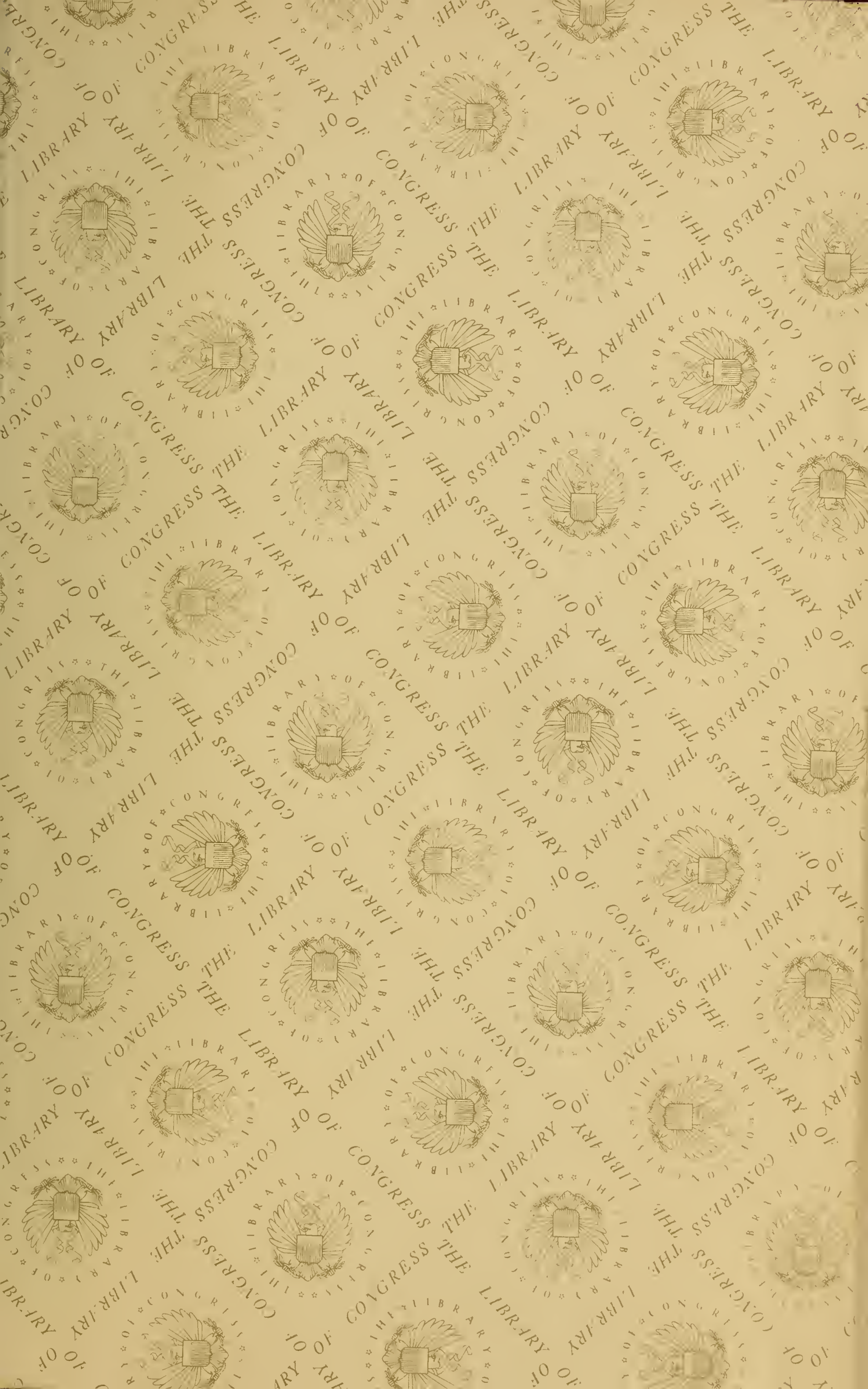

SWITZERLAND

BOOKS BY MISS SINGLETON

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ZERMATT AND MATTERHORN

SWITZERLAND

As Described by Great Writers

Collected and Edited by

ESTHER SINGLETON

WITH NUMEROUS ILLUSTRATIONS

New York
Dodd, Mead and Company
1908

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PREFACE

IT is inevitable that the author of a work on a country that is variously known as the "Playground of Europe" and the "Hotel of Europe," should approach his subject in a holiday mood. Therefore, those who write about Switzerland rarely regale their readers with statistics of the country and the results of serious study of the inhabitants. Except in a few districts, which are difficult of access to the tourist, the ancient life and customs are rapidly disappearing, and in many places have given place to a rapacious class whose sole object in life is to fleece the foreigner both in town and village.

The Oberland is now nothing but a panorama, a vast show managed and exploited by hotel-keepers of every nationality. There is, however, another Switzerland of peaceful and patriarchal life, where the traveller does not encounter anything conventional, commercial, vulgar, or disturbing. In the following pages, I have endeavoured to do justice to both phases of Swiss life, in drawing on the writings of those who have described it with picturesqueness and sympathy after intelligent study.

In the arrangement of the material I have followed the plan of my other books on Holland, Germany, Japan and Russia.

E. S.

New York, October, 1908.

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THE COUNTRY

W. A. B. COOLIDGE AND H. A. WEBSTER

WE may roughly describe Switzerland as consisting of two great trenches traversed by two great rivers and enclosed by two huge mountain masses, together with the enormous valley of the Aar and the smaller one of the Thur, both these shut in by the great north outlier of the main chain of the Alps, the Rhine and the Jura—two deeply cut trenches and two wide and undulating valleys.

The main chain of the Alps rises in Swiss territory to the height of 15,217 feet in Monte Rosa, and its north outlier to 14,026 feet in the Finsteraarhorn. The mean level of the Aar valley has been estimated at 1,378 feet, its lowest point being the low-water mark of the Rhine at Basle (914 feet); the lowest level within the Confederation, however, is on the Lago Maggiore (646 feet).

The total area of Switzerland (15,964.2 square miles) is distributed over four great river basins (draining to three different seas) in the following proportions:—Rhine, 11,166; Rhone, 2,717; Po, 1,358; and Inn, 721.

The Rhine basin is by far the largest in Switzerland and drains, of course, to the North Sea. The Rhine itself is formed of two branches,—Vorder Rhine (valley of Dissentis) and Hinter Rhine (from the Splügen and St. Bernardino), which unite at Reichenau, near Chur. The joint stream

receives several mountain torrents, expands into the Lake of Constance, and then turns west, receiving the Thur, and opposite Waldshut the great stream of the Aar, finally leaving Swiss territory at Basle, where it turns north. Its main affluent is the Aar, the basin of which covers no less than 6,794 square miles. This stream rises in the glaciers of the Bernese Oberland, expands into the lakes of Brienz and Thun, receives from the left the Kander, the Saane and the Zihl, and from the right the Emme, as well (near Brugg, that great meeting-place of the waters) the Reuss flowing through the Lake of Lucerne and the united stream of the Linth and the Limmat flowing through the Lakes of Wallenstadt and Zürich. It is interesting historically to note the fact that the thirteen Cantons which till 1798 formed the Confederation are all comprised in the Rhine basin, the ten oldest (*i. e.*, all before 1500), being within that of the Aar, and that it was only after 1798 that certain Romonsch, French and Italian-speaking "allies" and subject lands—with their respective river basins—were tacked on. The Rhone rises in the glacier of the same name and flows west, receiving the mountain torrents of the Visp, the Lonza and the Dranse, besides others, expands into the Lake of Geneva, and a little way from Geneva quits Swiss territory on its way to the Mediterranean. The main stream flowing from Switzerland to the Po basin is the Ticino (from the St. Gothard), which widens into the Lago Maggiore; another stream expands into the Lake of Lugano; and others run into the Lake of Como,—all finally joining the Po in the Lombard plains, thus draining to the Adriatic. The Ramm, flowing through the Münsterthal joins the Adige, and so drains into the Adriatic. The Inn basin is composed of the upper part of the river (above

Martinsbruck) and drains into the Danube and so into the Black Sea.

There are very many lakes in Switzerland. The two largest (Geneva and Constance) balance each other at the south-west and north-east corners of the Confederation. It has been estimated that in the Rhine basin there are no fewer than nineteen large and thirty-seven small lakes. Of the smaller Swiss lakes we may mention the Dauben See and the Oeschinen See as well as the Märjelen See close to the Gross Aletsch glacier. There are, of course, an infinite number of Alpine tarns.

There are a great number of waterfalls in Switzerland, the loftiest being that of the Staubbach (1,001 feet), in the valley of Lauterbrunnen or "Clear Springs" (Bernese Oberland). In the Oberland, too, we find the Handeck (200-225 feet), near the source of the Aar, while the Reichenbach descends in seven falls and the Giessbach in thirteen. The falls of the Rhine at Schaffhausen contain an enormous mass of water, though they are only 82 feet in height. In southern Switzerland the Pissevache fall (200 feet), in the Rhone valley is the best known.

Switzerland has 138 glaciers of the first rank (*i. e.*, over 4¾ miles long) as against Austria, though Austria has 391 of the second rank (*i. e.*, between 4¾ and 3 miles long) as against 333 in Switzerland. The distribution of the Swiss glaciers deserves notice, for in eleven Cantons (that is, half of those in the Confederation) there are no glaciers at all, while in five others (Unterwalden, Vaud, St. Gill, Schwyz and Appenzell) they only cover about 13 square miles out of 709.9 miles of ice and snow in the Confederation, according to the official survey. Valais heads the list, then come the Grisons, Berne, Uri, Glarus and Ticino. The

longest glacier in the Alps is the Great Aletsch in the Bernese Oberland, 15 miles long; it has a basin of 49.8 square miles and a maximum breadth of 1,968 yards. In point of length the Unteraar glacier comes next (10.4 miles), followed by the Gorner and Viescher glaciers (each 9.4 miles). The lowest point to which a Swiss glacier is known to have descended is 3,225 feet, attained by the Lower Grindelwald glacier in 1818. Dr. Heim states that in the central Alps of Switzerland the limit of perpetual snow varies from 9,259 to 9,023 feet.

In Switzerland, where the height above the sea-level varies from 646 feet (Lago Maggiore) to 15,217 feet (Monte Rosa), we naturally find very many climates, from the regions of olives, vines, oaks and beeches, pines and firs, to those of high mountain pastures, rhododendrons, and of eternal snow. As regards the duration of seasons, there is a corresponding variety. It has been reckoned that, while in Italian Switzerland winter lasts only three months, at Glarus it lasts four, in the Engadine six, on the St. Gothard eight, on the Great St. Bernard nine, and on the St. Théodule always.

Thunder-storms generally vary in frequency with the amount of rainfall, being most common near the great ranges, and often very local. The floods caused by excessive rainfall are sometimes very destructive, as in 1839, 1852 and 1868, while the same cause leads to landslips, of which the most remarkable have been those on the Rossberg above Goldau (1806) at Evionnaz (1835) and at Elm (1881).

The *föhn* is the most remarkable of the local winds in Switzerland,—a strong south-west or south wind, very hot and very dry. It was formerly supposed to come from the

PONTRÉSINA AND ROSEG GLACIER

Sahara. The *föhn* occurs most frequently in spring. Other local winds in the Alps are those which blow up a valley in the morning and down it in the evening due to the heating of the air in the valleys by the sun during the day and its cooling by terrestrial radiation at night. The cloud streamers from great Alpine peaks are due to the condensing of the moisture in a layer of air, and, as the moisture is carried away by the wind, so the streamer is dissolved.

Game is not abundant in any part of Switzerland; and rigorous game laws and other wild devices have been adopted in order to increase the number of wild animals. In 1875, a law was passed in accordance with which a commission marked out certain reservations or "*districts francs pour la chasse au gibier de montagne;*" and in 1881 their limits were revised for another term of five years, including an area of 5,268 square kilometres in 1885. There were then within this area 8,487 chamois and about 106 roebuck. The chamois were most abundant in the Grisons, Berne, Glarus and Freiburg. In the Alpine region, the marmot and Alpine hare are still common; and their numbers have increased under the protective system. Grouse, partridge, wild duck, and snipe are the chief game birds. A close time protects birds not considered game, and the federal council in 1885 appointed a commission to draw up a catalogue of all birds found in Switzerland and to establish stations for collecting facts of ornithological interest.

Attention has been recently directed to the diminution of the supply of freshwater fish, due in part to over-fishing and in part to pollution of the streams. It is estimated that the fish-bearing waters in the whole country cover an aggregate area of 1,581 square kilometres (1,348 belonging to lakes

and 233 to rivers and streams), the Cantons with the greatest areas being Vaud, Berne, Thurgau and Neuchâtel. Close seasons, and in certain places close years, have been established, and numerous fish-hatcheries are also in operation, the species treated being mainly salmon, lake trout, river trout, grayling (ombre) red trout or Röchel, the Swiss *Coregonus*, American *Coregonus* (*C. albus*), *Salmo fontinalis* and the *mäder*.

The name "*allmend*" is given to land still held in common, whether arable, meadow, pasture or forest. The main part of the "*allmends*" now existing consists of pasture and forest land. The pasture lands, "alps," or high mountain pastures, comprise "*voralpen*" used in the spring; "*mittelalpen*," or cow pastures; and "*hochalpen*" (sometimes 9,000 feet above the sea), for sheep and goats. They are most numerous in Neuchâtel, Bern and Grisons.

The silk industry of Switzerland was already established at Zürich and Basle in the latter half of the Thirteenth Century; but after a period of prosperity it died out. It was again introduced by the Protestants expelled from Locarno in 1555. Crape, velvet and taffetas were the favourite products of the first stage; ribbon-weaving came later with another band of Locarno refugees and the French Huguenots. Cotton began to be manufactured in Switzerland in the Fifteenth Century and the power-loom weaving was introduced in 1830. The industry has owed a good deal to the abundant water-power of the country. Bleaching and cloth-dressing have attained a great development in the neighbourhood of St. Gall, both in the Cantons of St. Gall and Appenzell. Printworks are especially numerous in Glarus. Aargau is the chief seat of the woolen manufacture. Linen, the first of the Swiss textile fabrics

to find its way to a foreign market, is no longer manufactured on a large scale. Embroidered goods are a great specialty of the export trade of eastern Switzerland,—the Cantons of St. Gall, Appenzell, Thurgau and part of Zürich. Straw-plaiting is an important industry in Aargau (centre at Wohlen), Ticino and Freiburg. Watch and clock-making is a specially Swiss industry, giving employment to 44,000 workers in 1883. The condensed-milk industry of Switzerland is also well known. Swiss cheese (Emmenthal and Gruyère), has a wide-spread reputation.

Wood-carving was one of the most ancient, as it is now one of the best-known, of the minor arts of Switzerland. The great seat of the modern industry is the Bernese Oberland, where the peasants during the long evenings of winter for centuries devoted themselves to producing artistic articles in wood. It was regularly organized by Christian Fischer in Brienz (1825), and is now mainly in the hands of a company, founded in 1881, which associates capitalists and workmen in the profits.

Owing to the original abundance of timber, it was almost the only material employed in the building of houses. There are practically three styles: the so-called block-house, in which the logs are laid one upon the other; the post-built house, in which upright posts and a strong framework are filled in with planks; and the "*riegelhaus*," in which a framework of wood is filled in with brick or stones. In the Cantons of Zürich, Thurgau and Schaffhausen the *riegelhaus* (the usual form in southern Germany) has—chiefly owing to the increased cost of timber—displaced the two other styles, which alone were in use there till the beginning of the Seventeenth Century.

THE CANTONS AND HALF-CANTONS

WILLIAM HEPWORTH DIXON

THE Swiss League consists of twenty-five republics—nineteen Cantons, six Half-cantons—which agree for certain purposes, mainly of defence, to form a single commonwealth, with one assembly, one executive power.

This League of Cantons is a growth of time. Before the thirty-three famous patriots met in Grüth to exchange their pledges, acts of union had been signed by some of the Cantons, and the very words of Grüth, "All for each and each for all," had been exchanged by them on oath. Luzerne had signed an act of mutual help with Bern, and those who signed that act were called Companions of the Oath. In 1291, Canton Schwyz and Canton Uri formed a league with the Half-canton of Unterwalden-nidwald, to which the second Half-canton, Unterwalden-obwald, afterwards adhered. They took the vow of "All for each and each for all." Sixty days after the swearing of this oath of friendship, Canton Zürich entered into union for defensive purposes with Canton Schwyz and Canton Uri. All these acts of union cleared the ground for what was soon to be an actual League.

At Grüth, a secluded field below the Seelisberg, in Canton Uri, thirty herdsmen, stout of heart and strong of limb, were brought in 1307 by three good patriots—Werner Stauffacher of Canton Schwyz, Walter Fürst of Canton

Uri and Erni of Melchthal, Canton Unterwalden—to engage each other, by the pledge of "All for each and each for all." They swore to rise against their tyrant, to destroy his castles and to free their Cantons from the Austrian yoke. As Schwyz became the theatre of war, the world outside first heard of these confederates as the Switzers. When Morgarten made the name and flag of Schwyz illustrious, the other Cantons were not sorry to accept her name and banner for their infant League.

Both name and banner are of unknown origin. The name of Schwyz has been derived from swine, from snow and many other words. The flag was once a blood-red field; the cross was won in fight, but whether in defence of Pope or Kaiser is a subject of dispute. The better story seems that certain men of Schwyz went out to see the Emperor Conrad in his wars. They bore with them a blood-red flag. In every fray that blood-red flag was seen in front, and Conrad watched it with a soldier's eye. When the imperial armies moved on Burgundy, these troops marched with them; and in one of the assaults of Héricourt they roused his martial admiration to so high a pitch, that he bestowed on them the right to quarter on their blood-red field his own imperial arms—the pure white cross.

The Canton is the State.

Few jurists hold with the mayor of Saxon that any part of Swiss sovereignty resides in a Commune. Jurists of all sections, whether Celtic or Teutonic, whether Catholic or Evangelical, whether Conservative or Radical, admit that Swiss sovereignty resides in the Cantons. When the members for these Cantons meet in Bern, with certain forms and in a single room, they hold this sovereignty in

common; but they bring it into Bern, they do not find it here; and when they leave this town they carry it with them to their several homes.

