Val Anzasca by the sinuous *Val Sermenza*, which ultimately splits into two branches— that to the W. being the Rima, and that to the E. the Carcoforo arm. Hence a traveller must somehow reach the Val Sermenza, and then

take one of the passes through one of its arms. The traveller who keeps to mule paths will do best to take the Col de Moud to Rimasco, and then the Col d'Egua to Ponte Grande.

The **Val Sermenza** may be gained by three main routes from the Val Sesia.

1. *By Carriage Road*.—The high road from Alagna to Balmuccia (14½ m.) has been already described in Rte. E. *Balmuccia* stands at the junction of the *Val Sermenza* (often called Val Piccola in contradistinction to the main Sesia valley or Val Grande), and there is a carriage road thence up to *Rimasco* (6¼ m.) The scenery of the lower part of the Val Sermenza is extremely beautiful. It is a narrow and tortuous glen, where trees, rocks, and Alpine torrents present in ceaseless variety the most exquisite pictures. On the way are the hamlets of *Bocchieleto* (above which rises the strange rock obelisk, nearly 300 ft. in height, known as the *Torre di Bocchieleto* or *delle Giavine*), and *Fervento*. *Rimasco* (905 m., 2,969 ft.) is at the meeting of the two arms of the valley.

2. The long circuit made by the carriage road may be avoided by crossing either the *Col della Casera*, which leads from Riva Valdobbia to Rima St. Giuseppe (in the W. arm of the Val Sermenza) by the Nonai glen in 5 hrs., or the *Bocchetta Bia* from Mollia direct to Fervento by the Chignolo glen in 4 hrs.

3. A pleasanter route is to cross one or other of three passes direct from Alagna to the Rima branch of the Val Sermenza. The most northerly of these is the *Col de Rima* or *de Piglimo* (2,487 m., 8,160 ft.), a little-used track leading from the Turlo path to Rima itself (5 hrs.) The most southerly is the *Bocchetta Moanda* or *di Alagna* (2,419 m., 7,937 ft.), the ascent (long and steep) from Alagna to which takes 2½–3 hrs. (The fine view from the summit may be much extended by ascending in 2 hrs. by its W. flank the *Tagliaferro* (2,964 m.,



9,725 ft.) N. of the pass, this being the great advantage of taking this route.) The descent is made from the Col in a nearly due E. direction, and passing a fine waterfall the traveller gains the *Nonai* glen, and so attains (5 hrs. from Alagna) the village of *Rima San Giuseppe*. The **Col de Moud** (2,323 m., 7,622 ft.), lying between these two passes, and N. of the Tagliaferro, is the most frequented but the dullest way, and is also traversed by a mule track. 'Following the Val Sesia for a short distance above Alagna, the torrent is crossed to its l. bank by either the first or second bridge. The path then takes to the hill-side, and zigzags up the l. hand of two ravines which are seen in front. Fine views of the summits of Monte Rosa from the Signalkuppe to the Vincent Pyramide are disclosed on the l., and in about 1½ hr. after quitting Alagna the *Moud* chalets are reached. Excellent milk may be obtained here. The remainder of the route to the Col is uninteresting, and may be accomplished in 1 hr. (mules take 3 hrs. from Alagna to the Col). The track leads down a snow slope, beneath the rocks of the Tagliaferro, and on reaching the bottom of the Val Sermenza is seen at a considerable depth below. Slopes of grass, interspersed with a rich growth of rhododendrons, are succeeded by a pine forest, through which the pretty path winds steeply down to *Rima*, 1 hr. from the Col.' (F. F. T.)

Having reached the Val Sermenza by one of these routes the ways to Ponte Grande and to Macugnaga divide.

a. To *Ponte Grande* there is but one easy route, the *Col d'Egua*. This leads from Rimasco through the beautiful E. branch of the valley to the village of *Carcoforo*, 1,304 m., 4,278 ft. (2 hrs.) Above it the slopes are bare, and the scenery rather tame. Mules take nearly 2½ hrs. from Carcoforo to reach the summit of the **Col d'Egua** (2,236 m., 7,336 ft.), the track being rather steep; but the

trouble is repaid by a magnificent view of Monte Rosa and the minor ranges that diverge from it. The view is still more extensive from a point about 10 min. N. of the Col. An easy descent leads in ½ hr. from the Col to the *Selle huts*, 1,820 m., 5,971 ft. (near which there is now a little inn), close to the summit of the *Baranca Pass* (marked by a small oratory), leading over from Fobello, in the Val Mastallone (Rte. L). This pass lies over an undulating plateau of Alpine pasture. On approaching the N. slope there is a beautiful view over the *Val Olocchia*, a tributary of the Val Anzasca, through which this route lies. There is now a new mule path which leads down in ¾ hr. to the chalets of *Piè di Baranca*, in the Val Olocchia itself. Much of the magnificent timber that formerly clothed the slopes of this glen has of late years fallen before the axe. The path is carried along the l. bank of the torrent to *Bannio*, the chief village in the Val Anzasca, and most beautifully situated. A walk of ¼ hr. by a char road leads hence over the Anza to *Ponte Grande* (2½-3 hrs. from the pass), Rte. F.

b. The traveller on foot bound from the Val Sermenza to *Macugnaga* direct has a choice of several passes.

(1) From Carcoforo itself he may cross the *Col della Bottiglia* or *Bocchetta di Carcoforo*. 'The ascent from Carcoforo is very steep; and it takes more than 3 hrs. to reach the summit of the pass (2,672 m., 8,767 ft.) This commands a magnificent view of Monte Rosa and the Saasgrat. On the other side there is a faintly marked track along a steep slope until an abandoned mine (? gold) is reached. Below this the path descends into the E. head of the Val Quarazza, down which runs the path from the Turlo' (M.) 6 hrs. may be reckoned from Carcoforo to Macugnaga by this route.

(2) The head of the Val Quarazza may also be attained from the Rima or *W. branch of the Val Sermenza*. The

mule track from Rimasco lies along the l. bank of the torrent, passes the Italian-speaking village of *Rima San Giuseppe* (1 hr.), and in  $\frac{1}{2}$  hr. more reaches **Rima** (1,417 m., 4,649 ft.) This small village (150 souls) is particularly interesting from the fact that German is still more or less spoken here, for it is an offshoot of one of the neighbouring Vallaisan colonies, probably of that at Alagna. It is the highest village in the Val Sesia and its tributary glens. (Hence to Carcoforo in 4 hrs. by the *Col del Termine*, 2,347 m., 7,700 ft.) From Rima the *Col del Piccolo Altare*, or *Little Turlo* (*Germ.* Das kleine Thürle = the little wicket gate), is reached by a mule path, so that a traveller can easily combine it with the Col de Moud in one day from Alagna to Macugnaga. The height of the pass is 2,630 m. (8,629 ft.) On the other side there is no mule path as yet; the track soon joins that from the Turlo, and in this way Macugnaga is attained in 6 hrs. from Rima.

## ROUTE K.

### IVREA TO ORTA BY BIELLA.

Tourists, attracted by the grand scenery of the valleys radiating from the Italian slope of the Monte Rosa group, have generally neglected the lower ranges that separate the plain of Piedmont from the ridges immediately connected with that great mountain mass. There is, however, ample room for interesting excursions among the outer valleys and the foothills of this region, which may well be visited at a season when the higher mountains are not easily accessible, or during intervals of bad weather, which is often confined to the more immediate neighbourhood of the snowy Alps. A few days may

be much better spent by a mountaineer amidst the beautiful scenery of the outer valleys of Piedmont than in fretting in an Alpine inn, or plodding over a pass whose attractions are hidden by clouds, rain, or fresh snow. The present Rte. is suggested in hopes of drawing the attention of English travellers to a district very little known to them as yet, but well deserving a visit.

From **Ivrea** (§ 15. Rte. A) to Biella it is not more than 10 or 11 miles in a direct line, but most of the routes taken between them are circuitous. Both towns are connected by branch railway or tramway with the main line from Novara to Turin and Milan, but the trains are so arranged that 3 hrs. or more are consumed in going from one place to the other.

A more direct high road ( $3\frac{1}{2}$  hrs.' drive) affords the traveller the opportunity of examining the remarkable ridge of *La Serra*, which lies between the two towns. This is really the l.-hand moraine of the great glacier which formerly filled the valley of Aosta, and extends for a distance of  $15\frac{1}{2}$  miles from the foot hills across the Piedmontese plain. The ascent from Ivrea is by steep zigzags. The view from the gap, looking back towards Monte Viso and the peaks round the Mont Cenis, is very beautiful, while the considerable lake of *Viverone* is an ornament to the foreground. The top is a broad level, across which run the long ridges of successive moraines. After a while the road descends steeply through chestnut forests, and crosses the strange region known as *La Bessa*, covered with piles of stones believed to represent the remains of Roman gold diggings. At *Mongrando*,  $\frac{3}{4}$  hr. from Biella, the traveller may profit by a tramway which will bring him to Biella in  $\frac{1}{2}$  hr.

Far more interesting, however, to pedestrians is the walk from Ivrea or Settimo Vittone by the village of *Andrate* (exquisitely placed on a spur commanding the entrance to the Val

d'Aosta), *Croce Serra* (853 m., 2,799 ft.), *Donato*, and *Graglia*. At Donato, some  $2\frac{1}{2}$  or 3 hrs. from Ivrea, carriages can generally be had for the descent to Biella (3 hrs. on foot from Donato). The road passes under the Sanctuary of Graglia (see below), which may be visited by an hour's d'étour. This excursion cannot be too warmly recommended.

**Biella** is a very thriving town, full of cloth works, at the opening of the *Val d'Andorno*, whence flows the *Cervo*, to join the *Sesia* near Vercelli. It is divided into an upper and lower town, connected by a funicular railway. In the lower town there is a very ancient *Baptistery*, the church of *St. Sebastian* (with some pictures attributed to Bernardino Luini and Gaudenzio Ferrari), and a *monument* in honour of the late eminent statesman Quintino Sella, whose family belongs to this region. In the upper town is the hydropathic establishment of Biella-Piazzo (closed in 1895). (For Biella and its neighbourhood consult the 'Guida pel villeggiante nel Biellese,' by Pertusi and Ratti, 2nd edition, Turin, 1887.)

Not far from Biella ( $\frac{1}{4}$  hr.'s drive) is the well-preserved mediæval castle of *Gaglianico*.  $1\frac{3}{4}$  hr.'s drive from Biella is the *Sanctuary of Graglia* (812 m., 2,664 ft.), on an eminence overlooking the plain of Piedmont. Near it is a large hydropathic establishment. There are several other such establishments near Biella, all much frequented in summer. That of *Cossila* is  $1\frac{1}{2}$  m. N. of the town; that of *Andorno* (4 miles) is close to the large and thriving village of that name, while a third (2 hrs.' beautiful drive from Biella) is near the Sanctuary of *Oropa*.

i. Travellers approaching Gressoney from Biella may best avail themselves of one or other of the passes leading to the lower reach of the *Val de Lys* (Rte. D). The southernmost of these is the *Col de Carisei*, leading by Graglia to Lillianes. The finest way is by the *Col della Barma*

*d'Oropa* (2,261 m., 7,418 ft.), between the famous *Sanctuary of Oropa* and Fontainemore (5 hrs.) This Sanctuary (1,180 m., 3,872 ft.) is 9 miles by high road N.W. of Biella, and consists of a noble pile of buildings, forming two quadrangles, surrounded by chapels. It contains an ancient wooden statue of the Madonna, which annually attracts thither 70,000 pilgrims. Travellers find accommodation at a large hydropathic establishment near by, or at the Hospice, taking their meals at an adjoining Restaurant. From the Sanctuary there is a very interesting carriage road (due to the liberality of a local benefactor) passing by a long tunnel under the crest of the *Colle della Colma* (1,622 m., 5,322 ft.), and then descending in extraordinary zigzags to the *Sanctuary of San Giovanni d'Andorno*, 1,020 m., 3,347 ft. ( $2\frac{1}{2}$  hrs.' walk), very finely situated in the middle portion of the Andorno valley. This is  $7\frac{1}{2}$  m. by high road from Biella, so that visitors may combine Oropa and the Val d'Andorno in a single excursion. (For the more direct passes from Piedicavallo to the Val de Lys see below.)

ii. The way from Biella to the *Val Sesia* lies through the *Val d'Andorno* itself, up which a good carriage road runs in 12 miles to the highest village, *Piedicavallo*, 1,037 m., 3,402 ft.

[Hence the *Colle della Vecchia* (2,186 m., 7,172 ft.) and the *Colle della Mologna Piccola* (2,095 m., 6,874 ft.) lead over in 5 hrs. to Gaby, in the Val de Lys, above Issime. N.E. of the last-named pass is the *Colle della Mologna Grande*, whence a cairn-marked level traverse leads N.W. to the *Col de Loozoney*, by which and the Loo glen (Rte. I) the hamlet of *Loomatten*, about 1 hr. below Gressoney St. Jean, is gained, 7 hrs. being required from Piedicavallo to Gressoney by this route.]

From Piedicavallo the Val Sesia may be most easily gained by the mule path over the *Bocchetta del Croso*



(1,940 m., 6,365 ft.) and the Val Sorba, 5-6 hrs. sufficing to go from Piedicavallo to the high road below Campertogno, in the Val Sesia. The finest way, however, is to ascend the *Monte Bò*, 2,556 m., 8,386 ft. (5½ hrs. from Piedicavallo), a peak which may, perhaps, be identified with the 'Monbosò,' ascended long ago by Leonardo da Vinci, and rising certainly in the range E. of the Val Sesia. (There is a Club hut close to the top.) The descent may be made to the Bocchetta, or direct by the N.W. flank into the *Val Sorba*. In this glen are the marble quarries of *Mas-succo*, now no longer worked. 4½ hrs. from Piedicavallo by the Bocchetta is the village of *Rassa*, whence there is a char road down the Sorba valley, which at its mouth bears N., and joins the main road in the Val Sesia a little way below Camper-togno.

The quickest way from **Biella** to **Orta** is by rail (71½ m.) through Santhia, Novara, and Gozzano. But it is easy, and far more charming, to spend the day on a drive (40 m.) by way of Borgo Sesia and Valduggia. The drive from Biella to Borgo Sesia takes about 4½ hrs. (it can be shortened one-half by taking train round by Cossato to *Valle Mosso*, but the most beautiful scenery is thus lost.) For the first 1½ hr. the road is terraced along the bays of the foot-hills.

[10 min. beyond *Pettineugo* a foot path leads in ½ hr. to the top of the *Cima della Rovella* (890 m., 2,920 ft.), which includes in its panorama the whole of the Western Alps and the Bernina chain.]

The road descends to a stream lined with cloth factories, and then climbs again to the finely placed small town of *Mosso Santa Maria* (½ hr. above Valle Mosso station). A terrace road brings the traveller to the village of *Sella*, which, as its name implies, is situated on the saddle forming the limit of the basin of the Sesia.

[Hence the *Monte San Bernardo*

*di Trivero* (1,408 m., 4,620 ft.), commanding a fine view over *Val Sassera*, a valley of pastures, without permanent villages, to Monte Rosa, can be reached in 2 hrs. It was the last refuge of Fra Dolcino, the heretic, who in 1307 was burnt on the sands near the junction of the Cervo with the Sesia. As a thankoffering for their victory over him and his followers the inhabitants of the neighbourhood built on the summit, where these heretics made their last stand, a chapel dedicated to St. Bernard, the great adversary of heretics.]

The descent to *Borgo Sesia* (Rte. E), near the junction of the Sessera and the Sesia, is less interesting than the earlier part of the drive. From Borgo Sesia there is a lovely drive of 3 hrs. by *Valduggia* (the birthplace of Gaudenzio Ferrari) to the S. end of the lake of Orta, and so to Orta, now a station on the railway from Domo d'Ossola to Novara (§ 21. Rte. A).

#### ROUTE L.

##### ORTA TO PONTE GRANDE BY THE VAL MASTALLONE.

None of the ways for approaching the Monte Rosa group enumerated in this volume offer greater variety of beautiful and grand scenery than those described in this and the following Rtes. The **Val Mastallone** opens into the Val Sesia at Varallo, so that it is better to sleep there or at Fobello rather than to attempt to reach Ponte Grande from Orta in one very long day.

The best way from Orta to Varallo is to cross the Lake of Orta (§ 21. Rte. A) to *Pella*, on the W. shore, where donkeys may be found by those who wish to ride over the *Colle della Colma* (942 m., 3,091 ft.), which traverses

the low ridge between the lake and the Val Sesia. An active pedestrian may easily accomplish the distance in 4 hrs., but it is a pity to hurry through the exquisite scenery. From Pella a rather steep, paved path mounts along the channel of a little torrent amidst vines and fig trees, with masses of crumbling granite projecting here and there from the hill slope. In less than an hour the little village of *Arola* is reached. A paved track turns N. to Cesara, which is connected by a carriage road with Omegna, but the way to Varallo lies nearly due W., partly amid chestnut trees, till in 2 hrs. the Colma is reached. From a slight eminence to the l. Monte Rosa and some more distant peaks are in view. The track winds down the hill-side and enters a little open glen, in which is the hamlet of *Civiasco*. Here a char road begins, which winds round the declivity on the r. and reaches the Sesia valley very near Varallo. The botanist will observe *Hieracium porrifolium* growing on granite rocks.