In speaking roundly, one would say there are in Switzerland twenty-two Cantons, which are marked officially and in order, thus:—1. Zürich; 2. Bern; 3. Luzerne; 4. Uri; 5. Schwyz; 6. Unterwalden; 7. Glarus; 8. Zug; 9. Fribourg; 10. Solothurn; 11. Basel; 12. Schaffhausen; 13. Appenzell; 14. St. Gallen; 15. Graubünden (Romansch, Grischa-French, Grisons); 16. Aargau; 17. Thurgau; 18. Ticino; 19. Vaud; 20. Valais; 21. Neufchâtel; 22. Geneva. This arrangement, though historical, does not correspond to the historical growth; for Zürich, now the heart and brain of the republic, was very far from being the original founder of the League. That glory lies with Schwyz; here marked as number 5. Schwyz gave her name, her genius and her flag to the Alliance. From Schwyz we get the name of Switzer; the connexion of religion with democracy; the pure white cross upon the blood-red field. When Tell was tending kine at Bürglen, on the Uri slopes, there were no Switzers save the men of Schwyz. Tell never called himself a Switzer. Tell was a Uranian, and his Canton Uri. Schwyz had gained in war—for she was ever stout in fight—the flag she lent her allies of the League. Three other Forest Cantons, Uri, Unterwalden and Luzern, were in the League while Zürich stood outside—a feudal and imperial town. But Zürich was a rich and powerful city, and the moment she adhered to the Alliance she assumed in it the leading part. Bern followed her and shared her power. Luzerne, as chief of the four Forest Cantons, claimed an equal rank. As soon as any Federal Council met, this council sat by turns in either of

FREIBURG

these capitals—two years in each. But Zürich and Luzerne have each given up the claim to rank as capitals; and now the President, the Council and the two Assemblies, find a permanent seat in Bern.

Three of these twenty-two republics—Basel Appenzell and Unterwalden—have been separated into rival halves; each republic keeping her own share of sovereign power. Basel is divided into Basel-stadt and Basel-land; Appenzell into Appenzell-outer Rhoden and Appenzell-inner Rhoden; Unterwalden into Unterwalden ob-wald and Unterwalden nid-wald.

These nineteen Cantons and six Half-cantons form the Swiss League. Each part is equal to each other part, in spite of variation as to size, numbers and to wealth. The differences are very great.

The rendering of full Cantons into Half-cantons is the work of party feuds; in one place springing from political causes, in a second from religious strife, and in a third from wrangles about wood and grass.

Each Canton and Half-canton is a separate state, complete within itself, enjoying rights and offices derived from no exterior source, and holding various powers which she inherits from the past, and has not yet surrendered to the League. Not long ago each Canton had a separate coinage and the raps and bats of one were not a legal tender in the next. Not long ago each Canton had an agent in Vienna, Rome and Paris; and the greatest potentates sent ministers to Sarnen, Schwyz and Zug. Each Canton claimed to treat with kings and recognize all sovereign acts. Not long ago each Canton kept a custom-house on every road, and manned a tower at every bridge at which to levy rates. Each load of grass and butt of wine,

each sack of corn and pound of cheese that passed her boundary was taxed. All fish that floated to her net was prize. Not long ago each Canton raised an army of her own, equipped and moved that army as she pleased, and lent her troops for hire to princes who could pay,—to Kings of France and Naples, and still later, Popes of Rome. These several marks of sovereignty have been surrendered to the League. The cantonal mints, the cantonal embassies, the cantonal customs and the cantonal armies—all these things are gone. Two remnants only of these sovereign powers remain: the right to levy certain rates on wine, called *ohmgeld*, at the frontiers of each Canton; and the right to keep on foot a half battalion of three hundred men.

Though stripped of these old marks of sovereignty, each Canton has a separate constitution, capital and government. Each Canton has a parliament, a court of justice and an executioner. Each Canton has the power of life and death. Each Canton makes and executes her laws.

Some Cantons fix the age at which a man begins to vote at twenty; others at eighteen; and one, at least as low as sixteen. Where they have parliaments, the members of these parliaments are chosen by universal voting in the ballot-box. Each citizen is constrained to give his vote. A full majority of the votes recorded are required for an election. Every man is free to stand as candidate; every man is qualified to act as President; and every man is paid for service to a public cause.

THE FOREST CANTONS

J. SOWERBY

THE Waldstätte, comprising the three lands, Schwyz, Uri and Unterwalden, together with Lucerne, or as they are more commonly called, the four Forest Cantons, are clustered around the Lake of Lucerne. The Canton of Lucerne lies on the north-west of the lake, Schwyz on the north-east, Uri on the south, and Unterwalden on the south-west. The whole region is drained by the lake and the Reuss, which passes through it, with the exception of about half of the Canton of Schwyz, which drains into the Zihl, and thence into the Limmat, near Zürich, and a portion of Canton Lucerne on the borders of Aargau, which sends its waters to the Aar. The four Cantons are, as it were, enveloped by the valley of the Aar, that of the Rhine from the Oberalp Pass to Sargans, and a line drawn along the Lakes of Wallenstadt and Zürich. Their surface may, roughly speaking, be regarded as an inclined plane, sloping from south-east to north-west, whilst the mountain summits and passes along the border decrease in height in the same direction. The four Cantons attained their present shape about the beginning of the Nineteenth Century.

The surface of Canton Lucerne is divided almost equally into an undulating hill region and a mountain region. The latter consists of the vale of Entlebuch. The valley occupies the whole breadth of the Canton in the south, be-

tween Bern and Unterwalden, as far as the Napf. Here a ridge called the Menzberg, with its continuations, divides the Entlebuch from the rest of the Canton. The streams of the Kleine Emme, which drains the Entlebuch, enters the Reuss at the Emmenbrücke, half a league below Lucerne. North and west of the Entlebuch, are a number of villages divided by ranges of low hills mostly running in a northerly direction. To the west is the valley drained by the Wigger, passing by Willisau and leaving the Canton near Zofingen: then the valley of the Sempacher See, drained by the Suhr; the valley of Münster, drained by the Wina, entering the Aar near Aarau, and lastly the vale of Hitzkirch, drained by the Aar, which passes through the Lakes of Baldegg and Hallwyl. The latter lake is, however, almost entirely outside the Canton. Sempach and Baldegg are the only lakes of any size in the Canton after the Lake of Lucerne. The course of the Reuss in Canton Lucerne is very short. Leaving the lake at Lucerne, it runs west and north-west to the Emmenbrücke. This part of the Canton is separated from the rest by a line of low hills, and similar lines of hills bound the valleys which trend northward to Canton Aargau.

The part of the Lake of Lucerne contained in the Canton includes the greater part of the "Ktreuztrichter," or cruciform portion of the lake, formed by the Bays of Lucerne and Küssnacht and the greater portion of the Bays of Weggis and Hergiswyl. No part of the Canton is plain land. Some of the low-lying valleys as they trend towards Aargau may, at the outside, have a breadth of five to six miles. The northern half varies between 1,400 and 2,000 feet above the sea, the hills, of course, rising higher. The southern portion, or mountain region, seldom falls below

2,000 feet, and the floor of the valley varies from 2,000 to 3,000 feet in altitude. The mountain chain which bounds the valley attains in the Napf a height of 4,619 feet; in the Tannhorn (the most southern point) 7,290 feet; in the Brienzer Rothhorn, 7,713; and in the Pilatus, 6,998 feet.

The northern half is well cultivated land, smiling farms with orchards, walnut and chestnut trees, interspersed here and there with a dark pinewood. The vale of Entlebuch is almost entirely pastoral. The mountains, with the exception of a few rocky summits, form excellent pastures, and are everywhere accessible to cattle. A small portion of the surface of the Entlebuch is arable land; the rest is divided between woods and pastures, the extent of the woods in the whole Canton being 70,000 acres.

The greatest length of the Canton from north to south is about thirty-five miles; and from east to west about thirty-six miles. Its area is 579 square miles, thus ranking ninth in size among the Swiss Cantons.

The surface of Canton Schwyz is very irregular, and less limited by natural boundaries than any of the other three Cantons. It falls in about equal parts to the Lake of Lucerne, and to the Zihl, whilst a very small portion on the north-west drains to the Lake of Zug. This last includes the greater part of the Rigi, part of the Lake of Zug, with the villages of Arth and Goldau. On the north side of the Bay of Buochs, lies the well-sheltered and fertile basin of Gersau, which, for many years was an independent State, and only incorporated in the Canton of Schwyz in 1803.

The only level part of the Canton is the plain of Schwyz, between the base of the Mythen and the Bay of Brunnen. Here is a certain amount of cultivation, but the greater part of the Canton is either meadow, pasture, or woodland. Of

this last, the Canton possesses more than any other in proportion to its size, especially in the southern half (the old Land Schwyz) where it is one third of the entire area. The greater part of the mountain region, with the exception of some rugged summits such as Mythen, is everywhere pasture. Only in the east and north-east, towards the Cantons of Glarus and Uri, do we find summits which rise to the level of perpetual snow. The highest mountain is the Böse Faulen (9,200 feet). The wild region between the Pragel and Klausen Passes is a desolate, rugged plateau where we often meet with large areas of bare limestone rock (Schratten) seamed by the action of water with a thousand cracks like the crevasses of a glacier.

The greatest extent of the Canton from east to west is about twenty-seven miles; from north to south about twenty-four. The area is about 350 square miles. The occupation of the inhabitants is almost entirely pastoral, and the breed of cattle is highly esteemed.

Canton Unterwalden is surrounded by a semi-circle of hills whose ends are on the Lake of Lucerne. This line falls nowhere below 4,000 feet above the sea, except at two points. Unterwalden has been divided into the two Half-cantons of Ob-dem-Wald and Nid-dem-Wald since the Twelfth Century, with separate general assemblies and constitutions. The Wald spoken of in the names of the Half-cantons is the great wood near Kerns, which divided the upper from the lower half of the Canton. In Unterwalden there is no plain land except in the neighbourhood of Stans and Buochs. The mountains which enclose the valley of Engelberg rise in many cases above the level of perpetual snow. The Titlis (10,827 feet) is the highest; but the greater part of the hill districts are everywhere ac-

cessible to cattle. The extent of the Canton from east to west is about thirty miles; from north to south about twenty miles. The area is about 195 square miles of which one-fifth is woodland. The occupation of the inhabitants is almost entirely pastoral; and Canton Unterwalden may be called a perfect specimen of a pastoral country. No more beautiful views can be found than from the neighbourhood of Stans or Sarnen, over the smiling lowlands backed by the green slopes and the summits of the Stanzerhorn, or the Pilatus.

Canton Uri is surrounded by a chain of lofty summits; it is drained entirely by the Reuss. This stream, rising near the Fibbia, in Canton Tessin, west of the St. Gothard Pass, runs nearly north to the Lake of Lucerne at Flüelen. In this Canton, we find a different aspect from the smiling and gentle slopes of the others. The sombre and grand scenery of the southern bay of the lake prepares the traveller for the change. For a short distance, from Flüelen to Altdorf and Amsteg, the inclination is gentle. Walnut and chestnut trees enliven the landscape, though on right and left there are frowning cliffs. But after passing Amsteg, the ascent begins to the St. Gothard Pass, and the scene rapidly changes. No more, or very little cultivated ground; the pastures often rough with stones; wild gorges, traversed by foaming torrents. In the lateral valleys many fine alps are to be found, where the herds pasture in summer; but the higher summits rise far above these. As we pass the entrances of the Maderanerthal, or the Göschenenthal, we see in the background dark rocky summits, mingled with gleaming snowy points, with vast masses of glacier.

The greatest extent of Canton Uri from north to south

is about thirty-six miles; and from east to west about twenty-five miles. The area is 415 square miles, of which a large portion is woodland. The highest summit is Dammastock (11,910 feet) at the head of the Göschenenthal. Altdorf, the chief town, has no trade, and the occupations in the Canton are entirely pastoral.

The four Cantons thus briefly described had for centuries no other easy means of communication with each other than by the Lake of Lucerne, which they enclosed. Lands so shut in and secluded from the outer world might well be expected to preserve their main characteristics unaltered, and such to a great extent is the case since they became known to history.

THE RACE

W. HEPWORTH DIXON

IN mere extent of surface Celtic Switzerland is nearly equal to Teutonic Switzerland; but when we count the people there are only thirty Celts to every seventy Teutons; and the thirty Celts are scattered into three distinct and hostile camps. One camp is Gallic, one Romonsch and one Italian.

"We come into these hills to-day," observes the Teuton, "as our fathers came a thousand years ago; we come from Lombardy, from Swabia, and from Burgundy; we meet on these high crests—around the Ober Alp, the Furka, and the Sasso di Gottardo—and we try to push each other down the slope. We Teutons bear our language to the summit of each pass. The Celts, too, bring their language to the summit of each pass. Our language is High German in the colleges, Low German in the streets. Their language is of more variety than ours. We speak the Allemannic idiom mainly as our kinsmen speak it in the Rhineland, from the quays of Rorschah to the gates of Metz. They speak several forms of Latin—French, Italian and Romonsch; French in the Rhone system, Italian in the Po system, Romonsch in the Inn system and in the upper portion of the Rhine.

The families are small for countries which are mainly tenanted by a Teutonic race.

Two points are to be noted in these figures; first, the

number of persons in each Family; and next the great excess of Families over Houses. On the average for all Switzerland, a Family consists of less than five members; father, mother, and three children; while the average of other countries of Teuton race is six and seven. The village system, as in Russia, tends to check the natural rate of growth. In counting roofs, we find the number of Families in great excess of Houses; very near a third part of the whole.

The number of households is in large excess of the number of houses in which they have to live. Every third family must dwell beneath a roof-tree not its own.

In Languages we find

Families speaking German	384,561
" " French	134,183
" " Italian	30,293
" " Romonsch . . .	8,759
" " English . . .	19
" " Dutch, Polish, Magyar .	——
" " Russ and Spanish (one each)	5
Families	557,820

The first four groups are native and require to have their separate books of law. It would be something if each idiom had a Canton or a group of Cantons to itself; but such is not the rule, and hardly the exception to a rule. In each of the twenty-five Cantons and Half-cantons you hear German spoken, but in none of these exclusively. In nineteen Cantons and Half-cantons you hear French; in some but little, in others much, but not in one exclusively. In twenty-one Cantons and Half-cantons there is some

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Italian, if not much; but no one Canton speaks Italian exclusively. The Romonsch idiom is less widely spread, yet Romonsch may be heard in twelve several Cantons as a native speech. There are, of course, some zig-zag and concentric lines of language. German, which is heard in every Canton of the Bund, maintains a large predominance in Zürich, Berne, Luzerne, and all the upper Cantons, with the one exception of Graubünden. French is the prevailing tongue in Neufchâtel, Geneva, Valais, Vaud and Fribourg; but in Vaud and Fribourg German is the language of a strong minority of the people—close upon a third. Italian has its chief seats in Graubünden and Ticino; in the first of which Cantons nearly nine thousand families speak Romonsch. This Rustic Latin is the only language in the country which is dying out. Italian, French and German grow with the growth of population more or less.

The two great races hold their natural lines; the Northern races nearly all the north, the Southern races nearly all the south. But two exceptions to the law are visible,—one exception in the Rhone valley; a second exception in the Rhine valley. Up to Sion the Rhone is Celtic; at Sierre it is mixed; and higher up the stream it is wholly Teutonic. Up to Chur the Rhine is German, but in Ilanz it is mixed, and higher up the stream is Romonsch. What cause has brought this contradiction to a natural law? The structure of these mountain walls. The valley of the Rhone is long and narrow. France has but one opening into it beyond the passage at Villeneuve,—the high and lateral entry from Chamouni by the Forclaz. Only through these gorges can the Gauls from Burgundy and Savoy pour into the Valais; but in passing up the river, they are met in front,

and taken on the flank, by Teutons coming by the Furka Pass from Andermatt, the Grimsel Pass from Meyringen, the Gemmi Pass from Unterseen, the Col du Rawyl from Thun, the Sanetsch Pass from Gsteig and Saanen. Met by these descending masses, they retire on Sion, where they hold their ground, and keep the forms of Latin life. Five passes through their mountains make the Teutons masters of the Upper Rhone. But Nature, which has given the Teuton access to his neighbour's river, has denied him access to his own. From Ober Alp to Trons, in the Fore Rhine valley, there is not a chamois trail across the northern heights. From Trons and Flims there rise two bridle paths; near Ilanz is an opening to the Panix; but these paths are high and hard to climb; while on the southern bank a dozen easy roads lead in and out of the Italian valleys; roads from Albula, from Stalla, from Splügen, from Bernardina, from Olivone, from Val Piora and from Airolo. Thus, a counter march to what has given the upper waters of the Rhone to men of northern race has given the upper waters of the Rhine to men of southern race. A Teutonic colony has pushed towards Italy; and if they have not crossed the ridge, these colonists hold the mountains to the top. They own the hamlets of the Rheinwald and the pastures of Averserthal. Some German thorpes are circled by a foreign population, like the German colonies in Russia. One such thorpe is that of Bosco, in Ticino. St. Martin and Obersaxen are Teutonic thorpes.

"You see," the Bernese adds, as we go over all these curious facts, "we are an odd amalgam of all races and all creeds. We speak Italian, Romonsch, French and German. We are Lutheran, Calvinist, Catholic, Israelite. We are Latin, Gallic, Low Dutch, High Dutch, Hebrew.

We are not a nation, even as we are not a people. We have Communes, Cantons and Half-cantons, but as yet we have no Switzerland. A Switzer has his Commune, but he has no country. You will hear in Berne that we are twenty-five republics, but in truth we are five hundred republics; every one of them republics with a local life and independent claims. Our Communes were republics once, and have not wholly lost their sovereign rights."

THE CHARACTER OF THE SWISS

JOHN RUSKIN

THERE has been much dispute respecting the character of the Swiss, arising out of the difficulty which other nations had to understand their simplicity. They were assumed to be either romantically virtuous or basely mercenary, when in fact they were neither heroic nor base, but were true-hearted men, stubborn with more than any recorded stubbornness; not much regarding their lives, yet not casting them causelessly away; forming no high ideal of improvement, but never relaxing their grasp of a good they had once gained; devoid of all romantic sentiment, yet loving with a practical and patient love that neither wearied nor forsook; little given to enthusiasm in religion, but maintaining their faith in a purity which no worldliness deadened and no hypocrisy soiled; neither chivalrously generous nor pathetically humane, yet never pursuing their defeated enemies nor suffering their poor to perish; proud, yet not allowing their pride to prick them into unwary, or unworthy quarrel; avaricious, yet contentedly rendering to their neighbour his due; dull, but clear-sighted to all the principles of justice; and patient, without ever allowing delay to be prolonged by sloth, or forbearance by fear.

This temper of the Swiss mind while it animated the whole confederacy, was rooted chiefly in one small district

which formed the heart of their country, yet lay not among its highest mountains. Beneath the glaciers of Zermatt and Evolena, and on the scorching slopes of the Valais, the peasants remained in an aimless torpor, unheard of but as the obedient vassals of the great Bishopric of Sion. But where the lower ledges of calcareous rock were broken by the inlets of the Lake Lucerne, and bracing winds penetrating from the north forbade the growth of the vine, compelling the peasantry to adopt an entirely pastoral life, was reared another race of men. Their narrow domain should be marked by a small green spot on every map of Europe. It is about forty miles from east to west; as many from north to south; yet on that shred of rugged ground, while every kingdom of the world around it rose or fell in fatal change, and every multitudinous race mingled or wasted itself in various dispersion and decline, the simple shepherd dynasty remained changeless. There is no record of their origin. They are neither Goths, Burgundians, Romans, nor Germans. They have been forever Helvetic, and forever free. Voluntarily placing themselves under the protection of the House of Hapsburg, they acknowledged its supremacy, but resisted its oppression; and rose against the unjust governors it appointed over them, not to gain, but to redeem, their liberties. Victorious in the struggle by the Lake of Egeri, they stood the foremost standard-bearers among the nations of Europe in the cause of loyalty and life—loyalty in its highest sense, to the laws of God's helpful justice and of man's faithful and brotherly fortitude.

You will find among them, as I said, no subtle wit nor high enthusiasm, only an undeceivable common sense and an obstinate rectitude. They cannot be persuaded into their duties, but they feel them; they use no phrases of

friendship, but they do not fail you at your need. Questions of creed, which other nations sought to solve by logic or reverie, these shepherds brought to practical tests: sustained with tranquillity the excommunication of abbots who wanted to feed their cattle on other people's fields, and, halbert in hand, struck down the Swiss Reformation, because the Evangelicals of Zürich refused to send them their due supplies of salt. Not readily yielding to the demands of superstition, they were patient under those of economy; they would purchase the remission of taxes, but not of sins; and while the sale of indulgences was arrested in the church of Ensiedlen as boldly as at the gates of Wittenberg, the inhabitants of the valley of Frutigen[1] ate no meat for seven years, in order peacefully to free themselves and their descendants from the seignorial claims of the Baron of Thurm.

What praise may be justly due to this modest and rational virtue, we have perhaps no sufficient ground for defining. It must long remain questionable how far the vices of superior civilization may be atoned for by its achievements, and the errors of more transcendental devotion forgiven to its rapture. But, take it for what we may, the character of this peasantry is, at least, serviceable to others and sufficient for their own peace; and in its consistency and simplicity, it stands alone in the history of the human heart. How far it was developed by circumstances of natural phenomena may also be disputed; nor should I enter into such dispute with any strongly held conviction. The Swiss have certainly no feelings respecting their mountains in any wise correspondent to ours. It was rather as fort-

[1] This valley is on the pass of the Gemmi in Canton Berne, but the people are the same in temper as those of the Waldstetten.

resses of defence, than as spectacles of splendour, that the cliffs of the Rothstock bare rule over the destinies of those who dwelt at their feet; and the training for which the mountain children had to thank the slopes of the Muotta-Thal was in soundness of breath, and steadiness of limb, far more than in elevation of idea. But the point which I desire the reader to note is, that the character of the scene which, if any appears to have been impressive to the inhabitant, is not that which we ourselves feel when we enter the district. It was not from their lakes, nor their cliffs, nor their glaciers—though these were all peculiarly their possession, that the three venerable Cantons or States received their name. They were not called the States of the Rock, nor the States of the Lake, but the States of the *Forest.* And the one of the three which contains the most touching record of the spiritual power of Swiss religion, in the name of the convent of the "Hill of Angels," has, for its own, none but the sweet childish name of "Under the Woods."

And indeed you may pass under them if, leaving the most sacred spot in Swiss history, the Meadow of the Three Fountains, you bid the boatmen row southward a little way by the shore of the Bay of Uri. Steepest there on its western side, the walls of its rocks ascend to heaven. Far in the blue of evening, like a great cathedral pavement, lies the lake in its darkness; and you may hear the whisper of innumerable waters return from the hollows of the cliff, like the voices of a multitude praying under their breath. From time to time the beat of a wave, slow lifted, where the rocks lean over the black depth, dies heavily as the last note of a requiem. Opposite, green with steep grass, and set with *châlet* villages, the Fron-Alp rises in one solemn glow of

pastoral light and peace; and above, against the clouds of twilight, ghostly on the gray precipice, stand, myriad by myriad, the shadowy armies of the Unterwalden pine.[1]

[1] The cliff immediately bordering the lake is in Canton Uri; the green hills of Unterwalden rise above. This is the grandest piece of the shore of Lake Lucerne; the rocks near Tell's Chapel are neither so lofty nor so precipitous.

EARLY HISTORY

WILLIAM FRANCIS COLLIER

EARLY in the Christian era, Helvetia, which was peopled chiefly by Gallic tribes, formed a part of the Roman Empire. Then, overrun by various barbarous races, it was included in the kingdom of Burgundy the Less, and as such fell under the rule of Charlemagne. After his death it was annexed to the Romano-Germanic Empire. Conspicuous among the many small sovereignties and states, into which it was broken, even while owning a sort of dependence on the empire, were the Forest Cantons of Schweitz, Uri, and Underwalden, clustered round the southern shore of Lake Lucerne.

In 1273, Count Rudolph of Hapsburg (Hawk's Castle on the Aar in north Switzerland) was elected King of the Romans, or Emperor of Germany. He is distinguished in history as the founder of the Imperial House of Austria. Lord of many lands and towns in Switzerland, he held besides, by the free choice of the foresters themselves, the advocacy or protectorship of the Forest States. He did not allow his elevation to the imperial throne to sever the ties which bound him to the mountainland. He spent much time among the Swiss; and the many benefits and enlarged privileges they received from him were repaid on their part by unbroken affection and unbounded trust.

But when, in 1298, his son Albert, Duke of Austria—which had been taken by Rodolph from Bohemia—was made

emperor, a gloom fell upon Switzerland. It soon became clear that his design was to make himself despotic master of all the land. The Forest Cantons were placed under two bailiffs or governors, Gessler and Beringer, whose insolent tyranny grew intolerable.

Three of the oppressed foresters, Walter Fürst, Arnold von Melchthal, and Werner Stauffacher, met to plan the deliverance of their country. On a November night, in the meadow of Rutli by Lake Lucerne, these three patriots, in the presence of thirty tried friends, swore, beneath the starry sky, to die, if need were, in defence of their freedom. And all the thirty joining in the solemn vow, the coming New Year's night was fixed for striking the first blow.

Meanwhile, Gessler, the Austrian bailiff, was slain by one of the thirty, William Tell, a native of Burglen, near Altorf, and famous over all the country for his skill with the cross-bow. The romantic story, upon which, however, some doubt has been cast by modern historians, runs thus:—

Gessler, to try the temper of the Swiss, set up the ducal hat of Austria on a pole, in the market-place of Altorf, and commanded that all who passed it by should bow in homage. Tell, passing one day with his little son, made no sign of reverence. He was at once dragged before Gessler, who doomed him to die, unless with a bolt from his cross-bow he could hit an apple placed on his son's head. The boy was bound, and the apple balanced. Tell, led a long way off, aiming for some breathless seconds, cleft the little fruit to the core. But while shouts of joy were ringing from the gathered crowd, Gessler saw that Tell had a second arrow, which he had somehow contrived to hide while choosing one for his trying shot. "Why," cried the bailiff,

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"hast thou that second arrow?" And the bold answer was, "For thee, if the first had struck my child."

In a violent rage, Gessler then ordered Tell to be chained, and carried across the lake to the prison of Kussnacht. A storm arising when they were half over, huge waves threatened to swamp the boat. By order of the governor, Tell, whose knowledge of the lake was remarkable, was unchained and placed at the rudder. Resolved on a bold dash for liberty, he steered for a rocky shelf which jutted into the waters, sprang ashore, and was soon lost among the mountain glens. And some time after, hiding in a woody pass within a short distance of Kussnacht, he shot the tyrant Gessler dead with his unerring cross-bow.

Thus for a few hours Tell shone out in the story of the world with a lustre that has never since grown dim. Darkness rests on his after-life. We know nothing more than that he fought in the great battle of Morgarten, and that in 1350 he was drowned in a flooded river.

The dawn of 1308 saw the foresters in arms. The Austrian castles were seized. The Alps were all alight with bonfires. Albert, hurriedly gathering an army, was advancing to crush the rising, when he was assassinated at the Reuss by his nephew, Duke John of Suabia. To their lasting honour, be it said, that the three revolted Cantons refused to shelter the murderer, who lived and died miserably in Italy.

Three great battles—Morgarten, Sempach, and Nefels—mark the steps by which the brave Swiss achieved their independence.

Seven years after Albert's death, his son, Duke Leopold of Austria, resolving to pierce the mountains of Schweitz and punish the audacious herdsmen, left Zug with an army

of 15,000 men, carrying great coils of rope to hang his prisoners. The pass of Morgarten, which ran for three miles between the steep rocks of Mount Sattel and the little Lake Egeri, was the only way by which heavy cavalry could pass into the doomed Canton. With the dawn of a November morning, as the sun shone red through a frosty fog, the Austrians entered the pass—a host of steel-clad knights in front, and the footmen following in close order. Their advance was known and prepared for.

Fourteen hundred herdsmen, who had commended their cause and themselves to the God of battles, lined the rocky heights. Fifty exiles from Schweitz, burning to regain an honoured place among their countrymen, gathered on a jutting crag that overhung the entrance of the defile, and when the Austrians were well in the trap, hurled down great rocks and beams of wood upon the close-packed ranks. Amid the confusion, which was increased by the fog, the Swiss rushed from the heights, and with their halberts and iron-shod clubs beat down the Austrian knights in crowds. Horses plunged into the lake; many knights fell back upon the footmen, trampling them to death. It was a woful day for Austria, and for chivalry, when the steel cuirass and the knightly lance went down before the pikes and clubs of a few untrained footmen. Duke Leopold scarcely saved himself by a headlong flight over the mountains to Winterthur, where he arrived late in the evening, a haggard, beaten man.

The valour of the Schweitzers was so remarkable in this battle, and throughout the great future struggle, that the name of their Canton was extended to the whole country, henceforth named Switzerland.

The three Cantons renewed their solemn league of mutual

defence. Lucerne joined the Confederation in 1335, Zürich and Zug in 1351; Glarus and Berne soon followed, thus completing the list of the eight ancient Cantons of the infant Republic. A treaty, ratified at Lucerne, is remarkable as being a distinct acknowledgment on the part of Austria that the Swiss had triumphed, and were free. The ceaseless industry and steady economy of the mountaineers proved them worthy of the freedom they had so bravely won.

But their task was not yet done. Bent on crushing the Confederation with one terrible blow, Leopold, Duke of Suabia, one of the Hapsburg line, marched from Baden towards Lucerne (1386). He found his way barred at Sempach by 1,300 men, who held the wooded heights round the lake. The Austrian force consisted of 4,000 horse, and 1,400 foot. At the hastily-summoned council the arrogant nobles were loud in their cry that the peasant rabble should be crushed at once, without waiting for the rest of the army. And rashly the duke gave orders for the fight. As the broken mountain-ground was unfit for cavalry movements, the knights, dismounting, formed a solid mass of steel, blazing in the hot harvest sun.

A short prayer, and the Swiss were formed for the charge. On they came, the gallant mountain men, some with boards on their left arms instead of shields. But the iron wall stood fast, with its bristling fence unbroken; sixty of their little band lay bleeding on the earth; the wings of the Austrian line were curving round to hem them in a fatal ring, when Arnold von Winkelried, a knight of Underwalden, dashing with open arms on the Austrian lances, swept together as many as he could reach, and, as they pierced his brave breast, bore their points with him to the ground. Like lightning the Swiss were through the gap;

the Austrian line was broken; all was rout and dismay. Two thousand knights perished on the field. Duke Leopold himself died while gallantly defending the torn and bloody banner of Austria.

This brilliant success was followed, two years later, by another at Nefels, in which 6,000 Austrians were scattered by a handful of Swiss. Here, as at Morgarten, rocks flung from the heights caused the first disorder in the Austrian lines.

At the diet of Zürich, held in 1393, a general law-martial, called the Sempach Convention, was framed to bind the eight Cantons together in firmer league. It enacted that it was the duty of every true Switzer "to avoid unnecessary feuds, but where a war was unavoidable, to unite cordially and loyally together; not to flee in any battle before the contest should be decided, even if wounded, but to remain masters of the field; not to attempt pillage before the general had sanctioned it; and to spare churches, convents, and defenceless females."

So Switzerland shook off the yoke of Austria; and never since, but once, when for a time Napoleon laid his giant grasp upon her, has the liberty won at Morgarten and Sempach been imperilled.

SUCCESSFUL STRUGGLE FOR INDEPENDENCE

HENRY HALLAM

THE burghers and peasants of Switzerland, ill provided with cavalry, and better able to dispense with it than the natives of champaign countries, may be deemed the principal restorers of the Greek and Roman tactics, which place the strength of armies in a steady mass of infantry. Besides their splendid victories over the dukes of Austria, and their own neighbouring nobility, they had repulsed, in 1375, one of those predatory bodies of troops, the scourge of Europe in that age. They gave the Dauphin, afterwards Louis XI., who entered their country in 1444 with a similar body of ruffians, called Armagnacs, sufficient reason to desist from his invasion and to respect their valour. That able prince formed indeed so high a notion of the Swiss, that he sedulously cultivated their alliance during the rest of his life. He was made abundantly sensible of the wisdom of this policy, when he saw his greatest enemy, the Duke of Burgundy, routed at Granson and Morat, and his affairs irrecoverably ruined by these hardy republicans. The ensuing age is the most conspicuous, though not the most essentially glorious, in the history of Switzerland. Courted for the excellence of their troops by the rival sovereigns of Europe, and themselves too sensible both to ambitious schemes of dominion and to the thirst of money, the United Cantons came to play a

very prominent part in the wars of Lombardy, with great military renown, but not without some impeachment of that sterling probity which had distinguished their earlier efforts for independence. Their independence was finally ratified in 1500. Though the House of Austria had ceased to menace the liberties of Helvetia, and had even been for many years its ally, the Emperor Maximilian, aware of the important service he might derive from the Cantons in his projects upon Italy, as well as the disadvantage he sustained by their partiality to French interest, endeavoured to revive the unextinguished supremacy of the Empire. That supremacy had just been restored in Germany by the establishment of the Imperial Chamber, and of a regular pecuniary contribution for its support as well as for other purposes, in the Diet of Worms. The Helvetic Cantons were summoned to yield obedience to these Imperial laws; an innovation, for such the revival of obsolete prerogatives must be considered, exceedingly hostile to their Republican independence, and involving consequences not less material in their eyes, the abandonment of a line of policy which tended to enrich, if not to aggrandize them. Their refusal to comply brought on a war, wherein the Tyrolese subjects of Maximilian, and the Suabian League, a confederacy of cities in that province lately formed under the Emperor's auspices, were principally engaged against the Swiss. But the success of the latter was decisive; and after a terrible devastation of the frontiers of Germany, peace was concluded upon terms very honourable for Switzerland. The Cantons were declared free from the jurisdiction of the Imperial Chamber, and from all contributions imposed by the Diet. Their right to enter into foreign alliance, even hostile to the Empire, if it was not expressly recognized, con-

tinued unimpaired in practice; nor am I aware that they were at any time afterwards supposed to incur the crime of rebellion by such proceedings. Though, perhaps, in the strictest letter of public law, the Swiss Cantons were not absolutely released from their subjection to the Empire until the Treaty of Westphalia (1648), their real sovereignty must be dated from the year when every prerogative which a government can exercise was finally abandoned.

POLITICAL HISTORY FROM THE RENAISSANCE TO THE PRESENT DAY

J. SOWERBY

AFTER the defeat of Burgundy, the fame of the Swiss troops was spread throughout Europe, and their soldiers were eagerly sought after. This mercenary service was approved of by the Forest Cantons, though opposed by the towns. A cause of internal dissension was the admission of new members to the Confederation. In 1477, when Zürich, Berne and Lucerne wished to add Fribourg and Soleure, the Three Lands opposed, fearing a diminution of their own influence. In 1481, the two towns were admitted, though with limitations. The question of foreign enlistment led to a bitter quarrel between Zürich and Lucerne. Hans Waldmann, who was all-powerful at Zürich, was opposed to mercenary service, whilst Frischaus Thieling, a favourite soldier of fortune in Lucerne, was a warm partisan. Thieling was at last seized in Zürich and executed by Waldmann's orders, and this cruel act contributed greatly to Waldmann's fall in 1489, when attacked by the nobles and the country party. After the Swiss mercenaries had taken part in many of the great battles in the early part of the Sixteenth Century, their loss at the defeat of Marignano (1515), was so great that the Confederation withdrew from taking an active part in European wars, though foreign powers, who lavished much money

LAKE COMO

for that purpose, were still allowed to levy troops in various Cantons.