The *Val Mastallone* joins the Sesia close to the town, and there is now a good carriage road past the *Baraccone* ( $9\frac{1}{4}$  m.), at the junction of the two main branches of the valley, to Fobello (2 m.) and Rimella ( $2\frac{1}{2}$  m.) respectively. Nature, which has done so much to adorn this region, seems to have surpassed herself here. The most exquisite combinations of rock, and wood, and water succeed each other throughout the valley. In one place, called *La Gula*, about  $2\frac{1}{2}$  m. from Varallo, it is contracted to a mere gorge, and a stone bridge of a single arch spans the torrent. Another bridge higher up gives a passage to the new road, cut out in the rock. About  $\frac{1}{2}$  m. beyond *Ferrera* the valley divides, an inn, the *Baraccone*, standing just at this point.

a. The *W. branch*, though longer, offers the easiest way to Ponte Grande. Keeping to the l. the new road is carried on 2 m. beyond the junction to the little village of *Fobello* (880 m.,

2,887 ft.), famous for its cooks, who migrate hence to all parts of Europe. The low ridge of the **Baranca Pass** (1,820 m., 5,971 ft.) closes the head of this glen. The ascent by a mule pass is short and easy, but the scenery diminishes in interest towards the head of the valley. (To the r. is the *Pizzo del Moro*, 2,335 m., 7,661 ft., commanding a fine view, and accessible in  $3\frac{3}{4}$  hrs. from Fobello.) The summit of the Baranca Pass is marked by a small oratory (3 hrs. from Fobello), not far from which is a small inn. At the *Selle* huts, on the pasture plateau over which the way lies, the path joins that from the Col d' *Egua* (Rte. I). The view towards the Val Anzasca, though beautiful, is not first-rate. Ponte Grande is gained in 2 hrs. from the pass.

b. The most direct way from Varallo to Ponte Grande is through the *E. branch* of the Val Mastallone, at the head of which is the *Orchetta* or *Drochetta Pass* (1,820 m., 5,971 ft.) It is not passable for mules, but the view is much finer than that from the Baranca. There is a very steep char road up the glen as far as ( $2\frac{1}{2}$  m.) the village of *Rimella* (1,181 m., 3,875 ft.), on a steep slope 700 ft. above the stream. This is a German-speaking village, for it is an offshoot of the Vallaisan colony established at Macugnaga. The stream is still called 'Landwasser,' and other German names survive in popular usage. The ascent thence to the Col is very steep and winding at first. The pass is gained in 3 hrs. from the Baraccone, or in about the same time from Fobello, by a path which mounts steeply to the ridge dividing the two glens, and then runs nearly on a level to the pass. A very steep descent over débris and grass slopes leads to the level of the *Val Olochchia*, the r. bank of the torrent in which is followed till by a bridge the mule path from the Baranca Pass is joined 10 min. above Bannio. Ponte Grande is gained in 2 hrs. from the summit.

## ROUTE M.

ORTA TO PONTE GRANDE BY  
THE VAL STRONA.

The **Val Strona**, of which it is enough to say that it is worthy to compete with the tributary glens of the Val Sesia, pours its torrent into the stream that drains the Lake of Orta, just as this flows out close to *Omegna*,  $5\frac{1}{2}$  m. by rail from Orta (§ 21. Rte. A). Like most of the neighbouring valleys this is narrow, sinuous, and richly wooded, possessing thus varied scenery, but no distant views. There is now a new char road up the valley, chiefly along the l. bank, as far as *Forno* ( $3\frac{1}{2}$  hrs.' walking). Hence a good mule path leads up to the highest village, *Campello Monti* (1,290 m., 4,232 ft.) The usual course hence to the Val Anzasca is circuitous, but throughout very interesting. A track mounting S.W. from the village leads in  $1\frac{1}{2}$  hr. to the *Bocchetta di Campello* (in dialect 'Jattal' = 'Sattel') (1,926 m., 6,319 ft.), which commands one of the finest distant views of Monte Rosa. A very rough track, scarcely practicable for a laden mule, passes by *San Gottardo*, and in 3 hrs. from Campello (till 1816 Campello was, oddly enough, part of the commune of Rimella) reaches *Rimella*, in the E. branch of the Val Mastallone (see last Rte.) Ponte Grande may be reached hence by the Orchetta Pass, but it is better to make the circuit by Fobello, in the W. branch of the last-named valley.

Mr. F. Mills has favoured the Editor (J. B.) with notes of the direct way between Campello and the Val Anzasca. It lies over the N.E. ridge of the Cima di Capezzone, N. of Campello, crossing probably at the point marked 2,189 m. on the Italian map (the *Colle della Crosetta*). The descent is through the *Vallon della Segnara*, which opens into the Val Anzasca below Calasca. The ridge

is steep, and the way a little difficult from the want of a traced path near the summit. A track is found below the highest chalet in the Segnara glen, which is followed to Calasca. The Segnara glen may also be gained from Rimella by the ridge between the Cima di Capezzone and the Monte Mora, in which there is a gap marked 2,222 m. on the Italian map.

(A very interesting way from Omegna to Varallo is by the village of *Quarna*, and then over the *Monte Massucone* (1,424 m., 4,672 ft.) to *Camasco*, whence a char road leads direct to Varallo by the Crosa glen. This mountain is rather lower than the Mottarone (§ 21. Rte. A.), and Monte Rosa is some miles nearer, but it misses in great part beautiful views over the lakes, which have obtained for its rival the title of the Italian Rigi. 7-8 hrs. should be allowed for this route from Omegna to Varallo.)

## ROUTE N.

VISP TO MACUGNAGA BY THE  
MONTE MORO.

In the preceding portion of this Section we have supposed the traveller to approach the Monte Rosa range by the W. branch of the Visp valley, or else from the Italian side. There remains another route, by the E. branch of the Visp valley, which in grandeur of scenery vies with any of those hitherto described. For travellers who intend to make a complete tour of the entire district, commencing and concluding on the Swiss side, the best arrangement is to begin with the present route; and, after passing some time in the Italian valleys on the S. slope of the chain, to reach Zermatt by the St. Théodule. Traces of the mediæval paved track



are found on both sides of the Monte Moro, but horses cannot cross the upper portion of the route, which must be made on foot.

【A pedestrian going round from the Saas to the Zermatt valley, or *vice versa*, need not ascend to the Kinnbrücke, but may save an hour by a short cut sometimes called the 'Staldenjoch.' 'In descending from Saas, soon after you come in sight of Stalden, a path turns to the l. about 50 yards below a place where the track, carried at a great height, is guarded by rough railing. Here are some magnificent pine trees. You now leave the mule track and take to the side of the watercourse, and when this comes to an end a track in the same direction, but lower down, leads to the main road in the Zermatt valley, near the second bridge below St. Niklaus' (R. S. W.) There is also a track from the Hutegg inn round the mountain-side, past the *Hannig Alp* and *Grächen* to St. Niklaus, and an easy though stony direct pass, the *Ferrichlücke* (2,889 m., 9,479 ft.), across the range N. of the Balfrin. The passes S. of that summit are described in Rte. P.】

The railway from Visp to Stalden ( $4\frac{1}{2}$  m.) has been described in Rte. A. From the Stalden station (no need to enter the village) the railway is crossed by a mule track, which passes over the *Kinnbrücke*, a single arch 150 ft. above the Matter Visp, and, entering the E. branch of the valley, mounts rapidly along the l. bank of the Saaser Visp. The valley narrows to a defile between steep and high mountains, whose summits are not seen from below, and passes the hamlet of *Eisten*, and a little inn at the *Hutegg*, before crossing to the r. bank by the *Martinsbrücke*. This bridge takes its name from the forest of St. Martin, which has given its name to the Mattwaldhorn and to Mattmark, the two extremities of the parish of Saas since the thirteenth century. The track recrosses the stream, and in 2 hrs. from Stalden

reaches a little green plain, where stands the village of *Balen*. Here the path passes to the r. bank, and the valley widens out so as to show some of the neighbouring peaks. In  $3\frac{1}{2}$  hrs.' steady walking from Stalden the traveller reaches

**Saas Grund**, so called to distinguish it from Saas Fee,  $\frac{3}{4}$  hr. up on the slopes to the W. The name Saas is derived either from the Italian word for a stone ('sasso') or from a Romance word ('saucea') meaning an osier thicket. In either case it is a relic of the Italian colonisation of this glen in 1250 by Count Godfrey of Biandrate (see Rte. F), though later Teutonic influence has so disguised the local names that it is often hard to make out their original Italian form. Certain of these names—e.g. Mischabel, Allalin, Almagell, Monte Moro—have been supposed to be due to a Saracen settlement here in the tenth century, but this theory has no definite historical evidence in its favour, and is opposed to what we know of the authentic history of this valley. A former priest of the parish of Saas, Herr Imseng, was renowned as an intrepid mountaineer, and was known to most visitors, as well as by name to the readers of Sir Alfred Wills' 'Wanderings among the High Alps,' but was drowned in 1869 in the Mattmark lake.

The village of *Saas* (1,562 m., 5,125 ft.) does not command any striking views, but is situated in the immediate neighbourhood of scenery of the first order. The establishment of several great hôtels at Saas Fee ( $\frac{3}{4}$  hr. off on the W.), and of a modest mountain inn 1 hr. above the Trift Alp (3 hr. off on the E.), have now deprived it of any great importance as an Alpine centre. No traveller should on any account omit a visit to Fee, which, with the ascents and passes on the W. side of the valley, is described in Rtes. O and P. On the E. side it is worth while, if a traveller have leisure, to make the excursion to the inn above Trift Alp, the ascents and passes on

the E. side of the valley being enumerated in § 21. Rtes. B, C, and E.

The path from Saas Grund to the Monte Moro lies all the way along the r. bank of the Visp. The scenery is wild and in part dreary, but at intervals the eye is relieved by grand views of the surrounding peaks and glaciers. The geologist cannot fail to notice the numerous erratic blocks of smaragdite-gabbro, which come from a ridge on the l. bank of the Allalin gl., and may be traced at least as far as Geneva. In some boulders also the rare mineral glaucophane is conspicuous. The first village is *Almagell*, nearly at the tree limit, and at the junction of the Almagell torrent (flowing from the Zwischbergen Pass, § 21. Rte. C, and making a fine waterfall some distance above the village) with the Visp.

【From Almagell a path leads up direct to Fee, thus enabling those descending from the Monte Moro to avoid Saas Grund.】

Little more than a mile farther the more considerable torrent from the *Furgg* glen (for the pass to Antrona see § 21. Rte. E) descends to join the Visp near the houses of *Zermeiggen*. (As shown by a Latin document of 1291, this hamlet was called 'Morganum in the Saas valley,' to distinguish it from the 'Morghen' barrier, or 'Morganum in the Macugnaga valley,' the name having thus been carried across the Moro by the Teutonic settlers from the Vallais in the latter spot.) Beyond, the scenery increases in wildness, and the vegetation becomes more decidedly Alpine; the path mounts, but not very rapidly, and at length in about 2½ hrs. from Saas the traveller overlooks the **Mattmark Lake**. This small lake has been formed by the accumulation of the waters of the Visp behind the Allalin gl., which, like that of Miage, in the case of the Lac de Combal, has dammed the valley across. The very rare *Pleurogynus carinthiaca* is found in grassy spots near the lake, and

*Arenaria aretioides* in the Ofen glen, a little higher up on the E. side of the valley. On the Alp S. of the lake there is a small *Inn* (2,123 m., 6,966 ft.), convenient as a starting point for the Adler Pass (Rte. O) or the Schwarzberg Weissthor (Rte. F) to Zermatt, and even for the Monte Moro itself, which is thus reached at an early hour, the chance of a clear view being thus greatly increased. Not far from the inn are some huge blocks of serpentine, brought down by the Schwarzberg gl. At no great distance from the inn, beyond the opening of the *Ofen* glen (for the pass to Antrona see § 21. Rte. E. 3.), are the chalets of the *Distel Alp*. Amidst wild and dreary scenery the ascent continues by a tolerable mule path (on the way, as on the other side, are seen traces of the mediæval paved track) to the *Thälliboden* hollow or plain. Here mules must be left, and the ascent continues by some steps cut in the rock, and along the W. edge of the *Thälliboden gl.* (the gl. itself is *not* touched). Some snow slopes then lead to the pass (2 hrs. from Mattmark), 2,862 m., 9,390 ft.

【Travellers should note that the tempting opening at the E. head of the gl. is *not* the Moro, but the *Mon-delli Pass*, 2,841 m., 9,321 ft., whence M. Rosa is not seen, used in winter, and at other times, as a short cut to Ceppomorelli, in the Val Anzasca, 5 hrs. from Mattmark.】

Many of the passes in this district may tempt, more than does the **Monte Moro**, the adventurous traveller, who loves the flavour of difficulty, not to say danger, but there is perhaps none which offers a scene of such surpassing grandeur as is here unrolled before his eyes. The view of the precipitous E. face of Monte Rosa is perhaps more wonderful and unique when seen from the Pizzo Bianco, but the elements of the sublime and beautiful are combined in a more complete picture by the panorama from the Monte Moro. It is well worth while to ascend ( $\frac{3}{4}$  hr.) the

*Joderhorn* (3,040 m., 9,974 ft.), E. of the pass. The view of Monte Rosa is not finer, for in truth that cannot be surpassed, but the eye is enabled to contrast it with the distant prospect over the plain of N. Italy, including a glimpse of the Lago Maggiore and the southern ranges of the Alps. Even without going as far as the *Joderhorn* the panorama may be extended by mounting the rocks behind the wooden cross on the pass, so as to gain the view of Monte Rosa on the one side and that of the entire Saas valley on the other.

The colonies of Italians at Saas (1250), and of Vallaisans at Macugnaga (between 1262 and 1291), imply the frequent use of the Monte Moro, but the first distinct mention of a path across it occurs in a document of 1403, by which the men of the two valleys agree to keep in repair the track on their respective sides of the pass, while in 1410 the Vallais men made a raid across it, but were defeated at Vanzone. It was much used in the fifteenth and sixteenth centuries by pilgrims to Varallo, and by persons going to the fair at Macugnaga or Vogogna. The name seems to be a cross between two old names—*Magganaberg* (the Macugnaga mountain or pass) and *Mons Martis*, a Latinised form referring to the *Martinswald*, or *Mattwald*, below Saas, frequently mentioned in old documents. The latter name appears also under the form *Mundmar*, and is connected with the *Mattmark*. In any case the name of the pass has nothing to do with Ludovico il Moro, duke of Milan' (M.) It is scarcely necessary to say that the name Monte Moro applies to the *pass*, and not to any of the neighbouring summits. All the old passes across the Alps received this prefix, distinct names for separate peaks not being recognised till a much later date.

[By bearing W. from the pass and traversing the upper snows of the Seewinen and Schwarzberg gls., it is easy to reach the Schwarzberg Weiss-

thor (Rte. F. c) in 3 hrs., and thence go either to Zermatt or back to Mattmark by the Schwarzberg gl.]

The descent from the Col to Macugnaga is long, and for so frequented a pass very steep; but the view which remains before the traveller's eyes prevents the way from becoming tedious. The modern mule track begins again at the first chalets. On approaching the valley some scattered pines represent the remains of the forest that once filled the basin of Macugnaga. In 2 hrs. from the pass the inns at Macugnaga are gained. In the opposite direction 4 hrs. are needed from Macugnaga to the top, and about the same time for the descent to Saas Grund.

## ROUTE O.

### SAAS TO ZERMATT.

The range of the Saasgrat, extending from the Strahlhorn to the Balfrin, ranks next in height to those of Mont Blanc and Monte Rosa, and serves to separate the valleys of Saas and Zermatt. Despite the great elevation of this range, the passes across it are by no means hard, save the two difficult and dangerous traverses made in 1869 by Messrs. G. E. Foster and H. Walker, which we do not count as 'passes'—the *Domjoch* (4,286 m., 14,062 ft.), between the Täschhorn and the Dom, and the *Nadeljoch* (4,167 m., 13,672 ft.), between the Dom and the Südlenzpitze. It seems most convenient to reserve for the next Rte. a description of the passes over the N. end of this great chain, leading to the Ried gl. In this Rte. we include the four main passes between the Täschhorn and the Dom, referring to Rte. F. c. for an account of the Schwarzberg Weiss-thor, the easiest of all. The last-



named pass, like the Adler, is best taken from the Mattmark inn; the others are easily gained from Saas Fee, though the little-used Allalin Pass is also reached without any trouble from Mattmark. A summary of the chief ascents to be made from Saas Fee will be found under the pass which from its popularity claims the first place.

1. *By the Alphubel Pass*, or the **Fee Pass**.—These two passes are attained by such similar routes on either side that they may be described together. Some good authorities prefer the Fee Pass of the two, and it is certainly the most convenient, if it be intended to ascend the Allalinhorn.

The upland valley of **Fee** (the name of which should *not* be accented, as it has no connection with fairies, but is derived from the old German word 'feoh,' meaning cattle, or from 'fea,' a Romance word signifying a ewe, being in reality the pasturage ground of the inhabitants of Saas Grund) lies in a recess in the Saasgrat, and has only of late years, owing to the construction of several large inns, become a popular place of sojourn. The upper part of the basin in which is the hamlet of Fee is filled by the extensive *Fee gl.*, round which rise in a grand amphitheatre most of the highest peaks of the Saasgrat. On the r. of the spectator is the *Südlennzspitze* (4,300 m., 14,108 ft.), which leads the eye up to the precipitous twin peaks of the **Dom** and the **Täschhorn**, the culminating summits of the range. More to the S. are the flattened summit of the *Alphubel* (4,207 m., 13,803 ft.) and the pointed *Allalinhorn* (4,034 m., 13,236 ft.) From the latter peak a great ridge extends in a N.E. direction, forming the l. boundary of this wonderful amphitheatre, and terminating in the sharp, rocky summits of the *Egginer* (3,377 m., 11,080 ft.), and of the *Mittaghorn* (3,148 m., 10,329 ft.) It is over this wide gl. and through gaps between the peaks that have just been enumerated that the

traveller bound for Zermatt across the snow fields must make his way.

Fee is reached in  $\frac{3}{4}$  hr. from Saas Grund by a mule track which crosses the Visp opposite Grund, and mounts through a forest and past the chapel of St. Joseph and the hamlet of *Wildi* to the highest hamlet, **Fee** (1,798 m., 5,899 ft.), now often called **Saas Fee**, in order to fix its position and to distinguish it from the main village in the valley below.

[Apart from the excursion described in connection with the Alphubel Pass to the *Lange Fluh*, the ascents of the *Egginer* or of the *Mittaghorn* are probably the most frequently made from Fee. The former summit is accessible in about 5 hrs. by way of the *Gaden* huts, the E. rim of the Fee gl., the small gl. on the W. flank of the peak, and the S. arête, while the latter summit is attained in 3 hrs. by rounding the base of its N. ridge, and then climbing its S.E. arête. Lovers of rock scrambles are recommended to go from the lower peak to the higher (4 hrs.) at first on the E., then on the W. side of the narrow ridge which connects them. Other favourite climbs from Fee are those of the *Nadelhorn*, *Südlennzspitze*, *Balfrin*, and *Ulrichshorn* (all described in Rte. P), and of the *Allalinhorn* and *Alphubel*, described below. The ascent of the *Dom* by the great E. face is very dangerous, by reason of falling stones; that of the *Täschhorn* from the E. is very steep and difficult, though not so dangerous, and may be best made from Fee by the ridge running up from the *Mischabeljoch* to the peak. Another popular rock climb is that of the *Portjengrat*, on the E. side of the Saas valley (see § 21. Rte. C). On the same side are the two peaks of the *Fletschhorn*, and the *Weissmies*, which if taken from Fee involve a descent to the main valley before the real climb begins, and so may be most conveniently made from the inn above the Trift Alp (see § 21. Rtes. B and C). There is a direct path from Fee

to the village of Almagell, which shortens the way to some of these points if taken from Fee. ]

The *Fee gl.* is divided into two large branches by the rocky promontory of the *Gletscher Alp*, visible from the village of Fee. A zigzag path leads up to the huts of that name in  $1\frac{1}{2}$  hr. from Fee, and it is worth while, even for those not crossing any glacier pass, to continue to mount to the upper end of the promontory, or *Lange Fluh* (1 hr. more). Here the ice is entered on. A party bound for the *Alphubel Pass* must then mount the gl. in a slightly S.W. direction, keeping to the l. of a great wall of rocks coming down from the Alphubel peak, 3 hrs. from the Lange Fluh sufficing to reach the pass (3,802 m., 12,474 ft.) (If bound for the *Fee Pass*, the ascent from the Lange Fluh must be made in a nearly due S. direction, the pass (3,812 m., 12,507 ft.), at the W. foot of the Allalinhorn, being also gained in about 3 hrs.)

The **Alphubel Pass** was discovered by Mr. Leslie Stephen in 1860, but first completely traversed in the following year by Messrs. F. F. Tuckett and C. H. Fox. The peak of the *Alphubel* (4,207 m., 13,803 ft.) can be climbed from it in 2 hrs., and commands a fine view, though the Bernese Oberland peaks are already in sight from the pass itself. But the icy slopes are not always easy, and this summit is more easily reached by a snow ridge in 1 hr. from the Mischabeljoch, on its N. On the other hand, easy snow slopes lead from the Fee Pass in  $1\frac{1}{2}$  hr. up the **Allalinhorn** (4,034 m., 13,236 ft.), a very fine point of view; it can be gained by several other routes, and taken on the way from Fee to Zermatt.

The easiest way down from the Alphubel Pass is to bear round to the l., so as ultimately to gain the rock ridge between the *Wand* and *Melli-chen* gls., and then the r. bank of the latter ice stream, where the route from the Fee Pass (broken rocks above) is joined. In about 2 hrs. from either

pass the inn on the lower *Täsch Alp* (2,117 m., 6,946 ft.) is gained. There is a foot path hence to Zermatt (and also a direct descent to the hamlet of Täsch), carried for a considerable distance along a watercourse. It joins the main track in the Zermatt valley a short distance below the bridge over the Visp between Täsch and Zermatt. About  $1\frac{1}{2}$  hr. are required from the Täsch inn to Zermatt.

2. *By the Mischabeljoch.*—This pass lies between the Täschhorn and the Alphubel peak, and was first effected in 1862 by Messrs. H. B. George, C. and W. Trotter, and Thomason, with Christian Almer and Peter Bohren. It is harder, though shorter in point of distance, than the passes described under 1.  $\frac{1}{2}$  hr. beyond the Lange Fluh the Alphubel Pass route is left, and then a rock ridge more to the N.W., snow slopes, and a final ice slope ascended to the Col, 3,856 m., 12,651 ft. ( $3\frac{1}{2}$  hrs. from the Lange Fluh.) The view may be much extended by following an easy snow ridge on the S. to the summit of the *Alphubel* peak (1 hr.) The rocky ridge on the N.W. offers the best, though not altogether easy, route from Fee up the Täschhorn, which is reached in 5-6 hrs. from the pass.

The first party were forced to cut down the icefall of the *Weingarten* gl., on the W. side of the pass. But in 1867 Messrs. D. W. Freshfield, T. H. Carson, and C. C. Tucker, with D. Balley and Franz Andermatten, were accidentally led by chamois tracks from the easy upper portion of that gl. to a point in the rocks on the l. of the icefall, from which the descent was found perfectly easy. The Alphubel and Fee Pass routes are joined in  $2\frac{1}{4}$  hrs. from the Col at the Täsch inn.

3. *By the Allalin Pass.*—This is the oldest of all the passes between the Saas and Zermatt valleys, and the references in old writers to a pass over the Saasgrat all apply to it. It was reached from the W. side in 1845 by an

English party—one member was named Shuttleworth—but first crossed in modern times by Herr Imseng (the priest of Saas) thrice before 1847, and by Professor Ulrich's party in 1847. As it is inferior in scenery to its rivals, and a less direct way from Saas than the passes already described, it may be here dismissed shortly.

If the start be made from Mattmark, the Allalin gl. is reached by the same route as for the Adler Pass (below, 4), and the pass (3,570 m., 11,713 ft.) gained by making a great bend to the N. over that gl. ( $4\frac{1}{2}$  hrs. from Mattmark.) A party coming from Fee must cross the ridge running N.E. from the Allalinhorn about midway between that summit and the Egginer, and then a broad snow col from the Hohlaub gl. to the Allalin gl., the pass being attained in 5 hrs. or so from Fee.

The view from the Col includes the great peaks enclosing the Zermatt valley from the Lyskamm to the Weisshorn, but may be much extended by climbing (in 2 hrs.) up the rocky ridge on the N.E. to the *Allalinhorn*, a course taken on the occasion of the first ascent of that peak in 1856 by Mr. Ames. But the most striking object near the pass is the craggy peak of the *Rimpfischhorn* (4,203 m., 12,790 ft.), the climb up which from the pass by a jagged rock arête is very difficult and takes 5 hrs.

On the W. side the descent down the *Mellichen* gl. is perfectly straightforward, and at its farther end the Alphubel Pass route is joined. The Täsch Alp inn may be reached in  $2\frac{1}{2}$  hrs. from the pass.

4. *By the Adler Pass.*—This is, perhaps, the most interesting of the passes from Saas to Zermatt, and was discovered by Herr Imseng, Professor Ulrich, and G. Studer, who made the first passage in 1849. But it was only in 1853, when Herr Imseng crossed it again, with Sir Alfred Wills, that it obtained its present name from an eagle's feather found on the crest of the ridge. The pass

may be reached from Fee by the route described under 3. But it is more convenient to start from the Mattmark inn. A rough track leads thence across the Schwarzberg gl. stream and up steep slopes to the point marked 2,872 m. on the Swiss map. The ascent then lies up the Allalin gl., the Allalin Pass being at the N.W. corner of the quadrangle enclosing that gl., and the Adler Pass at the S.W. corner. The latter pass is gained in  $4\frac{1}{2}$  hrs. from Mattmark (6 hrs. from Fee), and is at a height of 3,798 m. (12,461 ft.) between the Rimpfischhorn and the Strahlhorn. Hence the great range from Monte Rosa to the Gabelhorn is in sight. But no traveller, favoured by clear weather, should neglect to mount the easy snow slopes on the S.E. to the summit of the *Strahlhorn*, 4,191 m., 13,751 ft. (1 hr.), which commands one of the finest panoramic views in the Pennine Alps. Though a few feet lower than its neighbour, the Rimpfischhorn, it is better situated, the prospect to the E. and S. being comparatively clear. For this reason it is hard to point out a rival view in which all the elements that make up the grandeur of Alpine scenery are so perfectly combined. The *Rimpfischhorn* (4,203 m., 13,790 ft.) may be gained by a scramble of 3 hrs. from the Col up rocks.

The first bit of the descent from the Adler Pass was formerly feared, but is not now regarded as formidable even by novices. It consists of a steep ice slope resting against the rocks of the Rimpfischhorn, which are too smooth to offer hold for hands or feet. The descent is generally made close to these rocks, but the distance is fortunately not great, so that  $\frac{1}{2}$ – $\frac{3}{4}$  hr. suffices to land the travellers at the head of the *Adler* gl., a tributary of the mightier Findelen gl. Here the Zermatt and Riffel routes divide.

If bound for the *upper Riffel inn*, it is best to bear S. from the upper bit of the Adler gl., and to keep over the upper snows round the E. end of



the Stockhorn, till the Schwarzberg Weissthor route is gained. For *Zermatt* and the *Riffel Alp* the crevasses at the W. end of the Adler gl. are threaded, or turned by the moraine on the r. bank. Then the descent down the Findelen gl. to the Fluh alp inn (2 hrs. from the pass) is easy. A party bound for Zermatt has simply to follow the beaten track thence, while from the Grünsee inn (see Rte. A. 1), on the other side of that glacier, there is a nearly level mule path to the Riffel Alp, if that be the object of the day's journey.

It is possible to combine bits of some of these passes on the way over from Saas to Zermatt, and of course the peaks between them can be traversed, without touching the summit of any of the passes themselves.

#### ROUTE P.

##### SAAS TO ST. NIKLAUS.

It has been already pointed out (Rte. A. 3. *k.*) that, only separated from the Dom by the depression of the Nadeljoch, there rises the *Südenzspitze* (4,300 m., 14,108 ft.), whence the ridge of the Saasgrat, hitherto running N. and S., takes a bend to the N.W. The next, and highest, summit on this N.W. spur is the *Nadelhorn* (4,334 m., 14,220 ft.), at which point this spur splits into two great ridges. That known as the *Nadelgrat* runs in a N.W. direction, and is crowned by several lofty points, while a lower ridge bends first N.E. to the *Ulrichshorn* (3,929 m., 12,891 ft.), and then N. to the *Balfrin* (3,802 m., 12,474 ft.), which forms the N. end of the Saasgrat, and is the summit which is so conspicuous from Visp and the valley of the Rhône. Between these two branches extends the vast *Ried gl.*, the vast dimensions of which startle the traveller, as it is quite invisible

from below. It offers in itself but slight difficulties, but access to it from the Saas side is not altogether easy, and the routes are intricate. On that side there are two smaller gls. : that to the S. is the *Hohbalen gl.*, and gives access to the *Windjoch* (c. 3,800 m., 12,468 ft.), between the Nadelhorn and the Ulrichshorn, while that to the N. is the *Bider gl.*, at the head of which is the *Ried Pass* (11,800 ft.), between the Ulrichshorn and the Balfrin. But, as the Bider gl. is very steep, it is usual to gain the Ried Pass by climbing from the l. bank of the Hohbalen gl. up the rock wall which supports the r. bank of the Bider gl., and then following the crest of that wall. Hence the Windjoch is the shortest and best of these two passes.

(a) *The Windjoch.*—Though this pass was not discovered till 1886 by Sir Martin Conway, and Messrs. Scriven and West, it is now the usual route from Fee to the Ried gl., whence several of the great peaks around may be climbed. The way thither from Fee lies along the l. bank of the torrent flowing from the Hohbalen gl., the rock ridge between that gl. and a smaller one, the *Fall gl.*, on the S., and the upper snows of the Hohbalen gl. (4½ hrs.)

(b) *The Ried Pass.*—Formerly this was the direct glacier route from Saas to St. Niklaus, from at any rate 1848, when it was discovered by Herr Imseng and Prof. Ulrich, till the discovery of the Windjoch. As indicated above, the way from Saas Grund or Fee lies past the *Hannig* huts and along the l. bank of the Hohbalen gl. to the base of the rock wall stretching from the Ulrichshorn to the Gemshorn, and supporting the r. bank of the Bider gl. This wall is then scaled by a snow couloir or the rocks E. of it, and then its crest followed till it is possible to traverse the upper snows of that gl. to the pass (5½ hrs. from Grund, 5 hrs. from Fee).

The traveller having reached by one

or other of these passes the edge of the *Ried* gl., finds himself overlooking a broad, level plateau of névé separating the *Nadelgrat* from the **Balfrin**.

[If the latter peak, a wonderful panoramic point, is the object of the traveller, he has only to cross this plateau in a N. direction, and attain the summit either by its face or by either ridge (1 hr. from the *Ried* Pass, rather more from the *Windjoch*). The summit was first reached in 1863 by Mr. and Mrs. R. Spence Watson, and Herr Imseng, and commands a view which is admirable in itself, and is all the more striking in that the still higher peaks of the *Dom*, *Weisshorn*, &c., are near at hand. It is easy to descend by the *Balfrin* gl., on the N., to the *Saas* valley a little above the *Hutegg* inn, the start being made from the gap between the two points of the *Balfrin*.

The *Ulrichshorn* (named in 1848 in honour of one of its conquerors, Prof. Ulrich) is accessible by easy snow slopes in 1 hr. from the *Ried* Pass, or  $\frac{1}{2}$  hr. from the *Windjoch*. From the latter pass the *Nadelhorn* may be climbed by an easy ridge (2 hrs.) The *Südlenzspitze* is best attained by continuing to follow the difficult E. arête, after the *Windjoch* route quits it (8 hrs. from *Fee* to the summit), or by gaining this ridge by a steep snow couloir from the upper snows of the *Hohbalen* gl.]

The descent from either pass towards *St. Niklaus* is the same, and offers no real difficulties. After leaving the great plateau of névé at the head of the gl. it is best to turn the upper icefall by the moraine on its r. bank, and then to cross between the two icefalls to the l. bank of the gl. A track between the hill-side and the moraine is followed to the *Schallbett* chalet, below the tail of the gl., and thenceforward there is a good path past the village of *Gasenried* to *St. Niklaus* ( $4\frac{1}{2}$  hrs.), or a more direct descent along a water-course and the l. bank of the torrent from the *Ried* gl.

## SECTION 21.

## SIMPLON DISTRICT.

BETWEEN the valley of *Saas*, described in the last Section, and the *Simplon* Pass there is a very considerable mountain range, parallel in its general direction with the *Saasgrat*, and important enough in any other neighbourhood than that of *Monte Rosa* to have early attracted the attention of mountaineers. After long neglect this fine chain has now been thoroughly explored, at any rate on its Swiss side. From the *Joderhorn*, E. of the *Monte Moro*, to the *Portjengrat* (3,660 m., 12,008 ft.) the range in question forms the watershed between *Switzerland* and *Italy*, the *Italian* slope being all but entirely occupied by the fine and extensive valley of *Antrona*, still scarcely known to *English* travellers. N. of the *Portjengrat* rises the **Weissmies** (4,031 m., 13,226 ft.), the loftiest summit of the chain. Still farther to the N. are the twin summits of the *Fletschhorn*—the S. peak being the *Laquinhorn* (4,005 m., 13,140 ft.), and the N. peak the *Rossbodenhorn* (4,001 m., 13,128 ft.) On the E. side of this portion of the range one very long (*Zwischbergen*) and two short (*Laquin* and *Rossboden*) glens stretch down to the *Simplon* road, all being by a freak of historical geography in *Switzerland*, though on the S. side of the main chain of the *Alps*. A little to the N. of the *Rossbodenhorn* the chain forks, and two parallel ridges of no great height, enclosing between them the *Gamsersthal*, descend towards the *Rhône* valley between *Visp* and *Brieg*. The N. half of this long range is high, and so steep that the *Saas* valley and the *Simplon* road are in some places not more than 7 miles apart. Further S. the summits are lower, but two great ridges project to the E. which enclose the *Antrona* valley,

and a smaller glen called Val Bognanco. This Section therefore comprises a description of those two glens, and of the peaks on and passes over the main chain, leading from the Saas valley to the Simplon road. It is also convenient to include an account of the route from Geneva to Milan by way of the Rhône valley and the Simplon Pass, as that line forms precisely the N. and E. limits of this volume. The mountains E. of the Simplon will be noticed in § 29, and are described minutely in the 'Lepontine Alps' volume (1892) of the 'Climbers' Guides' series.