When the movement of the religious reformation spread from Germany into Switzerland, Zwingli, at Zürich, advocated also a political reformation, and insisted on the abolition of mercenary service. This at once arrayed the Forest Cantons against him. One reformation hindered the other. There was continual friction between the parties in the subject lands, which were alternately under the management of either, especially in Thurgau. This culminated in war, which at first was terminated by the armistice of Kappel (1529), and later by the complete victory of the Catholic Cantons at Kappel (1531), in which Zwingli himself fell. The peace which followed, however, assured toleration, even in the common subject lands. But, in spite of this, the religious feelings of both parties became more bitter. The Confederation was divided into two hostile camps. Whilst the Reformed Cantons sought to strengthen themselves by alliances with Holland and England, the Catholic Cantons instituted a counter-reformation, promoted by Carlo Borromeo, Archbishop of Milan. In 1586, they formed the Borromean or Golden League to maintain the Catholic faith, and formed alliances with Pope Sixtus V. and Phillip II. of Spain. Meanwhile other troubles came upon the town Cantons. The councils in the towns had by degrees grown to consider themselves absolute lords of the lower classes of citizens, and of the peasants outside. Taxes were levied at their pleasure over the whole district. The country people in particular were aggrieved at a tax they had to pay for driving cattle on to pasture and for bringing articles of produce to market; and above all by repeated debasements of the coinage, which sometimes at a

stroke reduced their savings by twenty-five or fifty per cent. In 1570, there was a rising against these oppressions in Lucerne; and, in 1652, a much more serious one, commencing in the Entlebuch. The people asked for the removal of various restrictions on manufactures, trade and commerce. These were rejected (1653) and the subjects in Entlebuch declared to be rebellious grumblers, who deserved severe chastisement. The peasants of Entlebuch, in common with those of Berne, Soleure and Basle agreed to act together and compel the Government to redress their grievances. These were so great that religious differences were forgotten, and Catholics and Protestants acted together. Their demands were disregarded by the Diet, which determined to repress the movement by force. The peasants had to yield before the regular troops, their leaders were executed, and their downtrodden condition was indefinitely prolonged.

The next disturbance in the Forest Cantons was due to religious differences. When Berne and Zürich wished to reform the Federal constitution and effect a closer union between the Cantons, this was hindered by the old Cantons, which feared a limitation of their former privileges. In their jealousy, the Catholic Cantons, in violation of their engagements, renewed the Borromean League (1655) and formed an alliance with France; and the Reformed Cantons replied by allying themselves with Holland and England. Whilst the troops of Zürich fruitlessly besieged Rapperschwyl, the Bernese were surprised and defeated at Vilmergen in Aargau, 1656. The neutral Cantons effected an armistice, but the Catholic Cantons obtained the privilege of expelling all members who did not conform to their way of thinking. The forces of Berne and the Catholic Cantons

again encountered at Vilmergen (1712) but the Reformed party was victorious. The Catholic Cantons were deprived of all share in the government of Baden, and the lower part of the free bailiwicks, in which they were replaced by Berne. The supremacy obtained by the Catholics in 1656 was transferred to Berne and Zürich; but the divisions in the Confederation became still more embittered.

After the first Vilmergen war, the whole thirteen Cantons had renewed the treaty with France. In return for certain concessions in trade, etc., and a pension of 3,000 francs per year to each Canton, besides pay for the troops, the Confederation undertook to supply France with a number of troops, varying from 6,000 to 16,000. The Confederation wished to observe a neutral attitude; and when Louis XIV. (1666–1668) violated this agreement by entering Franche Comté, which was, according to treaty, neutral territory, the danger moved them to withdraw their mercenaries, and to think of forming a force of 40,000 men to preserve their neutrality. But the influence of French gold soon effected a change. The armies of the French and the allies were still composed largely of Swiss mercenaries; as many as 35,000 serving under Louis XIV. in his last war in the Palatinate (1688–1697).

The bitter feeling between Protestants and Catholics continued during the first half of the Eighteenth Century. The Catholics were constantly thinking how to regain what they had lost; and each regarded the other as heretics. The efforts of patriotic citizens in some degree softened this bitterness, and material progress and increased prosperity diminished the love of foreign enlistment. But the oppression of the ruling families in the towns became greater. In no case were the lower classes benefited by

the dissensions among their rulers. They were even forbidden to discuss the decrees issued by their superiors. When the French Revolution broke out, both the oppressed citizens and the subject lands welcomed it with enthusiasm.

In 1797–8, the French imposed a new constitution on Switzerland. The subject lands were freed, and formed into nine new Cantons. The Three Lands were formed into a single Canton, called the Waldstätte. Lucerne remained unaltered. The Three Lands opposed the constitution because it deprived them of all their privileges. When the first Parliament was summoned, only ten Cantons (Lucerne amongst them) sent deputies, mostly from west Switzerland. The eastern Cantons complied, on being threatened, but the Three Lands refused. Schwyz and Uri, after a brave resistance at Rothenthurm capitulated, and gave in their adherence to the Helvetic constitution, but Nidwald persisted in their refusal, and their desperate resistance was terminated by the massacre of Staus. Switzerland in 1799, became the theatre of war, and parts of it, Uri in particular, were traversed many times by the hostile armies, and the unfortunate inhabitants ascribed all their sufferings to the new constitution. After repeated struggles, Napoleon proposed the Act of Mediation in 1803. By this the thirteen old Cantons were restored, and ten new ones were formed out of the allied and subject lands. This arrangement satisfied nobody. In 1815, the Cantons were arranged as at present, Geneva, Neuchatel and Wallis being added. Lucerne reverted to the old Patriciate form of government. The liberty of the press was restricted. The French Revolution of 1830 raised a commotion all over Switzerland; Unterwalden and

Uri alone remained unmoved. The clerical party here were strong enough to repress all desire for change.

In 1832, seven Cantons formed a union (Siebner Concordat) to effect a revision of the Federal Constitution. Soon after the outer districts of Canton Schwyz separated from the old Land Schwyz and their action was approved by the Federal Parliament. Upon this, deputies from the Three Lands, met at Sarnen, protested against the admission of deputies from Basle and outer Schwyz, and formed a separate league (Sonderbund). At last as the seven Cantons disregarded all the warnings of the Federal Parliament to dissolve the Sonderbund, both parties prepared for war. The Sonderbund mustered 80,000 men; the Reformed Cantons 100,000. The former was defeated on November 23rd, and Lucerne entered the next day. The members of the Sonderbund Government fled to Uri and the other Cantons capitulated. The Jesuits were expelled and Liberal Governments formed everywhere. By the new constitution, the independent authority of the Cantons was restricted in favour of a strong central government. This was accepted in September, 1848, by a large majority of the Cantons and of the population. The war was thus terminated, but the remembrance of the defeat long rankled in the minds of the conquered.

Since 1848, Switzerland has been disturbed by no serious outbreak. In the disturbances that subsequently convulsed Europe, she was able to remain neutral. The quarrels of Liberals and Ultramontanes have had to account for some difficulties, such as that in Tessin in 1890. But these have not affected the Forest Cantons, which are almost exclusively Catholic. If they have not participated to the same extent as other parts of Switzerland in the great ad-

vances which have taken place in national life, in trade and manufactures, in material and moral improvement, they have to a greater extent than any other shared in the influx of prosperity, produced by the fashion which brings annually an increasing flow of tourists to visit the most beautiful scenes in Europe. And although in some ways, now and then, the effect of this influx is demoralizing, still, behind there is no lack of patriotic feeling, and a real sense of the inheritance which the Swiss have received from their forefathers.

MODES OF TRAVEL

ARTHUR SHADWELL MARTIN

THE modes of travelling in Switzerland are various; one can go by railway, by steamer, by *diligence*, by private conveyance, and by horse or mule-back. The country is now crossed in every direction by railroads, that connect all the Swiss towns. The development of railroads of late years has been remarkable, considering the fact that down to 1854 there existed only one short line—from Zürich to Baden, a small village in the neighbourhood. The reason of the dilatoriness of the Swiss in harnessing the Iron Horse was not due to physical obstacles, or difficulties, as is generally supposed, because, with the exception of the passes over the central mountains of the Jura and Alps, the engineering problems to be solved are simple in comparison with those encountered in crossing the Rockies. The districts around Berne, Aarau, Neuchâtel, Lausanne and other towns do not present a very difficult surface, and railroads can easily penetrate far into the recesses of the Alps by means of the valleys of the Rhine and Rhone. The chief difficulty lay in the mutual and violent jealousy of the Cantons, and even of the various communes or parishes. After 1848, however, the new government's Department of Public Works planned and executed a system of railways; and private enterprise also built important roads. In 1860, the total mileage of the railroads was only 664; this had increased to 2,303 in 1900; and 2,936 in 1905.

In 1898, the Swiss people voted for the Government purchase of the principal lines; and therefore on May 1st, 1903, they became the property of the Confederation under the name of Federal Railways (*Bundes bahnen*). An exception was the St. Gotthard line, which, owing to international conventions, will not be delivered till 1909. At the end of 1905, 1,516 miles of railway had been acquired by the Government. The total of 2,936 miles consisted of 1,470 miles of principal Swiss railway lines, forty-three miles of foreign railways within Switzerland, and 1,423 miles of secondary railways and tramways. The electric line from Thun to Burgdorf, constructed in 1899, was the first electric non-mountain line, and since then the number has greatly multiplied. Triumphs of engineering are displayed in the St. Gotthard, Mt. Cenis, Albula and Simplon tunnels; and many roads and tunnels, which would have been regarded as impossible achievements not many years ago, are now in course of construction. The success of the Mountain Railways up the Rigi and Pilatus has been followed by the building of many other cog-wheel, cable, electric and funicular railways. The highest yet is the Gornergrat, but the boldest scheme is that of a line from the Little Scheidegg to the summit of the Jungfrau. It was stated in September, 1907, that in consequence of the success of this undertaking so far, the construction of the extension of the line to the Jungfrau Joch, at a height of 11,150 feet, would be put in hand forthwith. The new station will be on the opposite side of the Mönch, about two and one-half miles from the existing station at Mer de Glace (10,363 feet). The gradient will therefore be light, but it was estimated that the work would occupy four years.

THE SIMPLON ROAD

The extension to the St. Gervais La Fayet to Chamonix electric line from the latter place to Argentiève was officially opened during the summer of 1906. There are two stations on the new stretch—Les Praz, about one and one-half miles from Chamonix; and Les Tines, at the foot of the Mer de Glace, about half way between Les Praz and Argentiève. The latter is 4,100 feet above the sea, and 600 feet higher than Chamonix. In June, 1907, the permanent way of the rack electric railway from La Fayet to the summit of Mont Blanc (begun in 1905) had been carried half-way. A Mont Blanc tunnel is also contemplated. Leaving Aosta at an altitude of 1,246 feet, it will follow the Dore as far as Pré Saint Didier at a height of 3,268 feet, and pierce Mont Blanc by a tunnel 11.18 miles in length, issuing on the Swiss side at Chamonix. The total distance covered will be thirty-six miles.

In 1906, work was begun on the Loetschberg Tunnel, which is to cost 37,000,000 francs. Its length is to be about eight miles; and it will be the shortest and quickest route through France and Switzerland between Boulogne or Calais and Brindisi.

In January, 1907, a concession was obtained for the construction of a railway from the Zermatt Valley to the summit of the Matterhorn (14,780 feet high). The first section of the line will be from Viège station over the Zmüttbach plateau of Lac Noir to the Matterhorn hut, about 10,000 feet high. A tunnel which will be almost perpendicular and nearly 5,000 feet long, will then be driven into the side of the mountain from the hut to the summit of the Matterhorn. It will cost $20,000,000, and will take four years to complete.

In 1907, also, the Swiss Confederation, concluded an

agreement with the Canton of Ticino, to last forty years, whereby the whole water power of the Levantine Valley will be used as hydraulic power to work the St. Gotthard Tunnel Railway by electricity. In May, 1907, also, the Canton of Valais, granted a concession of a line, thirty-one miles long, between Brieg and the Rhone glacier, joining the Simplon and St. Gotthard.

In July, 1907, the boring of still another Alpine tunnel was completed. This was the Tauern (9,324 yards long) which affords a new connection with Trieste. The northern entrance, 3,840 feet high, is in the valley of the Anlauf, about two and a half miles from the baths of Gastein Station; and the southern entrance, 3,998 feet high, is not far from Mallnitz, in Carinthia.

Steamers now run on all the principal lakes and rivers; and are an important adjunct to internal communication. Those on Lake Geneva and Lake Lucerne and on the Italian lakes are spacious boats, with upper decks and good restaurants on board. In 1904, the traffic on Swiss waters was carried on by 232 steamboats belonging to fifteen companies.

"Murray" tells us: "Well appointed *diligences* traverse almost every road in Switzerland where railways have not been built, and connect the chief railway stations with places in their vicinity. They belong to the Federal Government, and are attached to the post-office, as in Germany. The regular *diligences* have a *coupé* in front, with three seats, and a *banquette*, with two seats, on the roof behind the box. The *intérieur*, or second-class compartment, has four seats, and occupies the body of the cumbrous vehicle. The conductor has an outside seat on the box. On the great roads frequented by tourists there are more luxurious *diligences*,

with two seats in the *coupé*, four on the roof, while the roof of the *intérieur* (but *not* that of the *coupé*) can be opened at pleasure."

The pace along level ground seldom exceeds six miles an hour; at the smallest symptom of a hill the horses fall into a walk; down hill they occasionally go fast; and to those who have not become hardened by use, it is rather a nervous thing to see the heavy *diligence* turn round the corners of the zigzags in the face of precipices, with the reins flying loose, and the horses apparently under no control. They, however, know the road, and accidents very seldom occur.

Previous to 1800, when Napoleon commenced the construction of the magnificent carriage roads which will assist in immortalizing his name, the usual mode of conveying either passengers or goods across the Alps was on the backs of men, or of horses or mules. Even now, upon certain minor passes, the entire traffic is carried on by the same means. In other instances, where the beauties of the scenery attract an influx of strangers, mules are kept for their convenience, particularly in making short excursions.

The horses used on the Bernese Oberland, and in other parts of Switzerland, are clever animals which will carry you up and down ascents perfectly impracticable to horses unused to mountains, but they are perhaps excelled by the mules of Chamonix and other parts of Savoy. Of these, the sagacity, strength and sureness of foot are really wonderful. The paths which they ascend or descend with ease are steeper than any staircase, sometimes with rugged rocks two or three feet high instead of steps. Sometimes they are covered with broken fragments, between which the beasts must pick their way, at the risk of breaking their

legs; at others they traverse a narrow ledge, with an abyss on one side, and a granite cliff on the other. In such dangerous passes the caution of the animal is very remarkable; he needs no rein, but will pick his own way, and find out the best track far better than his rider; and in such circumstances, it is safer to trust entirely to his sagacity than to attempt to guide him, for by confusing the animal, there will be risk of his losing his footing, and perhaps tumbling headlong. There are very few accidents from the falling of the animals. The chief danger in Alpine riding consists in the risk that a traveller may be placed on the back of an animal hitherto accustomed only to inanimate burdens. This naturally arises most commonly in unfrequented districts, and especially affects ladies. Descending the passes on horseback is generally disagreeable, and sometimes dangerous; and the rider should always dismount when requested to do so by the guide. In fact, those who can walk fairly should, if they have not too much luggage, only hire the horses to the top of the pass, as they will be of comparatively little use on the descent. Each saddle has a flap or *pillon* attached on which a knapsack or carpet-bag not weighing more than about thirty pounds may be carried.

A *chaise à porteurs* (Germ. *Tragsessel;* It. *Portantina*) is nothing more than an armchair borne upon poles in the manner of a sedan. This was the customary manner of conveying travellers across the Alps down to the latter half of the Eighteenth Century. Later, it survived in certain Alpine valleys for the convenience of timid ladies, but nowadays it has become a great rarity, and is only to be met with occasionally.

ALPINE PASSES

W. A. B. COOLIDGE

NO part of the Alps is more interesting, either in a picturesque or in an historical point of view, than the passable gaps or notches in the ridge of the great chain, and in the minor mountain buttresses branching from it, whereby alone this colossal wall of mountains may be scaled, and a direct passage and communication maintained between northern and southern Europe, as well as between one valley and another. It has been through these depressions that the great tide of population has poured since the earliest times; from these outlets have issued the barbarian swarms which so often desolated, and at last, annihilated the Roman Empire. There are more than fifty of these passes over the Swiss portion of the Alpine chain alone, or immediately communicating with the Swiss frontier.

In seeking a passage over the Alps, the most obvious course was to find out the valleys which penetrate farthest into the great chain, to follow the rivers to their sources, and then to take the lowest traversable part in order to descend the opposite side. The variety and sudden transitions presented by such a route are highly interesting. In the course of one day's journey the traveller passes in succession from one stretch of valley to another by a steeper ascent and defile, from the climate of summer to winter, through spring. The alteration in the productions keeps pace with that of

the temperature. Leaving behind him stubble-fields, whence the corn has been removed and housed, he comes to fields yet yellow and waving in the ear; a few miles farther and the crop is still green; yet higher, and corn refuses to grow. Before quitting the region of corn, he enters one of dark, apparently interminable forests of pine and larch, clothing the mountain-sides in a sober vestment. Above this, the hay-makers are collecting the short grass, the only produce which the ground will yield. Yet the stranger must not suppose that all is barrenness even at this elevation. It seems as though Nature were determined to make one last effort at the confines of vegetation. From beneath the snow-bed, and on the very verge of the glacier, the profusion of flowers, their great variety and surpassing beauty are exceedingly surprising. Some of the greatest ornaments of our gardens, here born to blush unseen,—gentians, violets, anemones and blue-bells, intermixed with bushes of the red rhododendron, the loveliest production of the Alps, scattered over the velvet turf, give it the appearance of carpet of richest pattern. The insect world is not less abundant and varied,—thousands of winged creatures are seen hovering over the flowers, enjoying their short existence, for the summer at these elevations lasts but for three or four weeks: a premature winter soon cuts short this brief season of animal and vegetable activity. Above this region of spring, with its gush of waters, its young herbage and vivid green-sward, its hum of insects just burst forth and its natural flower-beds glittering with rain-drops, that winter in Lapland or Siberia succeeds. The traveller may form an idea of the height he has reached by observing the vegetation. Vines disappear at 2,000 feet, generally sooner; oak-trees and wheat at 3,000 feet; beeches and barley at

THE SPLÜGEN PASS

4,000 feet; pines and firs at 6,000 feet. Above 9,000 feet, flowering plants are very rare; but up to 11,000 feet they are found in sunny crevices. Above 11,000 feet a few blackened lichens alone preserve the semblance of vegetable life. It will of course be understood that in favourable situations these limits will be exceeded; in unfavourable situations they will not be reached. At the summit of a high pass and amongst the glaciers the rarified air is icy cold, and exercise and quick motion are necessary to keep up the circulation of the blood. The agreeable murmur of falling water, which has accompanied the traveller hitherto incessantly, here ceases—all is solitude and silence, interrupted only by the shrill whistle of the marmot, or the hoarse croaking of an ill-omened raven. The ptarmigan starts up from among the broken rocks on the verge of the snow-field at the traveller's approach, and the *lämmergeier* (the condor of the Alps) disturbed in his repast on the carcase of a sheep or cow, may sometimes be seen soaring in a succession of spiral sweeps till he gains the ridge of the Alps, and then disappears. But the most striking change of all is that from the region of snow and ice on the top of the mountain, to the sunny clime and rich vegetation of Italy, which await the traveller at the southern foot of the Alps.

The works of Nature, however, will not entirely occupy the attention and wonder of the wanderer in such a pass; at least a share will be demanded for admiration of the works of man. The great highways, passable for carriages, over the high Alps, are, indeed, most surprising monuments of human skill and enterprise in surmounting what would appear, at first sight, to be intended by Nature as insurmountable. These proud constructions of art thread the valleys, cross

the *débris* of rivers on long causeways, skirt the edge of the precipice, with walls of rock tottering over them, and torrents thundering below. Where the steep and hard surface of the cliff has not left an inch of space for a goat to climb along, they are conducted upon high terraces of solid masonry, or through a notch blasted by gunpowder in the wall of rock. In many instances, a projecting buttress of the mountain has blocked up all passage for ages, saying, "Thus far shalt thou go and no farther," the skill of the modern engineer has pierced through this a tunnel or gallery; and the difficulty is vanquished, without the least change in the level of the road.

Sometimes an impediment is eluded by throwing bridges over a dizzy gorge, and shifting the road from side to side, frequently two or three times within the space of half a mile. Often the road reaches a spot down which the winter avalanches take their habitual course, sweeping everything before them, and which, even in summer, appears reeking and dripping with the lingering fragments of snow. Will not so irresistible an antagonist arrest the course of this frail undertaking by man? Not even the avalanche;—in such a situation the road either buries itself in subterranean galleries, driven through the mountain, or is sheltered by massive arcades of masonry, sometimes half or three-quarters of a mile long. Over these the avalanche glides harmlessly, and is turned into the depths below.

Every opportunity is seized of gaining, by easy ascents, a higher level for the road; at length comes the main ascent, the central ridge, to be surmounted only by hard climbing. This is overcome by a succession of zigzag terraces, called *tourniquets* or *giravolte*, connected together by wide curves, to allow carriages to turn easily and rapidly. So

skilful is their construction, with such easy bends and so gradual a slope, that in many Alpine roads the drivers, *with horses accustomed to the road*, trot down at a rapid pace. Sometimes as many as fifty of these zigzags succeed one another without interruption; and the traveller, as he passes backwards and forwards, hovering over the valley, is as though suspended to a pendulum, and swinging to and fro. The road itself has a most singular appearance, twisted about like an uncoiled rope or a riband unwound.

The travelling-carriage descends sometimes rapidly and without interruption for hours. A drag of tempered iron is quickly worn down, in that time, as thin as the blade of a knife, so great is the friction; and it is usual to substitute for the iron drag a wooden *sabot*, formed of the section of a fir-tree, with a groove cut in the centre to admit the wheel.

The winter's snow usually falls upon the Alpine passes more than 5,000 feet high about the second week in October (sometimes earlier), and continues till the first or second week in June. Yet even after this, the passage across the neck or Col, as it is called, is not stopped, except for a few days, until the snow can be cleared away. In some of the minor passes, indeed, traversed by a mere rough footpath, or bridle-path, the traffic is much increased after the fall of snow, which, by filling up depressions and smoothing the way, permits the transport of heavy merchandise on sledges, which move easily over the surface as soon as it is hardened.

Along the lines of the great carriage roads strong houses are erected at intervals called *Maisons de Refuge*, *Case di Ricovero*, occupied by persons called Cantonniers, who are employed in mending the road and keeping it free from

snow, and are also paid to assist travellers in danger during snow-storms.

As near as possible to the summit of a pass, a *Hospice* is generally erected, usually occupied by a band of charitable monks, as in the case of the Great and Little St. Bernard, the Simplon, Mt. Cenis, etc. The direction of the road across the summit of the ridge is marked by a line of tall poles, which project above the snow, and, from being painted black, are easily recognized. Bells are rung in tempestuous weather, when the *tourmente* is raging and the mist and falling snow hide the landmarks, that the sound may aid when the sight fails.

The morning after a fall of snow, labourers and peasants are assembled from all sides to shovel it off the road. Where it is not very deep, it is cleared away by a snow-plough drawn by six or eight oxen. As the winter advances and fresh falls occur, the snow accumulates, and the road near the summit of a pass presents the singular aspect of a path or lane cut between walls of snow, sometimes ten or twenty feet high. Carriages are taken off their wheels and fastened upon sledges; ropes are attached to the roof which are held by six or eight sturdy guides running along on each side, to prevent the vehicle upsetting and rolling over the slippery ice down a precipice. More commonly, however, travellers are transferred to light, narrow one-horse sledges, each carrying two passengers, by which communication is kept up, except during storms, when no living animal can withstand the fury of the elements. In this manner very high passes are crossed in the depth of winter with little risk. The spring is the season during which far greater danger is to be apprehended from the avalanches which then fall.

The Swiss are essentially a road-making nation, and had good roads when those of Continental Europe generally were still execrable. It is, however, strange that, after having spent enormous time and money in making a road level and good enough for a mail-coach at eleven miles an hour, they should persist in crawling along at five or six miles an hour.

AVALANCHES

ÉLISÉE RECLUS

THE accumulated layers of snow do not remain forever on the sides and summits of mountains. Since every year, on the average, thirty-three feet of snow fall on the mountains of the Alps, these peaks would, in fact, in the course of a century, increase 33,000 feet in height, if the humidity falling from the clouds in the form of snow-flakes was not evaporated into the atmosphere, or did not find its way down into the valleys below.

The heat of the sun and meteoric influences commence the work of clearing away the snow. It has been calculated that the solar rays will melt as much as twenty to twenty-eight inches of snow in a day, especially when the upper layers are not very dense, and allow the heat to penetrate to some depth under the surface. The rain and tepid mists which the winds convey on to the mountain slopes also lend their aid in thawing the snowy layers, and sometimes indeed with more effect than the rays of the sun. The cold winds likewise assist by blowing up the snow into whirlwinds, and thus transferring it to lower slopes where the temperature is higher. There is not one violent wintry squall which does not remove thousands of cubic yards of snow from the summits of lofty mountains, as may easily be seen from below, when the peaks beaten by the wind appear to smoke like craters, and the powdered flakes are dispersed in whirlwinds. The warm and dry winds, how-

THE SCHRECKHORN

ever, effect still more than storms in diminishing the masses of snow which lie heavy on the summits. Thus the south wind, which is called *föhn* by the Swiss mountaineers, will in twelve hours melt or cause to evaporate a bed of snow three quarters of a yard thick. It "eats up the snow," as the proverb says, and brings spring back again on the mountains. Next to the sun, the *föhn* is the principal climatic agent in the Alpine districts.

It would be very important if we could establish the average proportions of the masses of snow which fall upon the mountains which are lost by melting and evaporation respectively. In valleys where the sides are composed of hard rocks which retain the water on the surface, it would suffice to measure the annual discharge of the torrent, and to compare it with the quantity of rain-water and snow which has fallen in the basin during the same period, and we should approximately ascertain all that has been lost *en route*, being drawn from it either by the innumerable roots of the plants growing in it, or directly by evaporation. At all events, it is certain that this latter cause of diminution is very important, for even during calm weather, and at three or four degrees below freezing-point, the superficial surface of the snow constantly supplies to the atmosphere a certain portion of aqueous vapour. Under the influence of the sun and wind evaporation increases very rapidly.

But these slow and gradual means are not the only causes of the diminution of the mountain snows; they also sink down in masses into the valleys, and thus expose themselves directly to the influence of heat. The masses which thus rush down the slopes are avalanches, likewise called in the Alps *lavanges* and *challanches*. The greater part of these downfalls of snow occur with great regularity, so much so

that an old mountaineer, who is clever at discerning the signs of the weather, can often announce by a mere glance at the surface of the snow the exact time at which the subsidence will take place. The path of the avalanche is completely marked out on the mountain-side. At the outlets of the wide mountain amphitheatres in which the snows of winter are accumulated, narrow passages open, hollowed out in the thickness of the rock. Like torrents, only that they appear but for a moment and are suddenly gone, the masses of snow which are detached from the upper declivities rush down the inclined beds afforded them by the narrow passages, and descend in long trains, until, arrived at the ledge of their ravine, they pour out over the slope of *débris*. Most mountains are furrowed over their whole extent with vertical channels, down which the avalanches rush in the spring. These falling masses become actual tributaries of the streams which run below; only, instead of flowing continuously as the rivulets of the cascades, they plunge down all at once, or in a succession of falls.

On slopes where the inclination exceeds 50°, the snows not only descend through the passages hollowed out here and there on the mountain-sides, but they also slide *en masse* over the escarpments. Their gradual progress being more or less rapid, at first they accumulate in heaps when they meet with any obstacle in the less sloping portions of their track, until, becoming animated with a sufficient momentum, they at last break forth with a crash, and dash down into the depths below. The particular way in which each avalanche descends is, of course, varied according to the shape of the mountain. On perpendicular escarpments the snow on the upper terraces is slowly impelled by the pressure of the masses above it, and plunges over, straight down into

the abyss below. In spring and summer, when the white layers, softened by the heat, are falling away every hour from the lofty summits of the Alps, the mountain climber, standing on some adjacent headland, may contemplate with admiration these sudden cataracts dashing down into the gorges from the heights of the shining peaks. How many thousands of travellers, seated at their ease on the grassy banks of the Wengernalp, have witnessed with exclamations of pleasure the avalanches rolling down to the base of the silvery pyramid of the Jungfrau! First the enormous bed of snow is seen to plunge forth like a cataract, and lose itself in the lower stages of the mountain; whirlwinds of powdered snow, like a cloud of bright smoke, rise far and wide into the atmosphere; and then, when the snow-cloud has passed away and the whole region has again assumed its solemn calm, the thunder of the avalanche is suddenly heard reverberating in deep echoes in the mountain gorges, one might fancy it was the voice of the mountain itself.

All these downfalls of snow are phenomena in the economy of mountains, no less regular and normal than the flowing of the rainfall into rivers, and they form a part of the general system of the circulation of water in every basin. But in consequence of the superabundance of snow, its too rapid melting, or some other meteorological cause, certain exceptional avalanches, like the inundations caused by river-floods, produce most disastrous effects by laying waste the cultivated grounds on the lower slopes, or even by swallowing up whole villages. Catastrophes of this kind and the falls of rocks are the most formidable occurrences in the vitality of mountains.

The avalanches known under the name of *poudreuses* are those most dreaded by the inhabitants of the Alps, on ac-

count not only of the ravages immediately arising from them, but also of the whirlwinds which frequently accompany them. Before the newly-fallen layers of flakes sufficiently adhere to the former snow, the mere tread of the chamois, the fall of a branch from some bush, or even a resounding echo, is sufficient to disturb the unstable balance of the upper sheet of snow. At first it slides slowly over the hardened mass beneath, until, reaching a point where the slope of the ground assists its progress, it rushes down with an increasingly rapid movement. Every moment it becomes augmented by fresh beds of snow, and by the *débris*, stones, and brushwood, which it hurries along with it. It makes its way over the ledges and passages, tears down the trees, sweeps away the *châlets* which lie in its path, and, like the downfall of the side of a mountain, plunges into the valley, sometimes even reaching the opposite slope. All round the avalanche powdery snow rises in broad eddies; the air, being compressed laterally by the sinking mass, roars right and left in actual whirlwinds, which shake the rocks and uproot the trees. Thousands of trunks may sometimes be seen thrown down by nothing but the wind of the avalanche, when the latter traces out for itself a wide path across whole forests, and, as it passes, sweeps away the hamlets in the valley.

The *avalanches de fond* are generally less dangerous than those we have just spoken of, because they are formed at a more advanced season of the year, when the greater part of the superficial snow is melted, and the remainder of the mass is able to run through its regular passages. As their name indicates, these avalanches are composed of the whole thickness of the snow-field. Lubricated, as it were, by the rivulets of water which cross them and flow over them, the

beds of snow lose their adherence to the ground, and slide in one lump, like marine icebergs detaching themselves from a field of ice. Under the pressure of these moving masses, the snow below at last yields, and the avalanche, loaded with water and mud, earth and stones, rushes through the passages and over the rocks; at last, finding its way into the valley, it dams up the stream with a kind of dike, which sometimes resists the weight of the water till the middle of summer, and the gray or even blackish mass becomes so compact that it assumes the hardness of rock. It is, in fact, a glacier in miniature.

Thickly-planted trunks of trees are the best protection against avalanches of every kind. In the first place, the snow which has fallen in the wood itself cannot very well shift its place; and then, when the masses descending from the slopes above dash against the trees, they are unable to break through so strong a barrier. After having overturned some few of the first trees, their progress is arrested, and the intermingled heaps constitute a fresh obstacle for future avalanches. Small shrubs, such as rhododendrons, or even heaths and meadow grass, are very often sufficient to prevent the slipping of the snow, and where people are imprudent enough to cut them on the mountain slopes, they run the risk of clearing the way for this formidable scourge. The danger is still more imminent if a screen of trees is cut down in one of the protecting forests. The task is then begun for the avalanche, which soon undertakes to complete the rest of the labour by tearing up all that still remains of the former woody rampart. A mountain which stands to the south of the Pyrenean village of Aragnouet, in the lofty valley of the Neste, having been partially cleared of trees, a tremendous avalanche fell down, in 1846, from

the top of a plateau, and in its fall swept away more than 15,000 fir-trees.

The protecting woods of Switzerland and the Tyrol used to be defended by the national *bann*, and, as it were, "tabooed." They were, and still are, called the *Bannwælder*. In the valley of Andermatt, at the northern foot of the St. Gothard, the penalty of death was once adjudged on any man found guilty of having made an attempt on the life of one of the trees which shielded the inhabitations. Added to this, a sort of mystic curse was thought to hang over this impious action, and it was told with horror how drops of blood flowed when the smallest branch was broken off. It was true enough that the destruction of each tree might perhaps be expiated by the death of a man.

The inhabitants of some villages which are threatened with avalanches endeavour to find a substitute for trees in long stakes or piles driven into the ground to resemble fir-trees. This is what they call *clouer l' avalanche* (nailing up the avalanche). At the same time, they hew steps at intervals, almost like a staircase, so that the snow falling from the cliffs may be arrested in its course or partially broken up. In some localities, too, they construct lateral walls on purpose to contain the flow of the avalanche, as if it were a banked-up river; and if, after all these precautions, the houses are still threatened, they furnish them, like the piles of a bridge, with spurs or buttresses, made of stone or hardened snow, which, by sprinkling, is gradually changed into ice.

THE BERGSTURZ

WILLIAM POLE

THE event called in German Switzerland a Bergsturz, where a portion of a steep mountain-side precipitates itself down, sometimes through thousands of feet, into a plain or valley below is naturally to be looked for in countries where deep valleys with precipitous sides have been excavated in rocky material. In travelling through Swiss valleys, we find abundant evidence of falls from the sides that have taken place at former times, and such falls are known to continue in the present day. It is however but seldom that they are of sufficient magnitude to do mischief and become historical. The greatest on record, whether estimated by its actual dimensions, or by the extent of the damage it caused, was that of Goldau, September 2, 1806. Here an enormous mass forming the upper portion of the Rossberg, a high mountain north of the Rigi, suddenly gave way and dashed into the fertile and populous valley below, destroying several villages, half filling up a lake, and entombing 457 human beings in a horrible grave.

A calamity of the same nature occurred in the Canton of Glarus in 1881. At Schwanden about three miles above Glarus, the Linth is joined by a tributary called the Seruf. The valley that brings this down rises sharply from the junction and bends to the southward, finally losing itself against the immense mountain-ridge that forms the

northern wall of the great Romansch Valley of the Vorder Rhein, and separates the Glarus district from the Canton of the Grisons. There is a good carriage road up the Seruf-thal, passing through the villages of Engi, Matt and Schwandi, and terminating, about nine miles from the Linth, at the chief place, Elm, the site of the catastrophe. Elm lies at a height of 3,230 feet above the sea. In its remote position it is little visited by pleasure tourists, but it is known to climbers as the meeting point of several high passes. One of these has a historic celebrity, being the scene of the disastrous retreat of Suwarrow before the victorious French in 1799.

Elm is closely overshadowed by the great mountain wall which towers to the height of 6,000 feet above it, in an unbroken ridge, covered in many parts with glaciers, and with that peculiar formation of half-consolidated snow in German called *Firn*. The catastrophe originated in a spur of this wall, called the Tschingelberg, and lying about three quarters of a mile to the south-east of the village. The Tschingelberg was of great interest to Elm on account of the important slate quarries that had been formed therein. Close under the Tschingelberg is a small side valley called the Unterthal, very narrow, and bounded on the opposite side by a hill called the Düneberg. The Tschingelberg, above the quarries, although largely covered with pine forests, and presenting no more dangerous appearance than is customary with steep rocks generally, it had long been known to be in a somewhat loose condition, and falls of stones from it occasionally occurred. The hot and dry summer of 1881 was succeeded by heavy rains which, penetrating into the cracks and fissures, made matters worse, and the dislodgments became more frequent. Some

MONT BLANC

alarm was created and, on September 9th, an examination was made by competent persons deputed for the purpose by the Commune. The result was a recommendation that some protective measures be undertaken, but no immediate danger was apprehended.