## ROUTE A.

GENEVA TO MILAN BY THE  
SIMPLON PASS.

	English Miles
Nyon (by railway) . . . . .	13½
Morges . . . . .	30
Lausanne . . . . .	38
Vevey . . . . .	50
Montreux . . . . .	53½
Villeneuve . . . . .	56½
Aigle . . . . .	62½
Bex . . . . .	67½
St. Maurice . . . . .	70
Martigny . . . . .	79½
Sion . . . . .	95½
Sierre . . . . .	105
Leuk . . . . .	111
Turtmann . . . . .	114
Gampel . . . . .	116½
Visp . . . . .	123½
Brieg . . . . .	128½
Berisal (by road) . . . . .	137
Simplon Hospice . . . . .	143½
Simplon village . . . . .	148½
Gondo . . . . .	154½
Iselle . . . . .	157½
Varzo . . . . .	162½
Crevola . . . . .	166
Domo d'Ossola . . . . .	168
Villa d'Ossola (by rail) . . . . .	172½
Piedimulera . . . . .	175
Vogogna . . . . .	177½
Cuzzago . . . . .	182
Ornavasso . . . . .	184½
Gravellona Toce . . . . .	188

Thence

*either by*

Omegna (by rail) . . . . .	192
Orta . . . . .	197½
Gozzano . . . . .	202
Novara . . . . .	223
Rho . . . . .	246½
Milan . . . . .	255½

*or by*

Baveno (by road) . . . . .	192½
Stresa . . . . .	195½
Arona . . . . .	206½
Sesto Calende (by rail) . . . . .	212
Gallarate . . . . .	222
Rho . . . . .	238
Milan . . . . .	247

Railway from Geneva to Brieg, 6½-7 hrs. by fast trains (steamer from Geneva to Villeneuve, 4 hrs., as against 2½ hrs. by rail); from Brieg to Domo d'Ossola by high road, about 10 hrs. by diligence; from Domo d'Ossola to Gravellona Toce by rail (1¼ hrs.) Then *either* by rail to Milan *viâ* Novara (4¼-4¾ hrs. from Domo to Milan), *or* by high road for 18½ m. to Arona, and then by rail to Milan *viâ* Gallarate (Arona to Milan, 2¼ hrs.) The lines from Arona and Novara meet at Rho, 9 m. from Milan.

We include in this Rte. the greater part of the celebrated road designed by Napoleon to connect France and Italy by way of Geneva and the Simplon Pass, which continues, though injured by the Mont Cenis and St. Gotthard tunnels, to be one of the main lines of communication across the Alps. It is also one of the most interesting for those who are compelled by infirmity or indolence to keep to carriage roads. The original road was carried along the S. side of the Lake of Geneva (for a description of that shore see § 17. Rte. K), and then through the Rhône valley to Brieg. The main difficulties and the heaviest expenditure were naturally encountered in traversing the pass itself from Brieg to Domo d'Ossola, especially in the descent on the S. side. (A tunnel is projected, which will run from Brieg to Iselle in 11-12½ m., and it now really seems as if this project would soon, after many delays, be carried out.) From Domo



d'Ossola the course selected was along the valley of the Tosa (or Toce), and after some doubt as to the relative advantages of a line by the Lake of Orta or the Lago Maggiore the latter was ultimately selected, and the road was carried past Arona to Sesto Calende at the S. end of the lake, and thence across the plain to Milan. The recent opening of a railway from Domo by Orta to the great railway junction of Novara has changed the course of traffic, though leisurely travellers will prefer to combine both routes by going from Orta to the Lago Maggiore over the splendid view-point of the Mottarone. The extension of railways and steamers has reduced to secondary importance the portions of the high road between Geneva and Brieg, and between Domo and Milan, so that the only part of the original road which still continues to serve for general traffic is that between Brieg and Domo d'Ossola. Reserving a brief notice of the history of the road and pass till we reach Brieg, and premising that the ranges on the N. side of the Lake of Geneva and of the Rhône valley, as well as those E. of the actual pass itself, will be described in detail in the second volume of this work, we proceed to give an outline of the chief objects of interest passed by the traveller on his long journey. Those who are not in haste should certainly take the steamer from Geneva to Villeneuve in preference to the railway.

Geneva itself has been noticed in § 16. Rte. A, so that we may here confine our attention to the **Lake of Geneva**, or **Lac Léman**, which is the largest of the Alpine lakes, according to Professor Forel, of Morges (consult his most elaborate monograph 'Le Léman,' of which two of the three volumes were published at Lausanne in 1892 and 1895). Its form is that of a crescent with the horns pointing S. Its length in a straight line from Geneva to Chillon is  $39\frac{1}{2}$  m., but along its axis 45 m. The crescent form was more regular at a recent

geological period, when the lake extended to Bex, about 11 m. S. of Villeneuve. The detritus of the Rhône has filled up this portion of the bed of the lake, and it appears that within the historical period the waters reached about  $1\frac{1}{2}$  m. beyond the present E. margin of the lake, to Port Vallais. The height of the surface varies according to the season, the mean height, according to Professor Forel, being  $1,220\frac{1}{2}$  ft. The level is subject to occasional oscillations, amounting to as much as 5 ft., which last for a short time, after which it returns to its previous condition. These curious fluctuations, called *seiches*, appear to be independent of the direction of the wind, but connected with changes of weather. They are probably caused by the unequal pressure of the atmosphere on different portions of the surface at times when its equilibrium is disturbed. It is said that they occur most frequently at the two extremities of the lake. The greatest depth is 1,017 ft., in the broad portion of the lake between Evian and Ouchy, a considerable area in this part lying between this and 985 ft. The greatest width is  $8\frac{1}{2}$  m., between Morges and Amphion. The total area is  $225\frac{1}{2}$  sq. m., of which the *Petit Lac* (between Geneva and Yvoire, on the French side, nearly opposite Nyon) claims  $30\frac{1}{2}$  sq. m. and the *Grand Lac* the remaining  $194\frac{1}{2}$  sq. m.

The beauty of the shores of the lake and of the sites of many of the places near its banks has long been celebrated, and can scarcely fail to strike the least susceptible traveller. It is well, however, to mention that it is only from the E. end of the lake, between Vevey and Villeneuve, that the scenery assumes the character of grandeur. The hills on the Savoy side are for the most part rugged and sombre, while those of the Swiss shore fall in gentle vine-covered slopes, thickly set with villages and châteaux. Mont Blanc and the snowy

peaks of that chain are scarcely seen except from Geneva and between Nyon and Morges. From Vevey to Bex, whither the lake originally extended, the shores are enclosed by comparatively high and bold mountains, and the vista terminates in the grand portal of the defile of St. Maurice, cleft to a depth of nearly 9,000 ft. between the opposite peaks of the Dent du Midi and the Dent de Morcles. The first place of much note on the Swiss shore is *Coppet*, where the traveller may visit the *Château*, once inhabited by Necker, and afterwards by Madame de Staël. Some souvenirs of the latter are still shown. About 5 m. further is *Nyon*, formerly a Roman settlement. Near it is the beautiful *Château* and park of *Prangins*, formerly the property of Prince Napoleon.

[Nyon is the best starting point for St. Cergues, whence 2 hrs. suffice to make the ascent of the *Dôle* (1,678 m., 5,505 ft.), for a notice of which see § 16. Rte. A. From Nyon a good carriage road leads up in  $5\frac{1}{2}$  m. to the large hydropathic establishment of *Divonne*, 470 m., 1,542 ft.]

The next little town is *Rolle*, opposite Thonon, and the broad opening of the valley of the Dranse d'Abondance, through which the chain of Mont Blanc comes into view and is seen for several miles to the E.

[On a hill above the station of *Allaman*,  $3\frac{3}{4}$  m. from Rolle, is *Aubonne*, a curious little town, finely situated, and commanding one of the best views over the lake. The *Château* was built by Tavernier, the Eastern traveller, in recollection of that of Erivan, on the frontier of Persia. The view is still more striking from the *Signal de Bougy* (712 m., 2,336 ft.),  $\frac{1}{2}$  hr. from Aubonne.]

*Morges* is a town, with a little port, one of the most important commercially on the lake. The *Château de Vuflens* is said to have been founded in the tenth century by Queen Bertha, but is probably a fourteenth-century building. It is near Morges that

Mont Blanc is best seen from the shores of the lake.

The high road keeps near the shore, but the railway turns inland to the *Renens* station, where the lines from Vallorbes, Yverdon, and Neuchâtel join that from Geneva. 3 m. further is

*Lausanne* (475 m., 1,558 ft.), the chief town of the Canton of Vaud. It is picturesquely situated on the lower slopes of the *Jorat*, 328 ft. above the lake, and divided by ravines which make the old streets hilly and inconvenient, but recently several new comparatively level streets have been pierced. There is a funicular railway from the station up to the town, and down to the suburb of *Ouchy*, on the lake.

Many English and other strangers reside at Lausanne, partly for the sake of the climate, less cold in winter than that of Geneva, partly for reasons of economy, and largely for the educational advantages to be had in and near the town.

The upper part of the town, still called the *Cité*, contains the *Cathedral Church of Notre Dame*, which from 590 to the time of the Reformation was the see of a bishop whose diocese included most of W. Switzerland. It was founded in 1000, but the existing building dates from 1275, and is one of the finest architectural monuments in Switzerland. It contains several interesting monuments, a fine W. door, and a thirteenth-century rose window in the S. transept. The view from the terrace at the W. end of the church alone suffices to reward the trouble of the ascent. The *Château*, formerly the residence of the bishops, is a picturesque pile of the early fifteenth century. Not far from the Cathedral is the *University* (till 1891 only an 'Académie'), in which is the *Cantonal Museum*, with natural history collections, and some lake dwelling and Roman antiquities, and also the *Cantonal Library* (60,000 vols.) The *Musée Arlaud* has many pictures by

modern Swiss artists. One of the finest modern buildings in the town is the *Federal Palace of Justice*.  $\frac{1}{2}$  hr. from Lausanne, and accessible by a carriage road, is the *Signal* (647 m., 2,123 ft.), on the slopes of the Jorat, which commands a fine view over the lake, &c., *not* including Mont Blanc. 'The neighbourhood of Lausanne is famous for the number and beauty of the walks. Here, and throughout the wine-growing districts bordering the lake, strangers must beware of the alleys between walls and high hedges which abound in every direction. Appearing to lead up a hill, or to some favourable point of view, they are constantly closed at the end by a gate, with a notice against trespassers. The law is severely enforced against any one entering a vineyard without the owner's permission.' (M.)

Between Lausanne and the lake is *Ouchy*, the port of Lausanne, made up of country houses and hôtels, as it is a favourite place of sojourn.

Beyond Lausanne the railway line to Fribourg and Berne (§ 22) separates from that to Vevey and Brieg. It mounts along the slopes above the lake, while the latter descends gradually to **Vevey**, the second town in the Canton of Vaud.

Few spots in the neighbourhood of the Alps offer such attractions to strangers as Vevey, and the strip of land along the shore of the lake extending thence to Villeneuve. It enjoys the mildest winter climate in Switzerland, and is better sheltered from cold winds than the shores of the Italian lakes, while it is easily accessible. It is not surprising, therefore, that both in summer and winter the countless hôtels and *pensions* are full. The convenience of living in or near a town is counterbalanced by the want of agreeable walks in the immediate neighbourhood of Vevey. These are nearly confined to the carriage roads, rather hot and dusty, whereas about Montreux and the adjoining villages, where the mountains rise nearer at hand, the pedestrian finds

abundant variety of agreeable excursions. Boating on the lake is a constant source of enjoyment, but the sudden squalls which come on are very dangerous.

There is not much to engage the attention of the sightseer at Vevey, but every rising ground produces in new combinations the glorious views over the lake. The fifteenth-century *church of St. Martin*, just above the town, is visited for the sake of the view. It contains the tombs of Ludlow, the regicide, and his companions in exile, Broughton, Love, and Cawley. Once in every twenty-five years or so (last in 1889) a curious festival, said to date from remote antiquity, is held on the Place du Marché at Vevey. Greek myth and sacred history have been laid under contribution to supply the personages represented by the guild of vintners, styled the *Abbaye des Vignerons*. On a hill N.E. of Vevey is the *Château de Blonay*, which is said to have remained in the family of its present owners for over 700 years, and commands a noble view. (For the route from Vevey to Thun by the Simmenthal, a beautiful two days' drive, see § 22).

There is an electric tramway from Vevey to Chillon, as well as the railway line, and the steamers. In travelling by railway from Vevey to Villeneuve most of the beautiful scenery is lost, and those who have too little time to visit the neighbourhood should at least prefer the steamer. The narrow space between the mountains and the lake is populous with many hamlets, with innumerable hôtels and pensions, besides country houses and villas. The names of *Clarens* and *Montreux* have been constantly celebrated both in prose and verse, but there are several other hamlets not inferior in position. The finest site is *Glion*, reached in 10 min. from the Territet station by means of a funicular railway, which continues past *Caux* (also finely situated) to the summit of the *Rochers de Naye*, 2,045



m., 6,710 ft. (1 hr. 20 min. from Glion; see § 22). 5 m. from Montreux, at the head of the valley leading to the Col de Jaman (§ 22), is *Les Avants* (985 m., 3,232 ft.), a favourite resort both in summer and winter.

Rather more than half-way from Montreux to Villeneuve is the celebrated **Castle of Chillon**, built in the thirteenth century by Peter of Savoy (to whom was also due the palace of the Savoy in the Strand). Byron described the imprisonment here of an imaginary captive, taking the name of a real man, but utterly distorting and adorning his real history. The extreme beauty of the site, and the poetic associations linked with the place, make it an object of interest to almost every traveller, and few fail to pay it a visit.

Quite at the end of the lake, but on the E. bank of the Rhône, is *Villeneuve*, lying at the N. extremity of a tract of flat alluvial soil, extending from near Bex to the present border of the lake. The belief that the ancient bed of the lake has to this extent been filled up by the detritus of the Rhône, which needs no external evidence to the mind of the geologist, is confirmed by the identification of *Port Vallais*, now  $1\frac{1}{2}$  m. from the lake, with the *Portus Vallesisæ* of the Romans. Drainage has done much to correct the unhealthy character of the place, but travellers sleeping here should abstain from open windows. On rising ground near the lake, and about  $\frac{1}{4}$  of a mile from Villeneuve, is the *Hôtel Byron*, a large, handsome house, one of the most agreeable stopping places in this beautiful neighbourhood. Many pleasant walks and drives may be made from here, those on the E. being described in § 22, and those on the other side of the lake in § 17. Rte. K.

Throughout the way from Villeneuve to Bex the opposite peaks of the Dent de Morcles and the Dent du Midi continue to attract the attention of the mountaineer. The former,

rising nearly 9,000 ft. from the level of the valley, is one of the most imposing in the Alps. (Its ascent is described in § 22, while for that of the Dent du Midi see § 17. Rte. H.) At *Aigle* the high roads to Villars, the Vallée des Ormonts, Château d'Oex, and the splendid new Sanatorium of *Leysin* turn off to the S.E. and N.E. (see § 22.)

5 m. further is **Bex** (pronounced Bé), a large village frequented in summer by strangers, on account of brine baths derived from the extensive salt mines about 3 m. off. They have been known since the sixteenth century, but the salt was obtained solely from the springs, then failing, when in 1823 M. Charpentier (to whose writings, at first received with ridicule, we mainly owe the recognition of the important part played by glaciers in the past history of the earth) greatly increased the produce by driving shafts into the mountain-side, and so discovering a rich vein of rock salt. The mode of extracting the salt from the solution in which it is associated with gypsum is similar to that employed at Salins, near Moûtiers Tarentaise (§ 12. Rte. H). About 4 hrs. are required for the visit. On the way is passed the hamlet of *Les Devens*, formerly the home of a family of naturalists, named Thomas, whose members made collections of dried plants and minerals throughout the Swiss Alps and in different parts of Italy, which were disposed of on moderate terms. Some of this family were among the first strangers to visit Zermatt, about the middle of the eighteenth century, in search of rare plants. (For the road to Gryon, and thence to Les Plans de Frenières, and the Vallée des Ormonts, see § 22, and for that by Monthey to Champéry see § 17. Rte. H.)

Immediately S. of Bex the Rhône is contracted to a mere defile (now being fortified by the Swiss Government), which extends for several miles between the Dent du Midi and the Dent de Morcles. At the N. end of

the defile is a fine bridge, possibly resting on Roman foundations, but built by the bishop of Sion at the end of the fifteenth century. It spans the Rhône by a single arch of 72 ft., marking the spot where the road and the railway, here carried through the rock, are forced to quit the r. bank of the Rhône, and to seek a further passage through the little town of

**St. Maurice**, where our line joins that from Bellegarde and Geneva, by Thonon, and the S. shore of the Lake of Geneva (§ 17. Rte. K). This place is the Roman *Aganum*, and is a poor-looking place, squeezed into the narrow space between the mountain and the river. It owes its name to the tradition which fixes this as the site of the martyrdom of St. Maurice and his companions of the Theban Legion in A.D. 302. The great Abbey (held since the twelfth century by Austin Canons Regular) was founded in the fourth century by St. Théodule or Theodore, the first bishop of Sion, and later the patron saint of the Vallais. It was richly endowed in A.D. 515 by Sigismund, king of Burgundy, and was for centuries one of the most famous religious houses in Christendom. The Treasury contains several very curious objects—a gold crozier of most elaborate workmanship, an agate cup of ancient Greek work, &c. There are Roman inscriptions built into the wall of the parish church.

[ $1\frac{1}{2}$  m. on the E., in a picturesque position under the Dent de Morcles, and on the opposite side of the Rhône, are the Baths of *Lavey*. The sulphureous waters are said to be the hottest in Switzerland, and to owe their medicinal effects to the presence of free nitrogen.]

On the l. bank of the Rhône, after quitting St. Maurice, the *Hermitage of Notre Dame du Sex* is seen at a great height on a ledge in the steep rock face. It is not easy to see how access to it was originally gained, before the present long flight of steps was cut in the rock. Lower down,

on the road, the *Chapel of Véroliaz*, covered with frescoes, is supposed to mark the exact spot of the massacre of the Theban Legion.

On the way to Evionnaz,  $3\frac{3}{4}$  m. off, the high road traverses the site of the great mud avalanche of 1835. A violent thunderstorm, in which the lightning is said to have struck the Dent du Midi several times, accompanied by heavy rain, seems to have detached a considerable mass near the summit of the ridge. This descended towards the E., accompanied by a mass of glacier. The rock, composed of a soft shaly limestone, probably saturated with water, seems to have broken up rapidly into a sort of coarse mud, in which huge blocks of harder stone were carried along. After passing through a pine forest, which yielded as if the trees were straw in a stubble field, the current, moving very slowly, advanced through the cultivated district at the foot of the mountain, carrying trees and houses before it, and finally reached the high road, which it covered for about a furlong, interrupting the communications for some time.

*Evionnaz* is a poor village with a railway station, and perhaps stands on the site of the Roman *Epaunum*; but the great bergfall of 563 occurred, according to the best authorities, not here, but at Les Avouettes, near Port Vallais (§ 17. Rte. K). (For the Col du Jorat to Salanfe see § 17. Rte. I.)

Among the causes which have contributed to give the population of the Canton of the Vallais an appearance of marked inferiority to that of the Canton of Vaud, it is fair to reckon the poverty of the soil, and the exposure of the main valley, and its tributaries, to visitations of the elements that in a brief space destroy the fruits of human industry. One of these was the flood of September 1852, which laid under water all the low ground between Martigny and St. Maurice, covering the fields with sand and gravel. Between the

Evionnaz station and that of Vernayaz is the waterfall of the Salanfe torrent, called *Pissevache*, about 200 ft. high. It is a fine fall, especially after rain, and is very easy of access, as it is close to the high road and railway; but those who attempt a near approach are liable to be wet by the fine spray, which forms a brilliant iris when seen on a fine morning. There is a path hewn in the rock, by which it is possible to pass behind the fall.  $1\frac{1}{2}$  m. further is the *Vernayaz* station (3 m. from Martigny), close to which are the *Gorges of the Trient*, a narrow cleft, of a great depth (now fitted up with wooden bridges, &c.), through which the *Trient* torrent issues. (For the road from Vernayaz to Salvan and Chamonix see § 16. Rte. H. 3.) A rocky eminence crowned by the ruined castle of *La Bâtiaz*, built by Peter of Savoy, but burnt by George Supersax in 1518 (the tower is still older), overlooks the town of

**Martigny**, near the right angle formed by the Rhône flowing S.S.W. from Brieg, and N.N.W. hence to the Lake of Geneva. Standing at the confluence of the Dranse, descending from the Great St. Bernard (§ 18. Rte. A); the Val de Bagnes (§ 18. Rte. E), and the Col Ferret (§ 16. Rte. K), and at the junction of the most frequented routes from Chamonix (§ 16. Rte. H), Martigny is naturally much resorted to by Alpine travellers. It possesses, however, few attractions of its own; its position is low (477 m., 1,565 ft.) and hot, and the tract of marshy ground N. of the town, at the junction of the Dranse with the Rhône, cannot contribute to make it healthy.

[An excursion which may be recommended to any one involuntarily detained here is the ascent of the *Pierre à Voir* (2,476 m., 8,124 ft.), a mountain in the range between the Rhône and Bagnes valleys. There is a mule path to within  $\frac{1}{4}$  hr. of the summit, and a descent may be made on the other side to Chable, at the

entrance of the Val de Bagnes. 'Keeping a little S. of E., the summit of the hill visible from Martigny is reached in about 2 hrs. and then, following the same direction through woods over undulating ground, the mule track is carried along the dividing ridge between the Rhône valley and the Val de Bagnes, commanding splendid views on both sides.' The top is reached in 5 hrs. from Martigny. After the snow has disappeared in summer little or no water is found on this mountain. This summit is now most conveniently reached from the new hôtel on the Col du Lens, to the W. (§ 18. Rte. A.)

The valley of the Rhône between Martigny and Brieg is so devoid of picturesque interest that most travellers are glad to hurry it over in the train. On either side of the valley mountains of uniform slope and hue, just high enough to conceal (save a fleeting glimpse) the great ranges of the Pennine and Bernese Alps, hem in the valley, whose bed is so nearly level that imperfectly drained swamps extend afar, and at some seasons make it unhealthy as well as unsightly. The geologist, who sees in these appearances the record of the processes which have fashioned the mountains and the valley, will not find the way irksome. The uniformity of the slopes and the absence of salient points are here due to the passage of a vast glacier through a trench in the yielding Carboniferous strata, and this immense planing tool has left its mark permanently impressed on the face of the country.

Near the second station beyond Martigny is the Etablissement des Bains of *Saxon*, the mineral waters containing iodine and bromine, and being deemed very efficacious in skin complaints. (For the Col du Lens to Sembrancher see § 18. Rte. A.) The next station is *Riddes*, whence the *Col des Etablons* leads over to Chable, in the Val de Bagnes (§ 18. Rte. E). Looking back there is a fine view of the Grand Muveran



(§ 22), while to the N. is the *Haut de Cry* (2,951 m., 9,682 ft.), which has attained a sad celebrity from the fatal accident in February 1864, which cost the lives of a Russian traveller, and his widely-known guide, J. J. Bennen, of Laax. The peaks of the curious limestone range connecting the Dent de Morcles with the Diablerets come into view between Saxon and Sion. The junction of the gneiss and other crystalline rocks with the limestone is very conspicuous opposite Saxon. After leaving that place the railway crosses to the r. bank, and passes the station of *Ardon*, near the opening of the *Liserne* glen, through which lies the way to the Col de Cheville (§ 22). A little more than 4 m. beyond, across the *Morge* torrent, the former limit between Savoyard and Episcopal Vallais is

**Sion** (Germ. *Sitten*), 512 m., 1,680 ft., the ancient capital of the Vallais—we retain throughout this work the historical spelling of this name—whose importance is told by the massive style of many of the old families of the city, and by the ruins of several castles. The monotony of the valley of the Rhône is broken here by two rocky hillocks that rise abruptly in its midst, and are crowned by three castles, which greatly enhance the picturesque appearance of the city. These buildings contain many remains of antiquity, commencing with the Roman period, but they chiefly tell of the period when the Bishops of Sion reigned as secular Counts over the Vallais. In going to visit these buildings the traveller is first conducted to the *Marjoria*, once the residence of the 'major' or chief magistrate of the city, and later the bishop's palace. Passing by a fourteenth-century All Saints' chapel, he thence ascends to the top of the N. hillock, crowned by the ruins of the castle of *Tourbiilon*, built about 1294 by the reigning bishop, but burnt, like the Majoria, in the great fire of 1788, after having served as the bishop's residence for many centuries.

It commands a very fine view up the Rhône valley, including the Bietschhorn. On the S. hillock is the castle of *Valeria*, said to have been originally the Roman Prætorium, and for long centuries the residence of the canons. It contains the thirteenth church of St. Catherine, with a very perfect rood loft, some ancient frescoes, and some fine carved stalls of the seventeenth century. The view hence extends down the valley of the Rhône, including in the background the Diablerets, Dent de Morcles, &c. The late fifteenth-century *Cathedral Church*, with a tenth-century tower, is in the town below. The history of Sion is most interesting, as it became a bishop's see in 590, while in 999 the bishops became Counts of the Vallais. The old state of things lasted till 1798.

The flora of this part of the valley is remarkable for the presence of many species characteristic of the Mediterranean region, some of which, as the pomegranate, have probably been introduced by man, but others are of spontaneous growth. Among those more interesting to the botanist may be enumerated *Eruca sativa*, *Buffonia tenuifolia*, *Ononis Columnæ*, *Genista radiata*, *Cytisus nigricans*, *Trigonella monspeliaca*, *Telephium Imperati*, *Centaurea Crupina*, *Ephedra distachya* (on the rocks below the castle), *Iris lutescens*, *Tulipa oculus solis*, *Liparis Læselii*, *Tragus racemosus*, and *Sclerochloa dura*.

[For the way to the Val d'Hérens, Evolena, and Arolla see § 19. Rtes. A and B, and for that to the Val d'Héremence see § 18. Rte. L. The Sanetsch Pass is described in § 22 and the Rawil Pass in § 23.]

The way between Sion and Sierre is less monotonous than the lower part of the valley. On the sunny slopes of the N. side much wine of local repute is produced. The flat part of the river bed is in great part covered with sand and gravel by the frequent inundations of the Rhône. **Sierre** (German *Siders*) seems a more thriving place than is usual in the

Vallais. Here is the division between the Swiss-German of the Upper Vallais and the Swiss-French of the lower part of the Canton.

[2 hrs. above Sierre, on the N. side of the valley, is the new and excellent *Hôtel du Parc-Montana*, accessible by carriage road, and a good headquarters for exploring the neighbouring ranges. For the way from Sierre up the Val d'Anniviers to Zinal see § 19. Rte. I.]

The high road crosses to the l. bank of the Rhône (the railway remaining on the r. bank), and for 2 m. passes amidst hills formed of gravel and transported blocks, which occupy a great part of the bed of the valley. These are now believed to have originated mainly in a great bergfall from the mountain on the N. side of the valley, formed of Jurassic limestone, which occurred towards the end of the 'glacial period,' when the great glacier of the Rhône was retiring towards the upper part of the valley. After passing *Pfin* (? *ad fines*), where the remains of an extensive forest mark a spot where the Vallaisans valiantly resisted the French invasion in 1798, the high road traverses the torrent from the Illgraben (§ 19. Rte. I), which has poured into the valley an enormous mass of disintegrated materials, the former contents of the vast hollow, whose dimensions are constantly increasing. Soon after the *Leuk-Susten* station is attained, the railway crossing to the l. bank just under the picturesque little town of *Leuk* (French *Louèche*), at the mouth of the gorge of the Dala. (For the ways hence over the Gemmi and to the Lötschenthal see § 23.)

About 3 m. further on is *Turtmann* (French *Tourtemagne*), at the mouth of the Turtmannthal, described in § 19. Rte. M. The torrent issuing from this valley makes a fine waterfall, which is but 10 min. off and deserves a visit. The next station is *Gampel*, at the junction of the *Lonza*, the considerable stream flowing from

the Lötschenthal (described in §§ 23 and 24). The village of Gampel is on the other side of the Rhône. A little farther on is *Raron*, on the r. side of the valley, where the opening of the *Bietsch* glen affords a glimpse of the fine peak of the Bietschhorn. After traversing a swampy tract the line reaches the station of

**Visp** (French *Viège*), at the opening of the Visp valleys. (For the railway to Zermatt see § 20. Rte. A, and for the way to Saas § 20. Rte. N.) In hot weather it is best to avoid sleeping here, as the place is subject to malaria. The fine snow pyramid to the S. is *not* Monte Rosa (as is sometimes stated), but the Balfrin, the N. peak of the Saasgrat (§ 20. Rte. P). Visp was formerly the residence of many of the native aristocracy of the Upper Vallais, but, owing to the division of property and changes in political institutions, most of the old families have dwindled into insignificance. In 1250 the lordship passed by marriage to the Counts of Biandrate (near Novara), and thus enabled them to plant a German-speaking colony at Macugnaga (§ 20. Rte. F), and an Italian-speaking one at Saas (§ 20. Rte. N). Two curious churches deserve passing notice. One of these, originally reserved exclusively for persons of noble family, was partially destroyed by the earthquake of 1855, which injured all the buildings in the town. On the N. side of the Rhône, opposite Visp, is the opening of the *Baltschieder* glen, which affords access by a high glacier pass to the Lötschenthal (§ 24), and is said to produce many rare minerals.

From Visp a track leads across the mountains to the Hospice on the Simplon, there being a mule track all the way (7 hrs.) The path mounts in 2 hrs. to *Vispertenbinen*, S.E. of and high above Visp, and then bears E. to the ridge S. of an eminence called *Gebidem* (2,328 m., 7,638 ft.), commanding a magnificent view and accessible in 20 min., passing a large tarn on the way. The path then

descends rapidly in a S.E. direction to the *Bististaffel* huts in the *Gamsersthal* or Nanzthal. A second ascent leads up to the *Bistenen Pass* (2,432 m., 7,979 ft.), whence a direct descent brings the traveller to the Simplon road, not far from the Old Hospice.】

$3\frac{1}{2}$  m. beyond Visp is *Gamsen*, at the mouth of the glen of the same name, through which Saas or Simplon can be reached (Rte. B). Here are masses of gravel brought down by the torrent flowing from that glen. A mile beyond Gamsen is *Glis* (with the largest church in the Vallais, containing a curious altar-tomb of 1519, meant for George Supersax), where the ascent to the Simplon Pass originally commenced; but the universal practice is to make a slight *détour* by

**Brieg** (French *Brigue*), 684 m., 2,244 ft., the present terminus of the railway. It is a cheerful-looking town, with a conspicuous triple-turreted *Château*, belonging to the Stockalper family, to whose zeal many of the numerous religious buildings in the town are due. There is a fine view from the terrace of the old Jesuits' College. The station is some distance from the town. (On the N. is seen the high-perched *hôtel* of the *Belalp*, described in § 24.)

The pass of the **Simplon** is the lowest of the great passes across the main range of the Alps, between the Mont Genève and the Lukmanier. The N. and S. direction prevailing amongst the ridges and valleys of the Monte Rosa group here ceases, and the main range resumes its characteristic direction from S.W. to N.E. The pass is approached on the N. side through the short and steep glen traversed by the insignificant torrent of the *Saltine*, but on the S. side the road descends into the narrow ravine of the *Val di Vedro*, running from W. to E., parallel to the adjoining valleys of Bognanco and Antrona. It is very uncertain whether the pass was used by the Romans; at any rate its historical importance dates from the thirteenth century, and it was often

used in the fifteenth century by the Swiss when trying to conquer the Val d'Ossola. The village of Simplon, on the S. slope, is one of the numerous thirteenth-century German-speaking settlements from the Upper Vallais, and doubtless this is the historical reason why even now the Swiss frontier extends so far down the Italian slope of the Alps as Gondo.

The construction of a road over the pass was determined on in 1800, and it was completed in 1805, though not open for traffic till 1807. It is stated that between Brieg and Sesto Calende there are no fewer than 611 bridges, while the cost of the road from Glis to Domo was 400,000*l.* The breadth is nowhere less than 23 ft., and the slope rarely exceeds 1 in 15. Though it has been later surpassed, especially by some of the great Austrian roads, such as the Stelvio, the Simplon road remains a remarkable monument of skill and labour, owing to the great difficulties that were successfully encountered in making it. It happens, unfortunately, that the narrow gorge through which it was necessary to conduct the descent towards Italy is peculiarly exposed to the effects of storms and heavy rain. The road has thus often suffered serious damage, and, in truth, is scarcely safe in stormy weather. It is reckoned that the sums expended for maintenance and repairs have borne a large proportion to the original cost.