During Sunday, the 11th, the rain fell in torrents, and in the afternoon the falls of stones increased so much as to attract anxious attention upwards to the hill. A little after 5 P. M. some observers saw the fir-trees, on a patch of ground, high up above the quarries, begin to move and to bend "like stalks of corn before the sickle of the reaper." It was now clear that some greater fall was imminent, and shortly afterwards, about 5:30, a large mass of rock fell with a fearful crash into the Unterthal, shattering several buildings in its way. Then arose a great cry, exhortations to fly and to remove household goods being heard in all directions. Able and active men heroically rushed to relieve those who were in danger; but, before anything could be done, help was unavailing.

A quarter of an hour after the first fall, occurred a second, which completed the destruction of the Unterthal, and then immediately followed the third—and most frightful of all. The whole side of the mountain gave way, and dashed into the valley below, accompanied by a roar as of a thousand thunders, and enveloping the whole neighbourhood in a thick opaque cloud of dust, producing a darkness deeper than the blackest night.

When towards 7 P. M. the atmosphere had somewhat cleared, the fearful devastation became visible. Providentially the greater part of the village of Elm had escaped, but everything between that and the Unterthal, fields, crops, houses, and everything in them, had disappeared,

buried under thousands of tons of shattered rock and stone. As the night closed in, blank despair spread around, for it was evident that there was no hope of rescue. This was confirmed in the morning when offers of help poured in from all the neighbourhood. A few horribly mutilated corpses were found in some ruined buildings visible at the exterior of the mass, but this was all.

It may be well now to give some idea by actual figures of the magnitude of the Bergsturz. The greatest height of the fall, *i. e.*, the height from the valley to the top of the fracture, was about 2,000 feet. The quantity of material that fell is estimated at about 360,000,000 cubic feet, or say 20,000,000 tons, and it is believed that half this came from the upper part of the hill. When it is considered that the velocity due to a fall of 2,000 feet is about 350 feet a second, some idea may be formed of the tremendous amount of mechanical force expended on the shock.

The effect of this force was manifested in various ways. First by the smashing up of the *débris*. There are, no doubt, some very large pieces lying about; one of the biggest measuring about fifty feet by forty feet by twenty-five feet—or 50,000 cubit feet. But the great mass is broken up into comparatively small fragments, and a large proportion was pulverized into fine dust, which, as in eruptions of Vesuvius, spread over the neighbourhood for miles around. Then, the behaviour of the falling material gave singular evidence of the force inherent in it. A large portion crossed the Unterthal (a horizontal distance from its original site of about half a mile), struck the opposite hill of the Düneberg, and mounted up it to a height of some 350 feet, at the same time rushing up the rising slope of the valley to the eastward. But the great mass fell in the

open valley and followed the natural fall towards Elm, rolling with prodigious impetus down the slope, and at the same time spreading out laterally. It covered a surface of ground equal to about one square kilometre, and lay thereon in some places as much as 100 feet deep. The rocky stream extended westwards to a distance of a mile and a quarter from its origin, reaching and carrying away a part of the main road leading to Elm. It was here that some of the valuable lives and property were destroyed; for as the village had been increasing in population and wealth, a new suburb of good houses had been built along this road, and they were all either buried in the mass or upset and crushed to pieces by the shock. Some isolated ruins of them were visible near the edge of the *débris* when I visited the spot, smashed-up joinery, household utensils, and furniture lying scattered about among the rocks and mud. It was here that the human remains were principally found.

The feature that most impressed me was the great similarity of the behaviour of the mass to that of a stream of mud or other semi-fluid substances, and it required some mental effort to convince oneself that the whole was formed of angular fragments. This again shows the tremendous *vis viva* of the great mass, which, notwithstanding the immense fractional resistance of its elementary components, caused it to follow to a certain extent the laws of fluid motion.

I remember, having frequently had occasion to pass over the field of the Goldau Bergsturz, remarking also there evidences of enormous force, but manifested in a different way; the rock of the Rossberg, a hard conglomerate, offered much more resistance to breaking up, and consequently the force was expended more in tossing the huge fragments

about. When one looks at the colossal blocks, almost mountains in themselves, which lie scattered over the wide valley, one can hardly believe they have been projected from the rift in the hillside miles away.

One remarkable feature of these mountain falls is the great disturbance of the air caused by the swift motion through it of such an immense bulk of material. In this instance, it was remarked by some near observers who had the good fortune to escape, that immediately after the giving way of the great mass, but before it reached the lower ground, a tremendous blast of wind drove down the valley. It completely carried away the iron bridge, about twelve tons' weight, over the branch road to Unterthal, and deposited it, crumpled to pieces, at some distance. It is known also that some persons who had collected on this spot (thinking themselves safe such a way off) were whirled into the air by the hurricane and killed. Among these was a local judge, proprietor of the principal inn, and a man much esteemed in all the country round.

It is interesting in a scientific point of view to inquire if any cause of a geological nature can be assigned for the rupture of the mountain. In the Goldau case a distinct geological origin could be traced for the disaster, namely the superposition of stony beds on inclined strata impervious to water, which under certain conditions formed a slippery surface on which the upper beds could slide down. This kind of stratification is very visible in many parts of the neighbouring hills, particularly on the Rigi, where slips are not unfrequent. One of some magnitude that occurred two years ago is visible from the Kaltbad Railway Station. I cannot learn, however, that any similar cause was present in the Elm case. The rock is marked in Studer and

Escher's geological map as *Terrain num mullitique*, belonging to the tertiary Eocene formation; and although it consisted of a mixture of two constituents, limestone and slate, these do not appear to have lain in any such relative positions as to favour the fall. It is more probable that the cause was the very simple and ordinary one which produces falls in general, namely a loose, fissured state of the rock generally, which was aggravated by the plentiful flow of water through its crevices, and the consequent further erosion of the mass, till it lost the coherence necessary to maintain it in its highly inclined position.

MOUNTAINEERING

FRANCIS CONNELL

I AM sure you all know him well. You may have seen him any fine day outside any of the hotels in the more mountainous parts of Switzerland or the Tyrol. But he is in his glory at Zermatt. There he sits where great American deck-chairs have supplanted the humble and somewhat uneven stones of the old wall to serve him in the office of a throne. His face is red and inflamed and sticky; his hands are torn and dirty, as are his clothes, which tend to have a reddish tinge and to disclose patches of a cloth totally different in colour and material from the rest of his garments should he chance to rise and turn his back upon you. His shirt is flannel and dirty; his hat is felt and dirty; his boots are large and have often been clouted by the excellent cobbler down the village. But these are honourable scars. Portions of that reddish raiment are flapping in the wind on every rock peak from Monte Viso to the Terglou; the dirt encrusted in his nails was garnered on the eastern face of the Dom; the big scar at the back of his head was caused by an over-impetuous friend, a jerk of the rope, and a big stone on the rotten *arête* of the Vélan two summers ago, and his raw-beef face is the result, not of a skin disease, but of a long day on the Grenz Glacier.

There he sits, the mules laden with heavy German gentlemen in ulsters, bound for the Schwarz See, going up the street, the sun blazing down upon the dust among the little

MER DE GLACE

cobbly stones, which are every now and then sprinkled by a small boy with a watering-pot, with Jost smiling benignly in the shadow of the hotel-door, with a fountain, which never plays, behind him, the Matterhorn on his left, the murmurous complaint of the Visp torrent in his ears, and all around him a pervading sense of mule and heat and tourist—there he sits, as you have often seen him, talking, talking from breakfast until the Riffel Alp lights go out, with intervals for such refreshment as is provided by *table d'hôte* and the *bier-halle* at the Mont Cervin. If you like to lie late, as is my habit after a hard day, you may open your window and get back into bed again, and see the Matterhorn and the sun, and hear the earliest chirp of half-awakened guides discussing with him; and as you shut the Venetian shutters at night, some stray revellers will still be at it. The talk flows always in one channel; it is conducted in such broken German-Swiss as he can master, and such broken English as the guide has learnt at the winter night school. In the morning, when it consists of descriptions of the doings of the previous day, the terrible state of the snow, the absurdly rotten state of the mountain and the misdeeds of other parties, the men talk confidently with loud voices and more than a touch of swagger, while all around the voices of the young lady admirers are hushed and the fierce light of achievement beats upon the heroes; towards the late afternoon it becomes more subdued, it is carried on in whispers and surrounded with an air of mystery. Dirty fingers follow suggested routes on the pinkish maps spread on the iron tables, while the guides, who regard maps as English missionaries look on heathen-fetish ceremonies, punctuate the proceedings with much spitting and many cautious remarks ("One couldn't can

tell" is a favourite idiom) accompanied with an appearance of impossible wisdom.

Long ago every mountain of respectable height in the whole range of the Alps had found its conqueror. The Grepon, only a few years ago reputed to be the most difficult climb in the Alps, is an easy day for a lady. The Drus, which only yielded to a siege of many summers, are strewn from summit to base with sandwich papers and empty sardine tins, and on the top of the Matterhorn, it is rumoured, a large and familiar notice board warns the hardy mountaineer that this hill is dangerous for cyclists. From the day when Mr. Wills, accompanied by old Christian Almer, Ulrich Lauener, Peter Bohren, two Chamouni guides, a large iron flag-staff and a small fir-tree, ascended the Wetterhorn, introduced the Chamouni men to the ice-axe, and incidentally introduced the sport to the public at large, the pioneers, chiefly Englishmen, set about their work of robbing us of the mystery of the mountains, and left but little work for the civil engineer to do in this direction. Christian Almer died in 1898, having celebrated his golden wedding by an ascent of the same mountain; and Mr. Justice Wills's pedestrian feats are the wonder of the High Sheriffs of the Eastern Countries. What a grudge the modern climber must ever bear to these, "*qui ante nos in mundo fuere*." They were bold in the fearless old fashion, and their limbs are as memories yet; and the regret to which they move us is as piquant as it is little. No new mountains remain to be ascended for the first time, and no new routes are to be made which do not imply a risk from falling stones or ice altogether disproportionate to the interest in the attempt. The pioneers endured real hardship; there were scarcely any shelter-huts and the absence of

paths must have made the early hours of each expedition laborious to an extent hardly to be realized by any one who has not tried tracking over boulders and through forest by the light of a candle carried by a sleepy guide. Tinned meats were hardly discovered; the inns were very poor and bad; and, to crown all, the lack of maps and the ignorance of the country often brought a bivouac high up on the mountains, without shelter or food, to close a successful day with a night of torment. It is true that, if these delights tempt you, you can still experience even greater discomfort on the slopes of Aconcagua or Ushba, on the Hispar Pass, or among the forests of the Selkirks; but this means money and time; or, if you have neither, you can climb without guides and sleep in tents, an arrangement which secures the maximum of risk with the minimum of enjoyment. For the rest of us nothing remains but a Tom Swayer-like existence, brightened by the fact that there is an inn an hour below our bivouac, hay beds tempered by air-cushions, and tough mutton accompanied by *pâte de foie gras*.

All these things are against us; and yet I will dare to say that, for myself, and for all who, through painful and devious ways, have come to know the mountains, their grimness, their joy, no scrap of romance, or love, or reverence has fallen from them. Still remains the intense feeling of delight in your own strength—just as intense in the weak as in the strong—which those only can know who have crawled along a ridge so slender that it seems only to remain in place because it cannot make up its mind on which side to fall, on days when nature seems to take a malign delight in thwarting the climber, and when you must cling tight to disintegrating stones to prevent yourself

going off with the wind into a neighbouring valley; days when you find at six in the evening that the old route off the glacier has been spoiled by the collapse of an ice-bridge, and you must wearily cut your way up the icefall again, hoping against hope that you may be on the path before dark; the wild excitement on a broken *arête*, perhaps not often accomplished before, as you turn or climb over tower after tower and see a fresh succession between you and the summit, each apparently toppling to its fall, and asking nothing better than to take you with it; the very unpleasant feeling down your spine as you watch the leading man grappling with the tower immediately before you, raising himself with wondrous skill foot by foot, and hear the scratching and shifting of his bootnails on the rock as he gains each fearful inch. It is perfectly true that the strength in which you exult so much is that of the two large peasants, who, with excitable cries in *patois*, are communicating to each other their very uncomplimentary opinion of the rocks and of your own powers as a climber, and preparing to pull you, as a sack of oats, with a painful sense of construction in the stomach, up the rocks which the leader has surmounted, in spite of your entreaties to be allowed to do it without help. "*Herr Gesu*," said my master on the little Dru, "*Sie sagen immer* '*Ich komme gleich*,' *und Sie kommen nicht. Jeszt mussen Sie kommen*," and with a vigorous haul I accomplish ten feet of ascent. But when you reach green grass again all the moral support will have been forgotten in the flush of victory, and by the time the Bouvier flows, you will be a hero in your own eyes, in those of your female relatives, and on the tongues of those expert flatterers who despised you so heartily a few hours ago.

Their point of view is a singularly complex one; the or-

dinary guide is as brave as a Boer, and his bravery has many of the same peculiarities. He has very little sense of sport; he is ever conscious of the desperate danger of his calling, and, while he is willing and anxious to meet any risk which comes in the necessary course of events, he has the greatest contempt for the man who seeks the bright eyes of dangers for their own sake. He is a bit of a fatalist. "See," said one, as we brought down the bodies of a party who had died in a place as simple as Piccadilly, "death can come as easily on a light mountain as a difficult one." And again, when the French guides bungled at their task: "Those Arolla men know nothing of accidents; for me, when a man is once dead, I will carry him as soon as a sheep," and so saying he put one of the things on his head and strode down into the valley to where the mules waited for their burden.

A guide of experience will tell you that there are only three dangers in mountaineering: falling stones, sudden bad weather and the tourist. And of these three he regards the last with the most suspicion, and with good reason. Ordinary foresight can immensely reduce the risk of being caught in a storm; you can avoid falling stones by the simple process of not going where they fall; but nothing can guard against the eccentricities of the brilliant climber. The novice is a source of danger because he goes slowly, tires the party out, and because he upsets stones on to the heads of those below; but he is not more likely to slip than the piece of luggage which he represents in his guides' mind, and, if he did, he would be held instantly, so closely is he watched. But the man with enough experience to have ideas of his own on difficulties and enough technical skill to master them unaided, is a constant anx-

iety. He will move when he ought to stay quiet; he insists on risky experiments; he resents the pressure of the rope when it is necessary for the safety of the whole party; he refuses help in times of stress. This, above all, is a state of mind incomprehensible to the guide, who always takes a pull if he wants it from his leader, and sometimes from an amateur.

I am always tempted to dwell at length upon the characteristics of the guide, because they seem to me to be very opposite to those usually attributed to him. When you first see him, a fine big man, rough in manner but with much charm and *savoir-faire;* when you first adventure yourself with him on such perilous passages as the Mer de Glace from the Montanvert to the Chapeau, or the desperate glories of the Breithorn; when, sick and weary from your first real expedition, he coaxes you to eat and half carries you into the valley; when your jokes are greeted with uproarious applause; when you are told you go like a chamois and will soon equal the feats of Herr Whymper or Herr "Momery," you begin to think him "a thin red 'ero" with a fine eye for a man and a nice discernment of character. And when your acquaintance progresses and you find your comrade is saying the same thing to your neighbour at *table d'hôte*, who is, as you know, a shirker and a humbug; when Johann or Peter or Heinrich snores in a horrible fashion in the hut and likes to carry the brandy flask and turns out a shrewd fellow at a bargain; above all, when, like a good tutor, he begins to pay you the greatest compliment a guide can pay and ceases to compliment at all, you begin to wonder whether he is not a bit of a blackguard. In truth, he is neither 'ero nor blackguard, but a married man in rough Saas homespun, woven by Mrs. Johann, most

remarkable like any other peasant. He is of a saving turn of mind, for he has several children already and one more every year. He has a sheep or two, a cow or two, and a floor with several rooms in the big wooden house down by the bridge on the path to Findelen, which he built in company with his brothers and brothers-in-law in the winter with his own hands, having some mysterious rights to the land from his position in the Gemeinde and buying the materials out of his first two seasons' savings as a fashionable guide. He is, or ought to be, insured in the Zurcher Versicherungs Verein, with the assistance of the Swiss Alpine Club for the sum of 4,000 francs. His chief delight is to hang large decorated cow-bells round the necks of his best cows, and, if you take him to Chamouni, he will buy them there, and then carry them with infinite labour over passes and peaks until he reaches Swiss territory again, so that if you chance to run down to Orsières you go accompanied by music from his knapsack, like the fine lady of Banbury Cross. His anxiety is to escape military service until September is half gone, and the climbing season with it; and then, with the first sign of real bad weather, he goes quietly down to Sion, with the *gen d'arme*, who has been awaiting his convenience for many days in the *trink-halle*, surrenders to the authorities, and does his fortnight's prison, hoping, if he is very lucky indeed, that there may be fine weather and a stray tourist in October when he comes home again. He is extraordinarily peaceful by disposition, even in his cups, and, on the whole, extraordinarily sober; for though there is said to be a great deal of drinking in Zermatt, in the winter, and there certainly is among Oberlanders at all times, yet I have in the course of about 200 expeditions, great and small, only once been out with a

guide who was really drunk, and he, though he bore a German name, came from an Italian valley.

Mountains are no more insensible than the Master himself of the beauty of the view from the lagoon of the "wilderness of misty precipices fading far back into the recesses of Cadore," but to write of it needs the hand of the Master himself and "it needs heaven-sent moments for the skill." Mountains seem so elusive, their colours, even their shapes, so evanescent, that the memory retains rather an impression than a photograph; and the efforts of the greatest to transfer the results to canvas or to paper have alike failed. Hence, perhaps, a somewhat boisterous merriment; a lack of form in writings which have come into being as the result rather of high spirits than of a melancholy delight in words; and a shutting of the door upon those æsthetic emotions, which we have not felt ourselves worthy to unbar. Yet because we have lost the first fine careless rapture of the young ladies' school, who gaze for the first time upon the Mer de Glace, we must not be supposed to be blind or soulless. Like most English people we are a diffident folk and consider any emotion vulgar which is shared by any one else.