【Pedestrians may save fully 8 m. in the ascent by following the old mule track, which keeps above the r. bank of the *Saltine*, and leaves Berisal several miles to the l. It is best to mount by a foot path from Brieg to the high road near the Second Refuge, whence the old mule track ascends the upper part of the *Saltine* glen. The writer (J. B.) found 11½ hrs.' steady walking, with a knapsack, sufficient for the distance from Brieg to Domo, including a halt of  $\frac{3}{4}$  hr. at the Hospice.】

In ascending from Brieg there is a



very fine view of the Bernese Alps on the N., but the Gross Aletsch gl., though so near, is almost hidden by slopes of the Riederhorn. After mounting some distance till it joins the road coming from Glis, the Simplon road makes a wide sweep to the l., and then returns towards the gorge of the Saltine, but at a great height above the torrent. At the *Second* or *Schallberg Refuge* the first great obstacle to the progress of the road is encountered. A torrent called the *Ganter* descends from the E. to join the Saltine, and has cut for itself a deep and narrow glen, crossing the line that must be taken to reach the pass. The road, therefore, leaving the Saltine glen, passes high above the *Ganter* gorge, which is crossed, after a long *détour* (pedestrians can take a short cut to Berisal), and then two long zigzags lead up to the Third Refuge, or **Berisal** (1,526 m., 5,007 ft.), now a favourite place of sojourn in summer.

[Hence the conspicuous *Bortelhorn* (3,204 m., 10,512 ft.) can be climbed in 5 hrs., as may the *Wasenhorn* (3,255 m., 10,680 ft.), more to the S.W. For the passes over to Binn, or the *Veglia Alp*, see § 29.]

It is now necessary to return at a higher level, on the S. side of the *Ganter* ravine, towards the gorge of the Saltine, so that the *Fourth Refuge*, scarcely 1 m. in a straight line from the *Second*, is distant at least 6 m. by road. The first long tunnel or 'Gallery' is that of *Schallbett* (100 ft.), beyond which is the *Fifth Refuge*, or *Schallbett*. The part of the road between this and the *Sixth Refuge* is much exposed to avalanches in winter and spring, and several long 'Galleries' are traversed to avoid the danger from the *Kaltwasser gl.*, above on the E., and to get round the head of the *Schallbett* gorge, below it. *Monte Leone* and the *Hübschhorn* rise grandly to the E. and S.E., and on approaching the summit of the pass the traveller once again beholds the range of the Ber-

nese Alps as far as the *Finsteraarhorn*, with the lofty chain of the *Nesthorn*, whose peaks are confounded with the more distant mountains behind. Soon after passing the *Sixth Refuge* the summit of the pass (2,009 m., 6,592 ft.) is reached, and a short descent leads thence down to the **Hospice** (2,001 m., 6,565 ft.), founded by Napoleon in 1802, but completed, and now occupied, by *Austin Canons Regular*, belonging to the same house as those of the Great *St. Bernard*. The management is similar to that of the parent house, though the accommodation is not so good. The cold here is less severe, and the facility of access on both sides by a high road makes the services of the devoted religious less indispensable here than at their original station. But they give annually gratuitous food and lodging to many thousands of poor travellers, so that those who halt here on their pleasure journey should not omit to put a suitable donation into the box provided for that purpose.

[*Monte Leone* (3,561 m., 11,683 ft.) can be ascended hence in 4-5 hrs. by a very easy route over the *Hohmatten* and *Alpien gls.*, and commands a most superb panorama; from the *Alpien gl.* it is easy to descend to *Al Gaby*, or to the *Veglia Alp*, for which as well as the passes leading thither see § 29. Shorter climbs from the *Hospice* are the *Wasenhorn*, 3,255 m., 10,680 ft. (4 hrs.), and the *Hübschhorn*, 3,196 m., 10,486 ft. (3 hrs.) For the *Bistenen Pass* to *Visp* see above under *Visp*, and for the passes to *Saas Rte. B.* below.]

For at least 3 m. from the summit of the pass the road traverses an undulating plateau, sloping gently to the S.W. On the r. hand stands the *Old Hospice*, the tower of which was built in 1653 by the *Stockalper* family; it is on the site of the original *Hospice*, which from at least 1235 to 1470 was managed by the *Knights Hospitaller*. The *Seventh Refuge* is now in ruins, not being required, and the road

descends gently in a S.E. direction, with fine views of the Fletschhorn range, to the village of **Simplon** (Germ. *Simpeln*; Italian *Sempione*), 1,479 m., 4,852 ft., which, as pointed out above, is one of the numerous thirteenth-century German-speaking settlements from the Upper Vallais.

【*Monte Leone* may be climbed in 6 hrs. from here, by gaining through the Hohmatten glen the gl. of the same name, on which the route from the Hospice is joined. The *Rosshodenhorn* (4,001 m., 13,128 ft.) may be attained in 8 or 9 hrs. by the N.E. or S.E. arêtes, or by the N. arête from the Rosshoden Pass, for which, as well as for the other passes to Saas, see Rte. B. (For those to the Veglia Alp see § 29.) The *Rosshoden gl.* descends in a fine icefall from the peak of that name, and may be visited in 3-4 hrs. from the village by way of the *Rosshoden* or *Seng* glen, which joins the main valley a little above the village. The more considerable *Laquin gl.* sends its torrent down to the valley at Al Gaby.】

The stream which descends from the pass on the S. side is called *Krummbach*, but lower down it receives the Italian name of *Doveria* or *Diveria*. The pedestrian may make a short cut in descending from Simplon to *Al Gaby* or *Gstein*, thus avoiding the long zigzag which runs a little way up the *Laquin* glen. (For the way hence to Domo by the Val Bognanco see Rte. D.) The road is carried through a 'Gallery,' and passes the ruins of a large barracks (hence a stony path leads up to the Alpien hamlet and Fressinone huts, past which Monte Leone can be reached by the Alpien gl., or a pass crossed to the Veglia Alp: see § 29) some way after entering the famous **Gorge of Gondo**, one of the most remarkable scenes traversed by a carriage road in the Alps. The valley is here a mere cleft, between precipitous gneiss rocks of great height (varying from 2,300 to nearly 3,000 ft.), and the utmost skill of the

engineer has been taxed to find a passage for the road alongside of the stream, which, after every storm, becomes a furious torrent. Nor is this the only risk to be encountered. The same cause sometimes detaches blocks of stone from the face or the summit of these precipices, and passing carriages have ere now been crushed by their fall. Some plants of the Alpine region, and among them *Saussurea discolor*, may be seen on the rocks. After crossing the *Doveria* by the *Ponte Alto*, and soon after returning to the l. bank, the road reaches the entrance of the great 'Gallery' of *Gondo*. This is a tunnel, 722 ft. in length, cut through a buttress of extremely hard rock, which all but closes the gorge. In it is the inscription, 'Aere Italo. Nap. Imp. 1805.' Nothing can be more striking than the scene on issuing from the E. end of the tunnel. The *Fressinone* or *Alpien* torrent, leaping from a lateral cleft in the wall of the valley, falls in a roaring waterfall close to the mouth of the tunnel, and the road is carried across a bridge very near the fall. The next portion of the road has frequently suffered from the destructive effects of storms, which, especially in 1834 and 1839, carried away bridges and parts of the roadway.

*Gondo* (Germ. *Ruden* or *Gunz*), 858 m., 2,815 ft., is made up of a picturesque Stockalper tower, eight stories high, originally built as a refuge for travellers, and of the Swiss Custom house, as this is the last Swiss village. (Hence the *Zwischbergen* Pass leads to Saas, Rte. C.) Half a mile beyond the village a column marks the frontier. This happens to correspond to a considerable change in the character of the vegetation, which assumes a decided southern character, when, 3 m. farther, the traveller reaches *Iselle*, the Italian Custom-house station. The storms above alluded to produced their utmost effect in the portion of the valley below *Iselle*, called *Val di Vedro*, and for a space of several miles not only

did the bridges disappear, but the road itself was completely swept away by the flood. Some way beyond the *Cairasca* (or *Cherasca*) torrent joins the *Doveria*, and 5 m. from Iselle, but a little above the high road, is the village of *Varzo*. (For the way hence to the *Veglia Alp*, and thence over to *Binn* or *Devero*, see § 29.) The chestnut has become the prevailing tree before the road traverses the last 'Gallery,' where the prickly pears, spreading over the rocks, further prove the change of climate. The *Doveria* is crossed for the last time,  $8\frac{1}{2}$  m. below Iselle, by the fine bridge of *Crevola*. Here the traveller issues from the narrow gorge of the *Val di Vedro* into the broad, stately *Val d'Ossola*, bright with numerous villages and white *campanili*, and rich with the peculiar vegetation of N. Italy, where mulberry trees and trellised vines dispute the occupation of the soil with maize and hemp, and the varied crops that are crowded together in every spare spot of ground. The sense of an utter change of scene is completed to the ear by the keen shrillness of the unseen *cicale* that fills the entire air. The *Val d'Ossola* is traversed by the *Tosa* or *Toce*, a very considerable Alpine stream, which soon ends its short course from the *Val Formazza* and the *Val Antigorio* (§ 29), in the *Lago Maggiore*. The *Bogna*, flowing from the *Val Bagnanco* (Rte. D), has poured a vast mass of débris into the broad, level bed of the *Val d'Ossola* a short distance above *Domo*.

*Domo d'Ossola* (271 m., 889 ft.) is a small, very Italian-looking town, especially interesting to those who see Italy for the first time. Near the market place is the *Palazzo Silva*, with a collection of antiquities, &c., while the *Galletti Museum* has many books and a cabinet of medals. The natural history collections are now in the *Palazzo di San Francesco*. For the excursions in the neighbourhood see *Bazetta* and *Brusoni's* 'Guide de l'Ossola' (1889).

The most agreeable way of approaching the *Lago Maggiore* is by the carriage road through the *Val Vigezzo* and the *Val Cannobina* (§ 32); but most travellers take the easier route to *Baveno* or *Pallanza*, unless they are bound for *Milan* direct by the railway past *Orta*. As far as the station of *Gravellona Toce* the routes to *Milan* and *Baveno* are the same.

The railway from *Domo* descends the flat valley of the *Tosa*. At *Villa d'Ossola* the *Ovesca* from *Val Antrona* (Rte. E) flows into the *Tosa*, which,  $2\frac{1}{2}$  m. beyond, near *Piedimulera*, receives the *Anza* from the *Val Anzasca* (§ 20. Rte. F). Both railway and road cross to the l. bank of the *Tosa* at the bridge of *Masone*, from near which the highest peaks of *Monte Rosa* are seen in clear weather, above the opening of the *Val Anzasca*. A little way further is *Vogogna*, and beyond *Cuzzago*, where the direct road to *Pallanza* turns off. But it is now more usual to continue in the railway past *Ornavasso* (Germ. *Urnäsch*), originally a German-speaking colony from *Naters*, opposite *Brieg* (it was from the extensive quarries of *Ornavasso* that most of the white marble used in constructing the *Duomo* of *Milan* was obtained), to the station of *Gravellona Toce*, whence it is about 6 m. to *Pallanza* (§ 32), past the *Lake of Mergozzo*. Here part the two routes to *Milan*; they reunite at *Rho*.

(a) *By Orta* (Rlwy.)—The railway now leaves the valley of the *Tosa*, and runs along the l. bank of the *Strona* torrent (for the valley of that name see § 20. Rte. M), past its junction with that from the lake, to *Omegna*, at the N. end of the *Lake of Orta*. (For the routes hence to *Varallo* see § 20. Rtes. L and M.) Hence the line runs high above the E. shore of the lake, with beautiful views over it, to the station of *Orta*, some way above the town of that name, which is not visible from it. The *Lake of Orta* is, perhaps, the most attractive of the smaller lakes on the S. side of



the Alps. It lies in a depression about 9 m. long, parallel to the S. portion of the Lago Maggiore, but about 300 ft. higher than that lake. The scenery of the shores combines richness with boldness of form, but does not offer the variety that characterises the shores of the greater lakes. The heights that surround it command views of extreme beauty, the panorama from the Mottarone (see below) being celebrated as one of the finest in the Alps. The little town of Orta is delightfully situated on the shore of a promontory stretching out into the lake, and is a tempting place for a halt of some days. Boating is one of the chief amusements here. The *Monte Sacro*, forming a rocky promontory projecting into the lake, is a sanctuary dedicated to St. Francis of Assisi, with twenty-one chapels arranged in imitation of the more famous Sacro Monte of Varallo (§ 20. Rte. E). Though less remarkable as works of art these well deserve a visit, while the views over the lake and the surrounding mountains are of great beauty. The *Isola San Giulio* should not be omitted by a stranger. Besides the extreme beauty of the position, the old church, partly modernised, contains many objects of interest. Among the frescoes is one by Gaudenzio Ferrari, and others by Tibaldi, an antique carved pulpit, &c. Some bones of a whale are exhibited as the remains of a monstrous serpent, destroyed by San Giulio, who retreated hither in the fourth century.

☐ For the lovely excursion from Orta to Varallo by the Colle della Colma, see § 20. Rte. L, wherein the route to Ponte Grande through the Val Mastallone is described, that by the Val Strona being given in Rte. M. For the drive to Borgo Sesia by Valduggia, see Rte. K.

The most interesting excursion from Orta, and one enabling a traveller to combine the finest parts of both routes to Milan, with the addition of a first-rate view, is the ascent of the **Monte Mottarone**, the culminating

point of the range dividing the Lake of Orta from the Lago Maggiore. It can be easily reached from Orta, Omegna, Stresa, or Baveno, and no one stopping at any of those places should omit the ascent. It takes  $3\frac{1}{2}$  hrs. (donkeys take 4 hrs.) from Orta by way of *Armeno* and *Cheggino*, and about  $3\frac{1}{2}$  hrs. from Baveno by a mule path. A cogwheel railway from Stresa is projected. There is an excellent Hôtel (1,426 m., 4,679 ft.) close to the summit, which is 1,491 m. (4,892 ft.) The mountain has been called the Italian Rigi, a title which better belongs to the Monte Generoso (§ 33). The panorama is indeed very beautiful, and not unworthy to rank near that of its Swiss rival; but the mountain is in itself far less interesting, the relief of the surface is less varied, the brilliant colouring of the Alpine pastures is not seen here, and a great part of the surface is occupied by meagre, stunted heather, wherein grey and brown tints predominate. It is advisable to start very early, and so increase the chance of a clear view; but if possible a night should be spent at the Hôtel, so as to enjoy the wonderful sunset effects from the summit. A panorama, by Bossoli, was issued with the 'Bollettino' of the Italian Alpine Club for 1874, and in the same periodical for 1884 will be found a complete monograph on the mountain.

In one respect the panorama from the summit is superior to that from the Rigi, as the peaks of Monte Rosa (*all* of which are seen hence) and of the Saasgrat are here nearer at hand, and better seen than the Bernese Oberland range is from the Swiss mountain. These mighty summits are followed by the Fletschhorn, the Monte Leone, and its neighbours of the Lepontine Alps, some of the chief summits of the Bernese Oberland, the Rheinwaldhorn, the Monte della Disgrazia, and the glacier-clad mass of the Adamello (between the Val Rendena and the Val Camonica, § 40). The vast plain of Lombardy (Milan

and its Duomo are visible) and Piedmont is in clear weather bounded by the Appennines, and towards the W. by the Cottian Alps, crowned by the Monte Viso. The characteristic beauty of the view depends, however, on the two lakes, which between them all but surround the mountain, and one advantage of making the ascent from Orta is the additional charm of this first view of the Lago Maggiore, which remains in sight during the greater part of the descent to Baveno or Stresa. The lakes of Varese, Comabbio, Biandronno (or Biandrone), Monate, and Mergozzo, though not prominent, are interesting features in the panorama.

The descent to Baveno is shorter and steeper than that to Stresa, but either may be reached in 2 hrs. In fine weather a person well used to mountain-walking will not absolutely require a guide, as arrows on the houses in the villages indicate the right direction. But when the clouds lie low it is extremely difficult for a stranger to find his way over the undulating ridges of the mountain. ]

The railway passes by *Gozzano* and *Borgomanero* before reaching *Novara*, on the direct line from Turin to Milan, and at the junction of the lines from Varallo, and from Bellinzona along the E. shore of the Lago Maggiore.

(b) By **Arona** (Road and Rlwy.)—At Gravello Toce the road to the Lago Maggiore turns E. and passes S. of the *Mont' Orfano*, an isolated hill of pink granite, while both this and a white-grained variety occur on the slopes of the Mottarone, above the road. At *Ferriolo* the shores of the lake are reached, and the bay of Pallanza, one of the most beautiful portions of the Lago Maggiore, comes fully into view. A little farther on the traveller attains ( $4\frac{1}{2}$  m. from Gravello Toce) one of the most frequented haunts of tourists, **Baveno**.

The view of the lake from Baveno is fine, though not superior to that from other points on its shores. At Baveno is the splendid *Villa Clara*,

formerly in the possession of Mr. Henfrey, who placed it at the disposition of Queen Victoria in 1879, and of the late German Crown Prince in 1887. But the main source of attraction at Baveno is the neighbourhood of the **Borromean Islands**, which have obtained a reputation even greater than their deserts. They may, however, be equally well visited from Stresa, or from Pallanza (§ 32). The islands are four in number. Of these the smallest—the *Isola di San Giovanni*—is unimportant, and the *Isola dei Pescatori*, though picturesque from a distance, does not gain by a nearer acquaintance. The *Isola Madre*, half-way between Baveno and Pallanza, is a garden, partly planted with orange and lemon trees on formal terraces, and in part laid out in the English style. It is interesting from the number of exotic plants that here flourish in the open air. The agave attains a great size, while many Australian and Indian trees seem to grow freely in sheltered spots.

The chief resort of strangers is the *Isola Bella*. The palace of the Borromeo family, commenced on a scale of regal grandeur, remains incomplete. The state rooms are exhibited to strangers; but there is not much worthy of notice, and the pictures are, almost without exception, of the later Lombard school. The collection includes fifty landscapes by Tempesta, who here found hospitality and a secure retreat when pursued by the ministers of the law for the murder of his wife. The greater part of the island, originally bare rock, was about two centuries ago converted into a garden formed of ten terraces, rising one above the other in successive stages to the height of about 130 ft. above the lake. At an enormous expense of labour and money soil was carried from the shores of the lake, and arrangements contrived, not only for protecting many of the plants in winter, but for applying heat through subterranean passages. The result has been so far successful that many

plants and trees, not seen elsewhere so far north, here grow luxuriantly, and the effect of the rich vegetation, combined with the beautiful views of the lake and the surrounding mountains, must satisfy all but the most fastidious. Critics who complain of the want of simplicity and naturalness may fairly be answered that the island looks to be what it is—a creation of art—and that on no other terms would it be possible, in such a position, to obtain the object in view. There is a good inn on the island, close to the palace. About 3 m. S. of Baveno is **Stresa**, and from either of these villages the much-recommended ascent of the Monte Mottarone (see *a.* above) may be made. The next village is *Belgirate*. The shore of the lake is studded thickly with villas. Near the village of *Lesa* was that of the poet Manzoni. Farther on is *Meina*, and 11 m. from Stresa the traveller reaches

**Arona**, the present terminus of the railway on this shore of the lake, and the chief port for the lake steamers. On approaching this town the road passes below the colossal statue of San Carlo Borromeo, standing on a flat-topped hill, which forms a natural terrace parallel to the shore of the lake. It is  $\frac{1}{2}$  hr.'s walk from the town. The pedestal is about 40 ft. high, and the statue itself 77 ft., in all 117 ft., but the estimates of its height vary considerably. It dates from the end of the seventeenth century, and was erected in honour of the saintly archbishop of Milan, who was born near Arona. Some zealous sightseers climb up into the head of the statue by a fixed ladder and steps, and after sitting down in the inside of the nose scramble down again.

The railway from Arona to Milan bends round the S. end of the Lago Maggiore to *Sesto Calende*, where it joins the line coming from Bellinzona by Luino and the E. shore of the lake. There is a line from Sesto to Novara (convenient for travellers bound to Turin, &c.), but the direct

route to Milan is that past *Gallarate* and *Rho*.

The Lago Maggiore is described in detail in § 32.

## ROUTE B.

### SIMPLON TO SAAS BY THE FLETSCHHORN GROUP.

The lofty chain rising between the valley of Saas and the Simplon road is, so far as regards the snowy portion N. of the Weissmies (the ridge S. of that peak is described in the following Rtes.), very steep indeed on the E. side, and is most easily accessible from the W. or Saas side. Hence the two main passes across it are but rarely traversed, being visited only from the W. side by parties bent on the ascent of one or other of the twin peaks of the Fletschhorn. Unless a traveller bound from Simplon to Saas, therefore, reaches the Weissmies Sattel, and thence gains the Zwischbergen Pass (Rte. C), he must cross the Rossboden Pass, at the N. end of the chain, if he wishes to avoid the easy route by the Sirwolten and Simeli Passes, which necessitates a descent into the Gamsersthal, and a reascent from it. In this work we may, therefore, describe the two higher passes very briefly, mainly in order to include a notice of the great peaks which overhang them. The Hôtel Weissmies, above the Trift Alp (3 hrs. from Saas), makes a convenient starting point for the ascents mentioned in this and the following Rte.

1. *By the Laquinjoch*.—The range connecting the Weissmies and the Laquinhorn presents a formidable appearance, and the pass between them is only less difficult and dangerous than the Fletschjoch. The *Laquin* glen opens into the Doveria valley at Al Gaby, so that a party starting from Simplon should follow



the high road to the end of the very long zigzag above Al Gaby, and leave it at the turn in order to mount through the Laquin glen to the moraine between the *Hohleltrift* and *Fletschhorn* glens. Then a very steep ascent over the rather rotten rocks on the E. face of the Laquinhorn leads to the pass, 3,497 m., 11,474 ft.

[Hence either of the peaks between which it lies may be ascended, but the arêtes are in either case very long, and hard.]

The descent by the *Hohlaub* gl., the rock ridge dividing it from the Trift gl., and the Trift Alp inn offers no difficulties. It is said that 10½ hrs. suffice for this pass, which was first crossed by travellers in 1864, by Messrs. Robertson and Heathcote.

2. *By the Fletschjoch*.—This very difficult and dangerous pass was crossed for the first and, we believe, the only time in 1863, by Messrs. F. W. Jacomb and G. Chater. Having slept at the Ober Stafel hut, in the Laquin glen, they crossed the torrent to its l. bank, ascended the steep slopes at the head of the valley, and, after crossing a ridge and a huge moraine, reached the l. bank of the Fletschhorn gl. in 3 hrs. from the chalets. Here the difficulties of the pass commenced. The upper part of the gl. is a seemingly impracticable icefall, and is besides swept by falling blocks from the precipices above its r. bank. After mounting for 1 hr. along the gl., the party took to the cliffs on its l. bank. The remainder of the way was alternately up very steep rocks and couloirs of ice, not seldom swept by stones, and this part of the ascent required 7 hrs. of perilous climbing. The pass lies between the two summits of the Fletschhorn, and is 3,673 m. (12,051 ft.) in height.

[From it either of these summits may be easily climbed. The *Laquinhorn* (4,005 m., 13,140 ft.), on the S., is accessible by an easy rock ridge in 1¼ hr. But it is even more directly reached

from Saas by the route taken on occasion of the first ascent, effected in 1856 by Mr. Ames with three English friends and Herr Imseng, the *curé* of Saas. This lies past the Trift Alp inn, and then up the easy rocks on the S. side of the great W. arête, a gap in which is then gained, and the ridge followed to the summit, attained in 6 hrs. from Saas. The *Rossbodenhorn* (4,001 m., 13,128 ft.) is accessible from the Fletschjoch by very easy snow slopes in less than 1 hr. It can also be climbed from Simplon by its N.E. arête, or by its N. arête from the Rossboden pass. It was by the N.E. arête that the first ascent was made in 1854 by Herr Amherdt. It is not a very long day to climb both peaks together, even if the start be made from Saas and not from the Trift Alp inn. If they are combined the Rossbodenhorn should be taken first, while the snow is hard, and the Laquinhorn traversed on the return journey. Coming up from Saas it is not necessary to go to the Fletschjoch itself, as easy snow slopes lead up in the direction of the former peak from the top of the icefall. Both peaks command fine views, and from a distance show as a single summit. On the Swiss map the Rossbodenhorn is made to monopolise the name Fletschhorn, which properly applies to both peaks.]

The icefall of the Gr. Trift gl. is best turned by the easy rocks on its l. bank, and below the gl. stones and grass lead down past the Trift Alp inn to Saas. 3½ hrs. suffice for the descent from the pass, and 5–5½ hrs. for the ascent to it on the Saas side.

3. *By the Rossboden Pass*.—This is the most direct and the easiest of the glacier passes between Simplon and Saas. It was crossed as long ago as 1833 by three young Swiss botanists, who described it under the name of the 'Passage du Rothhorn' (= Rauthorn) in a pamphlet published at Geneva in 1835. But it was Mr. Brooksbanks'

account of his passage, in 1874, in the seventh volume of the 'Alpine Journal,' that brought it to the notice of English climbers.

The *Rosshoden* or *Seng* glen opens close to the village of Simplon, and the way lies up this, past the *Rosshoden* huts, to the *Griesseren* gl., the more northerly of the two that close the head of the glen. A steep rock wall must now be climbed to the pass. It is best to ascend by a buttress just S. of a couloir well marked on the Swiss map. The pass is about 3,300 m. (10,827 ft.), rather S. of the Rauthorn, and is gained in 5 hrs. or less from Simplon. It should be noted that the summit of the pass is the rounded snow ridge (above the upper edge of the rock wall) which marks the distinction between the Mattwald and the Gamser gls. Hence a wonderful view of the Bernese Oberland peaks is gained. (In 3 hrs. more it is possible to reach the Rosshodenhorn by the N. arête.) The direct descent by the *Mattwald* gl., and glen leads to a point in the Saas valley little above the inn at the Hutegg. But by bearing S.W. from the Mattwald glen, and crossing one of several gaps, it is easy to gain the *Hofersalp*, whence a path leads by the *Badmen* huts direct to Saas Grund, gained in 4 hrs. or less from the pass, while an almost level path leads to the Hôtel Weissmies above the Trift Alp.

4. *By the Sirwolten and Simeli Passes.*—This route entails a descent into the Gamserthal, and a reascent on the other side. But it is perfectly easy, and fairly direct for a traveller bound from the Hospice on the Simplon to Saas. A notice of this double passage is given in the first volume of the 'Alpine Journal' by Mr. A. W. Moore, who, however, crossed (in 1863) the Gamserjoch, instead of the easier Simeli Pass, more to the N.W.

From the Hospice, or (longer) from the village of Simplon, the high road is followed as far as the huts of the

*Niederalp*. A faint track leads thence in a S.W. direction, the ascent becoming steeper and steeper till a precipitous gully brings the traveller to a desolate little plain. The Sirwolten lake is left on the l. hand, and the pass of the same name (2,664 m., 8,744 ft.) soon reached in 3 hrs. from the Hospice. A short ascent up the ridge to the S. leads to a point from which a view of the Gamser gl., at the head of that glen, is gained. Three Cols are now seen: the *Simeli Pass* is that most to the r., S.E. of the Mattwaldhorn; the next, the *Gamserjoch*, is separated from it by a rocky peak; while the third is still more to the E., above the icefall of the Gamsen gl. From the Simeli Pass it is best to descend by stones in  $\frac{1}{2}$  hr. to the level of the Gamserthal.

This valley opens into the Rhône valley between Visp and Brieg. Farther N. than the Sirwolten Pass is the *Bistenen Pass*, leading from the Hospice by Visperterminen to Visp (see Rte. A). A second ascent from the valley over stones and snow leads in 1 hr. more to the *Simeli Pass* (3,028 m., 9,935 ft.).

[In 1840 Herr Gottlieb Studer climbed in an hour from the pass up the *Mattwaldhorn* (3,253 m., 10,673 ft.) to the N.W., and published the panorama thence with the first volume of the 'Jahrbuch' of the Swiss Alpine Club. The view is most extensive, and travellers passing this way should not omit to make the slight *détour* required.]

The descent is made into the Mattwald glen, whence the route of the Rosshoden Pass (3. above) is followed to Saas ( $2\frac{1}{2}$ -3 hrs. from the pass).

## ROUTE C.

SAAS TO SIMPLON OR DOMODOSSOLA  
BY THE ZWISCHBERGEN PASS.

On the S. side of the Weissmies, and between that mountain and the rugged range of the Portjengrat, there is a depression in the main chain, called the **Zwischbergen Pass**. It has perhaps been known for several centuries, and offers no difficulties, though it is rather long. Properly it leads from the valley of Saas direct to Gondo, on the Simplon road, but by crossing one or other of several passes it is easy to gain the village of Simplon by the Laquin glen, or Domodossola by way of the Val Bognanco.

As mentioned in § 20. Rte. N. the Almagell stream joins the Saaser Visp at the village of Almagell, which is reached from Saas Grund by the valley path (there is a short cut from Saas to the Almagell Alp), or from Saas Fee by a direct path mentioned in § 20. Rte. N. Following the stream at first on the l. bank, the *Almagell huts* (small inn), on the r. bank, are gained. The pass itself is clearly seen through the greater part of the ascent, which continues in a N.E. direction over grass, stones, and some considerable patches of snow. The pass (3,243 m., 10,657 ft.) is attained in 4 hrs. from Saas. 'The view is superb, that to the N. alone being concealed by the Weissmies. It comprises the most perfect view that I have seen of the chain of the Saasgrat, extending to Monte Rosa, a large section of the Lago Maggiore, and endless ranges of mountains eastward, far away into the Tyrol.' (L. S.)

☐The easiest route up the **Weissmies** (4,031 m., 13,226 ft.) lies up the snow slopes leading from the pass to the summit in 2 hrs. But, as these give opportunity for a splendid glistade, this way is usually chosen for the return to Saas. In that case the ascent from Saas is made by the Trift Alp inn, whence

stones and snow give easy access to the S.W. arête, which is followed over rocks and snow, without any difficulty, to the top, reached in 7½ hrs. from Saas, or 4½ hrs. from the Trift Alp inn. The panorama from the summit is most magnificent, and the peak is one of the easiest in the Alps, considering its height. The first ascent of the Weissmies was made in 1855 by Herr Häusser, and the climb was repeated in 1859 by Messrs. L. Stephen and Hinchliff. The *Portjengrat*, or *Pizzo d'Andolla* (3,660 m., 12,008 ft.), on the S. of the Zwischbergen Pass, can be climbed from the hollow just below the pass on the Saas side, the snow shelf on the S.W. face of the N.W. arête giving access to this ridge, by which the top is attained. The peak can also be climbed by an interesting scramble up the rocky S. arête from the Portjen Pass, on its S. It may also be gained from the Antrona valley, on the E., in 8½ hrs. from the village of Antronapiana by way of the W. Andolla Alp, whence the cairn at the point marked 3,209 m. (Swiss and Italian maps), on the E. arête, is reached, and that ridge followed to the summit. This way is not difficult, save a final traverse across the S.E. face.☐

The descent on the E. side of the pass through the Zwischbergen valley (also called *Val Varia* and *Val Vaira*) is long, but lies through fine scenery. It is necessary to keep at first left from the Col across the most northerly bit of the *Gemein Alp* gl., whence rocks and stones on the l. side of the glen lead down to the *Gemein Alp huts* (2,006 m., 6,582 ft.) in 2½-3 hrs. from the pass. Hence the mule path leads along the l. bank of the stream in about the same time to Gondo, on the Simplon road (Rte. A). At the main hamlet, *Zwischbergen* (1,383 m., 4,538 ft.), gold was formerly obtained by washing the sand and gravel brought down by the torrent, and it is said that particles are often seen, though the quantity is trifling.



Many travellers will prefer, however, not to descend this long valley for its entire length, but to escape from it by passes over one or other ridges that enclose it.

(a) *To the Village of Simplon.*—The ridge to the W. separates it from the *Laquin* glen, opening into the Val di Vedro near Al Gaby, a little below the village of Simplon, which is thus conveniently reached. From the Zwischbergen Pass a traverse over the Gemein Alp gl. in a N.E. direction leads to the W. *Weissmies Sattel*, S.W. of the Thälihorn, whence a steep ice slope leads down to the Laquin gl., and so to Simplon in 7 hrs. from the Zwischbergen Pass. It is better to mount from the foot of the Gemein Alp gl. to the *Schienhorn Pass*, N.E. of the peak of that name, and to reach the Laquin gl. by way of the Thäli gl. An easier way is to cross from the hamlet of Zwischbergen by the *Furgge* (see Rte. D) to Al Gaby direct.

(b) *To Domodossola.*—The ridge to the S. and E. divides the Zwischbergen valley from the Val Antrona and the *Val Bognanco*, through both of which Domo d'Ossola may be best reached. From the Gemein Alp huts the *Andolla Pass* (2,425 m., 7,956 ft.), or the more frequented *Busin Pass* (2,501 m., 8,206 ft.), on the S., lead direct in 4 hrs. to Antronapiana, in the glen of that name (Rte. E), whence there is a carriage road in 2 hrs. to Domo. By bearing E. from the same huts the *Pontimia Pass* (2,393 m., 7,851 ft.) gives access to the head of the Val Bognanco, the chief hamlet in which, S. Lorenzo, is gained in 4 hrs., and Domo in 2½ hrs. more. A mule path leads from the hamlet of Zwischbergen over the *Muscera* or *Mouscera Pass* (2,117 m., 6,946 ft., Rte. D) to the same glen.

## ROUTE D.

## SIMPLON TO DOMODOSSOLA BY THE VAL BOGNANCO.

The traveller who has already descended from the village of Simplon to Domodossola through the gorge of Gondo (Rte. A) may take (as did the writer—J. B.—in 1863) an unfrequented, but not uninteresting, way through the **Val Bognanco**, not longer in point of distance, but more laborious, than the high road. About 9½ hrs.' moderate walking are required by this route.

Avoiding the short cut from Simplon to Al Gaby (Rte. A), the high road towards Domo is followed for about a mile, till a point is reached that overlooks a wooden bridge over the torrent flowing from the Laquin gl. Descending directly, the pedestrian crosses this bridge and immediately begins the steep ascent (there is a mule path from Al Gaby) that leads to the *Furgge*, or *Forcola* (1,882 m., 6,175 ft.) In the early morning he enjoys the pleasant shade of larch trees till close to the cross which marks the summit. The views of the Weissmies and the twin peaks of the Fletschhorn, and the seemingly impassable range of rock connecting these summits, are very fine. On the S.E. side the foot path runs along the l. side of the stream at first, but towards the bottom it is necessary to cross to the r. bank (at some distance from which the mule path from the pass keeps all the way), in order to reach the bridge across the torrent that drains the wild Zwischbergen valley. This is reached in 2¼ hrs. from Simplon. The church of the scattered village of *Zwischbergen* (1,383 m., 4,538 ft.—not 1,983 m., as on the Swiss map) is left on a promontory on the r.