But we have our treasures of the past though we fear to show them. Who that has ever seen them can forget the San Martino giants—huge yet unsubstantial—glimmering at sunrise, like ghosts, over woods as dark and meadows as fresh as those can only be which slope towards Italy; the sudden uprising of the western world, peak after peak, spearhead after spearhead, like the waves of the sea in tumultuous order, terrible as an army with banners, as your head reaches at length the ridge before you, and instead of the snow slope and the shadow which you have seen so long, you gaze over

the watershed of the Western Pennines; the kingdoms of the earth and the fulness thereof spread out before you; green and hot to the Jura, deep and cool to the Little St. Bernard, from Mont Blanc himself; the great circle of the wall which keeps in Italy seen from the Engadine Mountains in a half-moon with Monte Rosa at the end literally "hanging there" over in the haze; above all, perhaps, the limitless space of the same plane from the Central Pennines, fading away to a darker line, perhaps with a high light of silver, which is the Apennines, while in the middle distance a tremulous grey cloud is Maggiore, and you can almost believe the fancy which tells you that the brighter spot is Milan, sparkling like a grain of salt.

To such a day succeeds the incomparable pomp of eve, and when the sun has passed down into the tangles of the French foothills, and the peaks, each a separate sun now he is gone, have burnt out in turn, one by one, through every variety of colour, night, marching slowly but visibly from a hundred miles away, hushes the streams and hangs her own jewels in the heavens. You have at once a darkness and a brilliancy which you have learned to associate only with the tropics. The shadows are blacker for you, and the stars closer for the plain-dwellers, and night, "doth like an Æthiop bride appear." Very reluctantly you knock out your last pipe and creep into your blanket, leaving the moon full over the Ruitor.

But the dark days have their triumphs, too, when a cloud is snatched away for an instant as a garment and you see the next tower on the ridge, fantastic, horrible; or the Matterhorn, or the Dru, suddenly reveals itself from base to summit, as detached from earth to heaven, majestic in the mist.

THE FIRST ASCENT OF THE MATTERHORN

EDWARD WHYMPER

WE started from Zermatt on the 11th of July at 5:30 A. M. on a brilliant and perfectly cloudless morning. We were eight in number—Croz, old Peter and his two sons, Lord F. Douglas, Hadow, Hudson, and I. To ensure steady motion, one tourist and one native walked together.

On the first day we did not intend to ascend to any great height, and we mounted accordingly very leisurely; picked up the things that were left in the chapel at the Schwarz See at 8:30 and proceeded thence along the ridge connecting the Hörnli with the Matterhorn. At 11:30 we arrived at the base of the actual peak; then quitted the ridge, and clambered round some ledges, on to the eastern face. We were now fairly upon the mountain, and were astonished to find that places which from the Riffel, or even from the Furggengletscher, looked entirely impracticable, were so easy that we could *run about.*

Before noon we had found a good position for the tent at a height of 11,000 feet. Croz and young Peter went on to see what was above, in order to save time on the following morning. We others made a solid platform for the tent in a well-protected spot, and then watched eagerly for the return of the men. Their report was: "Nothing but what

THE MATTERHORN

was good; not a single difficulty! We could have gone to the summit and returned to-day easily!"

We passed the remaining hours of daylight—some basking in the sunshine, some sketching and collecting; and when the sun went down, giving, as it departed, a glorious promise for the morrow, we returned to the tent to arrange for the night.

We assembled before dawn on the 14th, and started directly it was light enough to move. We followed the route of the previous day, and in a few minutes turned the rib which had intercepted the view of the eastern face from our tent platform. The whole of this great slope was now revealed, rising for 3,000 feet like a huge natural staircase. Some parts were more and others less easy; but we were not once brought to a halt by any serious impediment, for when an obstruction was met in front, it could always be turned to the right or left. For the greater part of the way, there was indeed no occasion for the rope; and sometimes Hudson led, sometimes myself. At 6:20, we had attained a height of 12,000 feet and halted for half an hour; we then continued the ascent without a break until 9:55, when we stopped for fifty minutes, at a height of 14,000 feet. Twice we struck the north-east ridge, and followed it for some little distance—to no advantage for it was usually more rotten and steep, and always more difficult than the face. Still, we kept near to it lest stones perchance might fall.

We had now arrived at the foot of that part which, from the Riffelberg, or from Zermatt, seems perpendicular or overhanging, and could no longer continue upon the eastern side. For a little distance we ascended by snow upon the ridge descending towards Zermatt, and then, by common consent, turned over to the right, or the northern side.

Before doing so we made a change in the order of ascent. Croz went first, I followed, Hudson came third; Hadow and old Peter were last. "Now," said Croz as he led off, "now for something altogether different." The work became difficult and required caution. In some places, there was little to hold, and it was desirable that those should be in front who were least likely to slip. The general slope of the mountain at this part was less than 60°, and snow had accumulated in, and had filled up the interstices of the rock-face, leaving only occasional fragments projecting here and there. These were at times covered with a thin film of ice, produced by the melting and refreezing of the snow. It was a place over which any fair mountaineer might pass in safety.

This solitary difficult part was of no great extent. We bore away over it at first, nearly horizontally, for a distance of about 400 feet; then ascended directly towards the summit for about sixty feet; and then doubled back to the ridge which descends towards Zermatt. A long stride round a rather awkward corner brought us to snow once more. The last doubt vanished! The Matterhorn was ours! Nothing but 200 feet of easy snow remained to be surmounted. The slope eased off: at length we could be detached, and Croz and I, dashing away, ran a neck and neck race which ended in a dead heat. At 1:40 P.M., the world was at our feet, and the Matterhorn was conquered.

The others had arrived, so we went back to the northern end of the ridge. Croz now took the tent-pole, and planted it in the highest snow. "Yes," we said, "there is the flag-staff but where is the flag?" "Here it is," he answered, pulling off his blouse and fixing it to the stick. It made a poor flag, and there was no wind to float it out, yet

it was seen all around. They saw it at Zermatt—at the Riffel—in the Val Tournanche.

We returned to the southern end of the ridge to build a cairn, and then paid homage to the view. The day was one of those superlatively calm and clear ones which usually precede clear weather. The atmosphere was perfectly still, and free from all clouds or vapours. Mountains fifty—nay a hundred—miles off looked sharp and near. All their details—ridge and crag, snow and glacier—stood out with faultless definition. All were revealed—not one of the principal peaks of the Alps was hidden. I see them clearly now—the great inner circle of giants, backed by the ranges, chains and *massifs*. First came the Dent Blanche, heavy and grand; the Gabelhorn and pointed Rothhorn; and then the peerless Weisshorn; the towering Mischabelhörner, flanked by the Allaleinhorn, Strahlhorn, and Rimpfischhorn; then Monte Rosa—with the many Spitzes—the Lyskamm and the Breithorn. Behind was the Bernese Oberland governed by the Finsteraarhorn, and then the Simplon and St. Gothard groups; the Disgrazia and the Orteler. Towards the south, we looked down to Chivasso on the plain of Piedmont, and far beyond. The Viso—one hundred miles away—seemed close upon us; the Maritime Alps—one hundred and thirty miles distant—were free from haze. Then came my first love—the Pelvoux; the Ecrins and the Meije; the clusters of the Graians; and lastly, in the west, gorgeous in the full sunlight, rose the monarch of all—Mont Blanc. Ten thousand feet beneath us were the green fields of Zermatt, dotted with *châlets*, from which blue smoke rose lazily. Eight thousand feet below, on the other side, were the pastures of Breil. There were black and gloomy forests, bright and cheerful meadows;

bounding waterfalls and tranquil lakes; fertile lands and savage wastes; sunny plains and frigid *plateaux*. There were the most rugged forms, and the most graceful outlines —bold perpendicular cliffs, and gentle undulating slopes; rocky mountains and snowy mountains, sombre and solemn, or glittering and white, with walls—turrets—pinnacles—domes—cones—and spires! There was every combination that the world can give, and every contrast that the heart could desire.

We remained on the summit for one hour. It passed away too quickly, and we began to prepare for the descent.

Hudson and I again consulted as to the best and safest arrangement of the party. We agreed that it would be best for Croz to go first, and Hadow second; Hudson, who was almost equal to a guide in sureness of foot, wished to be third; Lord F. Douglas was placed next, and old Peter, the strongest of the remainder, after him. The party was being arranged in the above order whilst I was sketching the summit, and they had finished, and were waiting for me to be tied in line, when some one remembered that our names had not been left in a bottle. They requested me to write them down, and moved off while it was being done.

A few minutes afterwards I tied myself to young Peter, ran down after the others, and caught them just as they were commencing the descent of the difficult part. Great care was being taken. Only one man was moving at a time; when he was firmly planted the next advanced, and so on. For some little distance, we two followed the others, detached from them, and should have continued so had not Lord F. Douglas asked me, about 3 P. M., to tie on to old Peter, as he feared, he said, that Taugwalder would not be able to hold his ground if a slip occurred.

A few minutes later, a sharp-eyed lad ran into the Monte Rosa hotel saying that he had seen an avalanche fall from the summit of the Matterhorn on to the Matterhorngletscher. The boy was reproved for telling idle stories: he was right, nevertheless, and this is what he saw.

Michel Croz had laid aside his axe, and in order to give Mr. Hadow greater security, was absolutely taking hold of his legs, and putting his feet one by one, into their proper positions. As far as I know, no one was actually descending. I cannot speak with certainty, because the two leading men were partially hidden from my sight by an intervening mass of rock, but it is my belief, from the movements of their shoulders, that Croz, having done as I have said, was in the act of turning round to go down a step or two himself; at this moment Mr. Hadow slipped, fell against him, and knocked him over. I heard one startled exclamation from Croz, then saw him and Mr. Hadow flying downwards; in another moment Hudson was dragged from his steps, and Lord F. Douglas immediately after him. All this was the work of a moment. Immediately we heard Croz's exclamation, old Peter and I planted ourselves as firmly as the rocks would permit; the rope was taut between us, and the jerk came on us both as one man. We held, but the rope broke midway between Taugwalder and Lord F. Douglas. For a few seconds, we saw our unfortunate companions sliding downwards on their backs, and spreading out their hands, endeavouring to save themselves. They passed from our sight uninjured, disappeared one by one, and fell from precipice to precipice on to the Matterhorngletscher below, a distance of nearly 4,000 feet in height. From the moment the rope broke, it was impossible to help them.

So perished our comrades! For the space of half-an-hour we remained on the spot without moving a single step. The two men, paralyzed by terror, cried like infants, and trembled in such a manner as to threaten us with the fate of the others. At last old Peter summoned up courage, and changed his position to a rock to which he could fix the rope; the young man thus descended, and we all stood together.

For more than two hours afterwards, I thought almost every moment that the next would be my last; for the Taugwalders, utterly unnerved, were not only incapable of giving assistance, but were in such a state that a slip might have been expected of them at any moment. After a time, we were able to do what should have been done at first, and fixed rope to firm rocks, in addition to being tied together. These ropes were cut from time to time and left behind. Even with their assurance the men were sometimes afraid to proceed, and several times old Peter turned with ashy face and faltering limbs, and said with terrible emphasis, "I cannot!"

About 6 P. M., we arrived at the snow upon the ridge descending towards Zermatt, and all peril was over. We frequently looked, but in vain, for traces of our unfortunate companions; we bent over the ridge and cried to them, but no sound returned. Convinced at last that they were neither within sight nor hearing, we ceased from our useless efforts; and, too cast down for speech, silently gathered up our things, and the little effects of those who were lost, preparatory to continuing the descent. When lo! a mighty arch appeared, rising above the Lyskamm, high into the sky. Pale, colourless and noiseless, but perfectly sharp and defined, except where it was lost in the clouds, this un-

earthly apparition seemed like a vision from another world; and, almost appalled, we watched with amazement the gradual development of two vast crosses, one on either side. If the Taugwalders had not been the first to perceive it, I should have doubted my senses. They thought it had some connection with the accident, and I, after a while, thought it might bear some relation to ourselves. But our movements had no effect upon it. The spectral forms remained motionless. It was a fearful and wonderful sight; unique in my experience, and impressive beyond description, coming at such a moment.

I tore down the cliff, madly and recklessly, in a way that caused the others to inquire if I wished to kill them. Night fell; and for an hour the descent was continued in the darkness. At 9:30 P. M. a resting-place was found, and upon a wretched slab, barely large enough to hold the three, we passed six miserable hours. At daybreak, the descent was resumed, and from the Hörnli ridge we ran down to the *châlets* of Buhl, and on to Zermatt. Ere long a score of men had started to ascend the Hornlicht heights; they returned after six hours and reported that they had seen the bodies lying motionless in the snow. . . .

We started at 2 A. M. on Sunday. By 8:30, we had got to the plateau at the top of the glacier, and within sight of the corner in which we knew my companions must be. We approached. They had fallen below as they had fallen above—Croz a little in advance, Hadow near him, and Hudson some distance behind; but of Lord F. Douglas we could see nothing. We left them where they fell; buried in the snow at the base of the grandest cliff of the most majestic mountain of the Alps.

The administration sent strict injunctions to recover the

bodies, and upon the 19th of July, twenty-one men of Zermatt accomplished that sad and dangerous task. Of the body of Lord Francis Douglas they too saw nothing; it is probably still arrested on the rocks above. The remains of Hudson and Hadow were interred upon the north side of Zermatt church in the presence of a reverent crowd of sympathizing friends. The body of Michel Croz lies upon the other side under a simpler tomb; whose inscription bears honourable testimony to his rectitude, to his courage and to his devotion.

MONT BLANC

SIR WILLIAM MARTIN CONWAY

IT was eight o'clock on as bright a morning as one could desire, when we left Courmayeur to cross Mont Blanc to Chamouni. We walked leisurely through a pine wood, whose trees framed the loveliest glimpses of the Géant and Grandes Jorasses. The path mounted steadily. Unusual heat caused a high mist to form, wherein the peaks became hourly fainter and less substantial, till rock and sky partook of the same transparency. Round a corner, the stone covered foot of the Miage glacier appeared, filling all the breadth of the valley with some splintered rocky points standing beyond it. In two hours we halted for lunch at the cantine of La Visaille. Then we went forward through the flowery meadow beyond. The path led up the old Miage moraine, where young trees are now growing beside the stream that drains the Combal Lake. It is a pretty winding path, and brought us, all too soon, to the lake's margin and the open ground above. Here we bore to the right, over grass, and came again to the foot of the glacier's existing moraine, where it sweeps round in a noble curve out of the deep Miage valley. We climbed to the crest and entered on the stone-covered ice at a moundy and disagreeable place.

Two hours above La Visaille we halted for a second lunch in the midst of the gently-sloping glacier. As we

faced down it, the spotty pyramid of Mont Favre was before us, the *couloired* slopes of Trélatête on our right hand, and the crags of Brouillard on our left. Looking up towards the Col de Miage, we identified the ice-cascades whereby the snows that fall on the south-west slopes of Mont Blanc empty their three fine glaciers into the Miage basin. Nearest to us was the Mont Blanc glacier, which falls from the crest between the Bosses du Dromedaire and Mont Blanc de Courmayeur. Next, and separated from it by the buttress called Rocher du Mont Blanc, was the Dôme glacier. Last came the Bionnassay glacier, whose sides are the Aiguilles Grises and the ridge joining the Aiguille de Bionnassay to the Col de Miage.

To save another halt, we put on our *pattis* and gaiters before starting; in half an hour we came to the clear ice, and five minutes later we were wading soft snow, through which impeded streams of water soaked their disagreeable way. We welcomed a crevassed bit of glacier, though it, too, was so deeply snow-covered that the bridges were disguised. Beyond, we gained the left bank of the glacier, and mounted it, traversing eastwards over slopes of avalanche snow, down which things of all sorts fell. One wet little avalanche came our way but did no harm. Later in the season, we should have followed a footpath; but now it was only higher up, as we turned over the ridge into the basin of the Dôme glacier, that the path emerged from its winter covering. Here we found an overhanging rock and a built-up sheltering wall of dry stones, the old sleeping-place, now abandoned for the admirable Italian Club-hut which comes into view almost at this point. The rough path continued for a while, leading to a snow-slope and a *couloir*, both swept at this season by little avalanches;

CHAMOUNIX AND MONT BLANC

but the afternoon shadow was already over them and only one or two stones fell. We entered the door of the hut without adventure in less than seven hours of easy walking from Courmayeur.

This hut is the best I have seen outside the Tyrol. It is built wholly of wood, draughtlessly joined together. Doors, shutters, and windows fit. The furniture and implements are strong and sufficient. The fire draws and the chimney does not smoke. The place is superbly situated. Over against it, and higher up, the Sella hut was in view on the Rocher du Mont Blanc, half buried in snow. There was plenty of snow around us, too. Carrel pointed out where, the year before, when he was with Mr. Whymper, they pitched their tent on a flat platform. It was now a steep snow-slope across which we had to cut a way. Then, he said, the traverse to the plateau of the Dôme glacier lay almost entirely over rocks; now it would involve continuous steps, and we sent him and Amar Sing to make them while the snow was soft. While supper was preparing, and the evening was drawing on, I sat outside the little hut and studied its wonderful and interesting surroundings. Northward the upper basin of the Dôme glacier was admirably displayed in all its steep descent to the fine ice-fall plunging from our feet. I traced the many variations of route by which this so slowly elaborated ascent has been made.

If our chief interest lay to the north, south-eastward, down the glacier, was the direction of beauty. On the one side, the crags of the Rocher du Mont Blanc were bathed in warm light; on the other, the riven wall of Trélatête was merged in shadow and only the snow-crest above flashed back the radiance of the lowering sun. The stone-

covered floor of the glacier lay dark in gloom, but a band of light still touched the Combal Lake. Favre's pyramid divided the distance, wherein the Ruitor's snows were prominent and white Sassière's point rose above the clouds. Presently mountains and clouds were alike bathed in pink which in its turn faded away. Finest of all was the view by night, when the moon crowned Trélatête with silver and touched the crest of Bionnassay's topmost ridge, but left in mysterious shadow the rock-wall opposite us and the deep valley, whilst away in the far distance faint suggestions of peaks and snows and softest clouds, floating in light-permeated air, received from the bold foreground an intensified delicacy.