A track now mounts the steep slope, bearing to the l., till in about ¾ hr. it approaches the stream descending from a lateral glen, that of *Possetta*.

[The head of this glen, not seen from below, lies towards the S.E., and a faintly marked track, keeping to the r. bank of the stream, leads to a pass by which the traveller may reach *Pizzanco*,  $\frac{1}{2}$  hr. above San Lorenzo, the chief hamlet in the Val Bognanco.]

A course shorter by at least 1 hr. leads nearly due E. over the **Muscera** or **Mouscera Pass** (2,117 m., 6,946 ft.) Crossing the stream and passing the *Possetta* huts (where fresh milk and butter may be obtained), the mule path (which ascends on the l. bank of the stream from the Zwischbergen valley) mounts by easy zigzags to the pass, which is marked by a cross, indicating the Italian frontier. Although this pass is nearly 800 ft. higher than the Furgge, some stunted larches are seen close to the top, along with *Campanula excisa*, *Senecio uniflorus*, and other high Alpine plants. Mounting for 10 min. S. of the pass the traveller may gain a very fine view of the neighbouring snowy Alps, from the Monte Leone to the Portjengrat. The *Muscera* or *Mouscera Pass* leads into the N. branch of the **Val Bognanco**, which is separated by a ridge of high and steep summits on the N. from the bit of the Val di Vedro just E. of Gondo. The descent is at first very gentle, but after about an hour, at the small group of the *Arza* chalets, it is necessary to descend steeply, and cross to the r. bank of the torrent. A path is then followed which ascends somewhat till it attains the small chapel of San Bernardo, standing on the shoulder of the mountain. A few paces from the chapel the traveller gains his first view of the main valley, lying about 3,000 ft. below him. The chief village, *San Lorenzo* (980 m., 3,215 ft.), the chief hamlet of the upper portion of the valley, and so often called *Bognanco Dentro*, is perched on a steep slope on the r. side of the ravine below the chapel, and the mule track descends thither direct;  $\frac{1}{2}$  hr. below San Lorenzo, at *Prestino* (where there is now a *Stabilimento*, at a mineral spring rich in iron and

carbonic acid gas), the carriage road begins, and leads through the valley in 2 hrs.' walking to Domo. From the chapel the pedestrian can keep to the l. side of the ravine, and after a long descent by a very rough and fatiguing path will gain a bridge over the main torrent, called *Bogna*. Here the carriage road is joined, and leads through fine scenery to Domo.

For the Pontimia Pass to the upper part of the Zwischbergen valley see Rte. C, and for the Fornalino Pass to the Antrona glen see Rte. E. below.

### ROUTE E.

#### SAAS TO DOMODOSSOLA BY THE VAL ANTRONA.

The **Val Antrona** is a long and beautiful valley, which joins the Val d'Ossola at Villa d'Ossola, about  $4\frac{1}{2}$  m. below Domo. It is very sinuous, especially at its upper end, where at the principal hamlet, *Antronapiana*, it divides into two branches, the S. of which is called the *Troncone* glen, while the N. is that of *Loranco*. Unlike the Val Bognanco, this extensive valley runs up to the watershed between Italy and Switzerland, occupying the whole of its E. slope from the E. peak of the *Späuhorn*, or *Pizzo d'Antigine* (a little to the N. of the Joderhorn, near the Monte Moro), to the *Portjengrat*, or *Pizzo d'Andolla*. The ridge running E. from the first-named summit separates the Val Antrona from the Val Anzasca on the S., while the parallel ridge bending E. from the last-named peak divides it from the Zwischbergen valley on the N. Across the frontier ridge many passes lead to Saas, while there are two to the head of the Val Bognanco, which just joins the Val Antrona. Hence it is a valley which can be entered from many sides by many passes, not to speak of the fine

carriage road which leads up in 4 hrs. from Villa d'Ossola to Antronapiana, along the banks of the *Ovesca* torrent.

Till quite recently this valley was but little known to travellers, and even now but few English tourists have visited it. Much first-hand information regarding its peaks and passes will be found in two articles by Signor R. Gerla (their chief explorer) in the 'Bollettino' of the Italian Alpine Club for 1890 and 1893, the latter volume also containing a monograph, by Signor Errera, on the interesting Lake of Antrona and its origin.

It seems most in accordance with the scheme of this work to describe the passes from the Saas valley to Antrona in some detail, merely indicating, in their proper places, the passes from the Antrona glen to the three others which surround it.

It has been pointed out above that the Antrona valley splits up into two great branches. A glance at the map will show that on the W. side of the watershed there are three glens, those of *Almagell*, *Furgg*, and *Öfen*. From each of these three glens two passes (one of which is fitted for other than climbers) lead over to Antrona, those from the Almagell glen giving access to the N. branch of the Val Antrona, and those from the two other glens leading into the S. branch of the same valley.

1. *By the Mittel Pass, or Bocchetta del Bottarello.*—This is the most northerly of the known passes to Antrona, for the *Portjen Pass*, to the N. of the *Mittelrück*, is chiefly used by parties on their way up to the *Portjengrat*, on the N. of the pass. The *Mittel Pass* lies to the S. of the *Mittelrück*, and to the N. of the *Sonnighorn*. From Saas the *Zwischbergen Pass* route is followed to the *Almagell* huts (1½ hr.), and then a track, in and out of glaciated rocks, followed in a S.E. direction to the S. bit of the *Rothplatt gl.* The true pass is 3,047 m. (9,997 ft.), but the descent on the other side is down a steep rock wall, so that smugglers and

hunters prefer to mount to a cairn (3,155 m. on the *Siegfried* map) on a shoulder of the N. ridge of the *Sonnighorn* (2 hrs. from the *Almagell Alp*), whence there is an easier way to the S. *Andolla gl.*

【*The Mittelrück, or Pizzo Loranco* (3,324 m., 10,906 ft.), can be climbed in ¾ hr. from the *Mittel Pass*, or in ½ hr. from the *Portje Pass*; the *Sonnighorn, or Pizzo Bottarello* (3,492 m., 11,457 ft.) is accessible from the *Mittel Pass* in 1½ hr. by the N. ridge and the Italian face of the peak, but is best attained from the *Furgg glen* by the easy S.W. face.】

After quitting the gl. it is advisable not to follow the *Loranco* stream, but to bear to the l. past the *Corone* and other chalets, descending near *Cheggio* to its level, and so reaching *Antronapiana* (3½ hrs. from the pass) through the *Loranco glen*, which describes a long curve of horseshoe form, before uniting at that village with the S. branch.

【From the most easterly of the *Andolla* huts the *Andolla Pass* (2,425 m., 7,956 ft.) leads over, in 5 hrs. from *Antronapiana*, to the head of the *Zwischbergen glen*, while from *Cheggio*, 1½ hr. above the main village, the *Busin Pass* (2,501 m., 8,206 ft.), more used by the natives, lies rather to the E. By bearing E. from the *Busin Pass* route, *San Lorenzo*, in *Val Bognanco*, may be gained in 7 hrs. from *Antronapiana* by the *Preja Pass* (2,361 m., 7,746 ft.), while from *Cheggio* direct the *Fornalino Pass* (2,356 m., 7,730 ft.) also gives access to *San Lorenzo*, in *Val Bognanco*, in ½ hr. less.】

2. *By the Antrona Pass, or Passo di Saas.*—This is the most frequented way from Saas to Antrona, and remains of the old paved track recall the fact that it was formerly one of the great passes of the Alps, though thrown into the shade by the *Simplon* after the construction of a road across it in the early part of the present century. A provision in the first communal charter of *Sion*, granted by



the Bishop in 1217, contains a reservation to the Bishop of all the 'viæ stratæ' on this side, while those on the other belong to the Antrona men, thus showing that a paved track already existed across the pass, and it is mentioned distinctly in a document of 1267. The pass was frequented by merchants in the fifteenth and sixteenth centuries, but fell into disuse after the great landslip of 1642 (see below), which nearly ruined the village of Antronapiana. Attempts were made in the eighteenth century to repair the track, with a view to transporting salt across, but they do not seem to have met with great success, and the rise of the Simplon meant the decline of the Antrona Pass as a pass of commercial importance.

On the Swiss side it is approached through the *Furgg* glen, which may be gained by a side path from the village of Almagell, or by a direct one from Zermeiggern. The route through that glen and up a little gl. is free from difficulty, and the pass (2,844 m., 9,331 ft.) is gained in 4 hrs. from Saas.

[From the pass an easy ridge on the N.E. leads in 1½ hr. to the summit of the *Latelhorn*, or *Punta di Saas* (3,208 m., 10,525 ft.), which is also easy of access direct from the *Furgg* glen, so that horses may be taken to within 1½ hr. of the top. 'It commands a most superb view, extending from Monte Rosa to the Tyrol, with the subordinate ranges of Piedmont, Tessin, and Lombardy.' (M.)]

A few glissades lead to the mule track on the Italian side, which zig-zags down to the *Cingino* lake, and then along the l. bank of the *Troncone* torrent, past the *Campliccioli* huts (here falls in the way from the harder *Camposecco Pass*, 3,120 m., 10,237 ft., leading from the *Furgg* glen past the *Camposecco* lake), to the large and beautiful *Antrona* lake (1,083 m., 3,553 ft.) This lake owes its origin to a great bergfall from the *Pozzoli* range, on the N.W., which

took place on July 27, 1642, and killed 95 persons, besides destroying the parish church and 42 houses or barns. As noted above, it had a fatal effect on the Antrona Pass. ½ hr. below is the village of *Antronapiana*, 902 m., 2,959 ft. (3½ hrs. from the pass), the chief hamlet of the valley, and picturesquely situated at the meeting of the two branches of the valley. The high altar of the parish church has some curious wood carving of Swiss origin, dating from the middle of the seventeenth century, doubtless procured when the church was rebuilt after its destruction in 1642. Simple accommodation may be obtained in the village, so it is the best headquarters for any traveller wishing to explore the valley, while the herdsmen in the various chalets on the Alpine pastures are reported to be very hospitable.

[The passes from this village to the *Zwischbergen* glen and the *Val Bognanco* have been noticed under 1. above. Hence several passes lead through the *Ovesca* and *Troncone* glens to the *Val Anzasca*, on the S., which, reckoned from E. to W., are the *Passo Cianghin* or *del Mottone* (2,219 m., 7,281 ft.), leading direct to *Calasca* (7 hrs.); the *Passo di Lavazzero*, *del Mottone*, or *del Ton* (2,391 m., 7,845 ft.), and the *Passo di Valaverta* or *di Lavazzero* (2,551 m., 8,370 ft.), both leading to *Ponte Grande* or *Vanzone* (8½-9 hrs.); the *Passo di Lareccio* (2,602 m., 8,537 ft.), to *Vanzone* (9 hrs.); and the *Passo delle Lonze* (2,741 m., 8,993 ft.), to *Ceppomorelli* (10 hrs.) Mountaineers could doubtless find other passages, as the entire ridge between Antrona and the *Val Anzasca* requires and deserves more minute exploration than it has as yet received.]

A good and pretty carriage road now leads from Antronapiana down the *Ovesca* valley, past *San Pietro in Schieranco* (thence the *Salarioli Pass*, 1,774 m., 5,820 ft., leads over to *Calasca*, in the *Val Anzasca*), to *Villa d'Ossola* (2 hrs.), where the *Val*

d'Ossola is reached. This large and prettily situated village has now a station on the railway from Domo d'Ossola to Novara (Rte. A), and by it Domo is reached in  $4\frac{1}{2}$  m.

The scenery of the lower Val Antrona is very beautiful, worthy to be compared with that of the Val Anzasca, save that the grand views of Monte Rosa are here wanting.

3. *By the Ofenthal Pass, or the Passo d'Antigine.*—The short wild glen of the *Ofenthal* opens into the Saas valley a little above the Mattmark inn. It is best reached by a broad path from the *Distel* chalets, a little further up the valley, but in the glen itself it is hardly traced. The way lies by the r. bank of the torrent and then by the side of the Ofenthal gl. There are two passes, of which that to the S. is the easiest. It may be attained (2,838 m., 9,311 ft.) in  $2\frac{1}{2}$  hrs. from the Mattmark inn. It commands an extensive view eastward, but it is worth while to climb,

in 1 hr. or less, up the *Spänhorn*, or *Pizzo d'Antigine* (3,194 m., 10,479 ft.), passing over the lower E. summit (3,059 m.), which has great topographical interest as marking the point whence starts the ridge limiting the Antrona valley on the S.

The descent from the S. Col is by a path which follows the l. bank of the *Troncone*, soon meeting the path from the Antrona Pass, Antronapiana being gained in 3 hrs. from the pass. The descent from the N. Col (also called *Cingino Pass*) commences over a very steep snow slope, and then lies down a rocky declivity, broken at places into precipitous faces on the r. side of a snowy gully. Here a guide is almost requisite. In  $1\frac{1}{2}$  hr. the first chalet is reached, and  $\frac{3}{4}$  hr. further the traveller attains the *Cingino* huts, below the lake of the same name, and here joins the path from the Antrona Pass. For many of the above particulars we are indebted to Mr. F. Mills.





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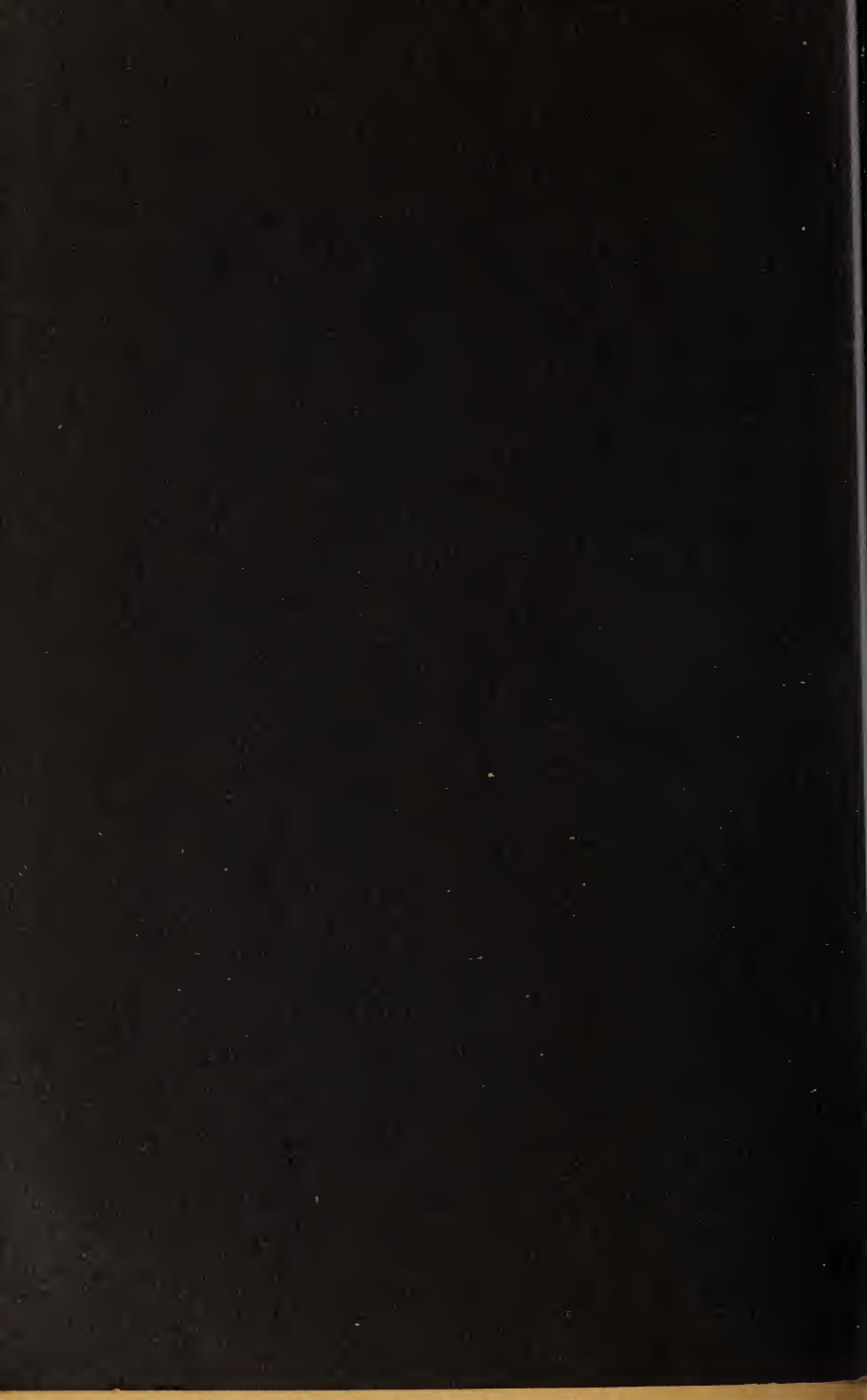
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