By one o'clock the guides were stirring. A few minutes after two we were on our way. It took but a short quarter of an hour to follow the steps made by Carrel in the evening, which the frost had turned into a staircase as of rock. Thus we emerged upon an easy snow-slope, whilst the moon, already in its last quarter, hung on the crest of the Rocher du Mont Blanc. For some distance above us the glacier was cut across by walls of ice with slopes of avalanche *débris* between, up which we wound to turn obstacles as they came. Step-cutting was almost continuously required, but the slopes were not steep and small chips sufficed. The dim light of future day soon rendered our lanterns useless. Greys and faint purples began to overspread the distant view; then dawn swept her rosy wing over all and the golden day appeared, full armed, on the margin of the east.

As the slopes became steeper and step-cutting more laborious and slow, there was time to look about and note the value of the regular pyramid of Mont Favre standing

out before the white sweeps and scoops of more distant mountains. But the eye seldom wandered so far afield; close at hand were objects of fascinating beauty. We were passing between cavernous blue crevasses, and *schrunds* half-opening their icicle eye-lids to the heavens. Cold curdled *névé* poured down on all sides between jutting walls of splintered rock. Sometimes we mounted ruins of avalanches using the frozen balls as helpful steps. Then we came to a hard slope where the whispers of baby breezes were silenced by the crunch of Carrel's axe. On the furthest southern horizon domed clouds were rising in upward air-currents, like great plane-trees. At last only one glacier rift, though it was fifty yards wide at least and more like a valley than a *schrund*, remained to be turned, before easy snow-slopes, interrupted by two insignificant *bergschrunds*, offered kindly access to the *col* on the *arête* joining the Aiguille Grise to the Dôme du Goûter's southward ridge. After three hours of ascent up the glacier we halted for breakfast fifteen minutes below this *col*.

A cold wind caught us on the ridge, but at first we hardly noticed it, for we were warm with walking, and the view was grand. Divinely blue was the glimpse we caught of Geneva Lake, whilst all the lower hills spread beneath a purple haze. Dauphiny, too, saluted us, and the country through which we had come—Ruitor and Sassière, Grand Paradis, Levonna and Grand Casse, Monte Niso, and ranges more remote.

A comfortable broad snow *arête* led in a few minutes to the point of junction with that from the Aiguille de Bionnassay, whose slender edge trended gracefully away. In three-quarters of an hour we reached the narrow crest, whence, by a sudden breaking storm, Count Villanova and his guides

were blown to swift destruction, so that their bodies have since remained undiscovered in the depth of the glacier below. But to-day, though the wind was cold and strong, it was not too strong for safety. Besides, truth to tell, the *arête* at its narrowest is not really narrow. Had we not heard of its fame we should have passed it unnoticed.

As the morning advanced, the atmosphere grew more dense with vapour and more rich in hue. Flocks of tiny oval clouds grazed the green hills. The Lake of Geneva was lost beneath a purple pall. The snow sometimes gave place to ice, which delayed our advance and made step-cutting laborious, and this was especially the case when we reached the flank of the Dôme. There too the wind rose and smote us fiercely, when, in an hour and a quarter from the Col de Bionnassay, we emerged on the broad saddle by the Dôme, twenty minutes below Monsieur Vallot's huts. There are two of these, one built for the use of climbers, the other for the owner's accommodation and observatory. Some excellent scientific work has already been accomplished here. It looks a more business-like affair than the hut on the summit of the peak, built in imitation of it by M. Jansen, and which could scarcely have been built at all but for the accommodation provided for the workmen by the Vallot hut. M. Vallot is therefore evidently within his rights when he claims to be the pioneer in the matter of Mont Blanc observatories.

We sheltered awhile behind the *cabane* and quitted our baggage there, when Karbir, Aymonod and I started to cut steps up the exposed ridge of the Bosses, leaving the others to follow at their warmth and leisure.

Karbir led to the summit and did all the cutting quickly and well. We had no predecessor's tracks to abbreviate

our toil. The area of the view steadily enlarged, but the amount of visible earth diminished under the cloud-flocks, which gathered themselves into beautiful lines, long drawn out, one beyond another.

It was just noon when we stood on the top, arriving there all together. The first thing we looked at was not Europe at our feet, but M. Jansen's hut—a dreadful disfigurement. The last time I was here, the surface of the snowy dome was one unbroken curve of snow, aloof from man. Now man has rooted the evidences of his activity deep into the icy mass and strewed its surface with shavings and paper, so frozen down that the storms of the whole year have not sufficed to remove them. I cannot however say that we felt any resentment against the hut-builders, for we took shelter behind the observatory from the blasts of the cold gale.

The panorama was complete and included the Pennine and Oberland ranges besides those we had already seen. It was however the clouds that fascinated us most, the flocks of little ones on the hills at our feet and the lines of soft white billows as it were breaking far away on a wide and shallow shore, with blue between and beneath them. Far to the south, creamy in sunlight and distance, rose domed *cumuli* above the Maritimes. Everything looked still, and yet, I suppose, the wind was really hurrying along the air and whatever floated within it. The sky for a quarter of its height had parted with its azure to the valley-deeps and was striped all round with finest lines, incredibly numerous, like the lines in a wide-stretched solar spectrum, and each edging a new grade of tone.

We ran in half an hour back to the Vallot hut, picked up our things, and made off for Chamouni. As we dipped

to the Grand Plateau, the snow began to be soft, but it never became really bad. We turned the crevasse below the Plateau by its left end, ran easily down the slope called Grandes Montées, and hurried across the Petit Plateau, where men have lost their lives and will again lose them in the ice-avalanches that from time to time tumble from the Dôme du Goûter's cliffs and sweep the whole breath of the traversable way. The steep snow-slope of the Petites Montées was too soft to be glissaded; down it we had to wade and then find our way through the crevassed region that intervenes between it and the Grands Mulets. Here, with no tracks to guide us, we might have lost some time, but our men were skilful and fortunate, so that, in an hour and three-quarters from the Vallot hut, we reached the edge of the rocks by the well-known Grands Mulets *cabane* and were rejoiced to find it occupied.

Clouds were boiling up from the valleys, but they left Mont Blanc clear. One copper-coloured tower of mist rose before us in splendidly threatening manner, and the sunlight turned lurid in its depths. The air was everywhere heavy with moisture and the Brévent ridge was so softened by it that mountains, clouds and mist faded into one another as though fashioned of one insubstantial medium. The sun turned ghostly pale, shining through a bleared sky, and over ghostly ridges into the veiled valley below.

At last, to avoid being benighted, we started down once more, following the tracks of the porters who bring things to the hut. They were unskilfully laid out, and took us into dangerous places, first down a slope of *sérac débris*, overhung by tottering masses of ice, and then through a series of rotten *séracs* and across the easy but deeply snow-covered Glacier des Bossons.

At the far side is a well-known dangerous place where ice and stones fall from the hanging glacier of the Aiguille du Midi. We were in no mood to linger hereabouts, for it sweeps with stones the whole place more or less, and this was the time of year for them to come, and the hour too, after a hot day with plenty of snow melting and slipping everywhere. One or two stones fell during the ten minutes that intervened before we reached the Pierre à l'Echelle. Below that we had several good glissades before turning away to the right by the path that led in ten minutes more to the Pierre Pointue, where our adventures ended.

The sun poured a final stream of red upon us, then sank behind a hill, whilst we zigzagged in the woods towards the valley-floor that seemed not to approach. There are lovely woods and the path is beautiful, offering every variety of foreground and frame for the changing distant views. But now our senses were becoming dulled to beauty, and our minds had sunk into the heaviness of our feet. It was night when we reached the valley road. We followed it in darkness towards the lamps of Chamouni and the comfortable quarters of Couttet's Hotel.

THE JUNGFRAU

JOHN TYNDALL

ON August 6th (1863), I had the pleasure of joining Dr. Hornby and Mr. Philpotts, who, with Christian Almer and Christian Lauener for their guides, wished to ascend the Jungfrau. We quitted the Æggischhorn at 2:15 P. M., and at less than four hours reached the grottoes of the Faulberg. A pine fire was soon blazing, a pan of water soon bubbling sociably over the flame and the evening meal was quickly prepared and disposed of. For a time, the air behind the Jungfrau and Monk was exceedingly dark and threatening, rain was streaming down upon Lauterbrunnen, and the skirt of the storm wrapped the summits of the Jungfrau and the Monk. Southward, however, the sky was clear; and there were such general evidences of hope that we were not much disheartened by the local burst of ill-temper displayed by the atmosphere to the north of us. Like a gust of passion, the clouds cleared away, and before we went to rest all was sensibly clear. Still the air was not transparent, and for a time the stars twinkled through it with a feeble ray. There was no visible turbidity, but a something which cast off half the stellar brilliancy. The starlight, however, became gradually stronger, not on account of the augmenting darkness, but because the air became clarified as the night advanced.

Two of our party occupied the upper cave, and the guides took possession of the kitchen, while a third lay in

THE JUNGFRAU

the little grot below. Hips and ribs felt throughout the night the pressure of the subjacent rock. A single blanket, moreover, though sufficient to keep out the pain of cold, was insufficient to induce the comfort of warmth; so I lay awake in a neutral condition, neither happy nor unhappy, watching the stars without emotion as they appeared in succession above the mountain-heads.

At half-past twelve a rumbling in the kitchen showed the guides to be alert, and soon afterwards Christian Almer announced that tea was prepared. We rose, consumed a crust and basin each, and at 1:15 A. M., being perfectly harnessed, we dropped down upon the glacier. The crescent moon was in the sky, but for a long time we had to walk in the shadow of the mountains, and therefore required illumination. The bottoms were knocked out of two empty bottles, and each of these, inverted, formed a kind of lantern which protected from the wind a candle stuck in the neck. Almer went first, holding his lantern in his left hand and his axe in the right, moving cautiously along the snow, which as the residue of the spring avalanches, fringed the glacier. At times, for no apparent reason, the leader paused and struck his ice-axe into the snow. Looking right or left, a chasm was always discovered in these cases, and the cautious guide sounded the snow, lest the fissure should have prolonged itself underneath so as to cross our track. A tributary glacier joined the Aletsch from our right—a long corridor filled with ice, and covered by the purest snow. Down this valley the moonlight streamed, silvering the surface upon which it fell.

Here we cast our lamps away, and roped ourselves together. To our left a second long ice-corridor stretched up

to the Lötsch saddle, which hung like a chain between the opposing mountains. In fact, at this point, four noble ice-streams form a junction, and flow afterwards in the common channel of the Great Aletsch glacier. Perfect stillness might have been expected to reign upon the ice, but even at that early hour the gurgle of sub-glacial water made itself heard, and we had to be cautious in some places lest a too thin crust might let us in. We went straight up the glacier, towards the *col* which links the Monk and Jungfrau together. The surface was hard, and we went rapidly and silently over the snow. There is an earnestness of feeling on such occasions which subdues the desire for conversation. The communion we held was with the solemn mountains and their background of dark blue sky.

"*Der Tag bricht!*" exclaimed one of the men. I looked towards the eastern heaven, but could discover no illumination which hinted at the approach of day. At length the dawn really appeared, brightening the blue of the eastern firmament; at first it was a mere augmentation of cold light, but by degrees it assumed a warmer tint. The long uniform incline of the glacier being passed, we reached the first eminences of snow which heave like waves around the base of the Jungfrau. This is the region of beauty in the higher Alps—beauty pure and tender—out of which emerges the savage scenery of the peaks. For the healthy and the pure in heart these higher snow fields are consecrated ground.

The snow bosses were soon broken by chasms deep and dark, which required tortuous winding to get round them. Having surmounted a steep slope, we passed to some red and rotten rocks, which required care on the part of those in front to prevent the loose and slippery shingle from falling

upon those behind. We gained the ridge and wound along it. High snow eminences now flanked us to the left, and along the slope over which we passed, the *séracs* had shaken their frozen boulders. We tramped amid the knolls of the fallen avalanches towards a white wall which, so far as we could see, barred further progress. To our right were noble chasms, blue and profound, torn into the heart of the *névé* by the slow but resistless drag of gravity on the descending snows. Meanwhile the dawn had brightened into perfect day, and over mountains and glaciers the gold and purple light of the eastern heaven was liberally poured. We had already caught sight of the peak of the Jungfrau, rising behind an eminence and piercing for fifty feet or so the rosy dawn. And many another peak of stately altitude caught the blush, while the shaded slopes were all of a beautiful azure, being illuminated by the firmament alone. A large segment of space enclosed between the Monk and Trugberg was filled like a reservoir with purple light. The world, in fact, seemed to worship, and the flush of adoration was on every mountain-head.

Over the distant Italian Alps rose clouds of the most fantastic forms, jutting forth into the heavens like enormous trees, thrusting out umbrageous branches which bloomed and glistened in the solar rays. Along the whole southern heaven these fantastic masses were ranged close together, but still perfectly isolated, until on reaching a certain altitude they seemed to meet a region of wind which blew their tops like streamers far away through the air. Warmed and tinted by the morning sun, those unsubstantial masses rivalled in grandeur the mountains themselves.

The final peak of the Jungfrau is now before us, and apparently *so* near! But the mountaineer alone knows how

delusive the impression of nearness often is in the Alps. To reach the slope which led up to the peak we must scale or round the barrier already spoken of. From the coping and the ledges of this beautiful wall hung long stalactites of ice, in some cases like inverted spears, with their sharp points free in air. In other cases, the icicles which descended from the overhanging top reached a projecting lower ledge, and stretched like a crystal railing from the one to the other. To the right of this barrier was a narrow gangway, from which the snow had not yet broken away so as to form a vertical or overhanging wall. It was one of those accidents which the mountains seldom fail to furnish, and on the existence of which the success of the climber entirely depends. Up this steep and narrow gangway, we cut our steps, and a few minutes placed us safely at the bottom of the final pyramid of the Jungfrau. From this point we could look down into the abyss of the Roththal, and certainly its wild environs seemed to justify the uses to which superstition has assigned the place. For here it is said the original demons of the mountains hold their orgies, and hither the spirits of the doubly-damned among men are sent to bear them company. The slope up which we had now to climb was turned towards the sun; its aspect was a southern one, and its snows had been melted and recongealed to hard ice. The axe of Almer rung against the obdurate solid, and its fragments whirred past us with a weird-like sound to the abysses below. They suggested the fate which a false step might bring along with it.

The work upon this final ice-slope was long and heavy, and during this time the summit appeared to maintain its distance above us. We at length cleared the ice, and gained a stretch of snow which enabled us to treble our up-

ward speed. Thence to some loose and shingly rocks, again to the snow, whence a sharp edge led directly up to the top. The exhilaration of success was here added to that derived from physical nature. On the top fluttered a little black flag, planted by our most recent predecessors. We reached it at 7:15 A. M., having accomplished the ascent from the Faulberg in six hours. The snow was flattened on either side of the apex so as to enable us all to stand upon it, and here we stood for some time, with all the magnificence of the Alps unrolled before us.

We may look upon those mountains again and again from a dozen different points of view, a perennial glory surrounds them which associates with every new prospect fresh impressions. I thought I had scarcely ever seen the Alps to greater advantage. Hardly ever was their majesty more fully revealed or more overpowering. The colouring of the air contributed as much to the effect as the grandeur of the masses on which that colouring fell. A calm splendour overspread the mountains, softening the harshness of the outlines without detracting from their strength. But half the interest of such scenes is psychological: the soul takes the tint of surrounding nature, and in its turn becomes majestic.

ZERMATT AND MONTE ROSA

SIR WILLIAM M. CONWAY

THE narrow-gauge and, in places, cogged railway, carried us up to Zermatt. It is the fashion to abuse these improved mountain highways, a foolish fashion to my thinking. Before the Zermatt railway was made, 30,000 people annually visited the place. They had to walk or ride from Visp to S. Niklaus by the single mule-path, and their baggage had to be taken up by pack-animals. The foul condition into which the road was brought by the end of August can scarcely be conceived, and will never be forgotten by those who experienced it. For the sake of mere decency and cleanliness, some better system of transportation was needed. Now, I dare say, 60,000 or more persons are annually conveyed to Zermatt by train, but the traveller who desires a quiet country walk can follow the path on foot and will find it clean and almost deserted. Doubtless, an ordinary road would have served all needful purposes, but it could not be had. The short-sighted commune of Visp, to whom the lower part of the valley belongs, refused permission, thinking thus to retain a larger number of tourists for one night in their stifling village and to secure employment for their mules. Only a railroad concession, for which their assent was not required, could over-ride the village veto. The Vispachers are probably regretting their obstinacy, now that

MONTE ROSA

it has resulted in empty inns and unemployed beasts. A road would have made their fortune.

The crowds that flood Switzerland in the best season of the year only become endurable to mountain lovers when they are dammed into channels and controlled. They consist for the most part of glorified trippers—good folk of their sort, but not beautiful *en masse.* They have to be kept going from morning to night. With infinite docility, they follow from hour to hour the appointed path, ascending even in rain to points of view, and taking their luck, for the most part contentedly. It cannot be denied that the regular Swiss Round, which belongs to them, is admirably contrived, and includes the pick of easily accessible Alpine scenery. If unconventional and quiet-loving travellers are not robbed of it, they have to thank modern modes of transportation for their immunity. Every new hill-railroad, every recognized lunching-place, or Belvedere, becomes a further clamp that yet more irrevocably holds the crowd to its particular and narrow route. At Chamouni, for instance, if you shun *table d'hôte* and certain paths at certain hours, you need hardly see a tourist. They have their places and their times, and can be avoided now as a few years ago they could not be avoided.

We found Zermatt, if changed at all by the railway, changed for the better. It lost its pristine simplicity years ago, and was on a par with frequented watering-places before ever a locomotive-whistle raised the echoes of the valley. The coming of the railway has enabled the crowd to be better controlled and better supplied. Their hours of arrival and departure are now fixed: they flood in at one time and are distributed for food and sleep. They all start together for the Gorner Grat and they leave together at the

hour ordained. Of course, the resident population, by which I mean the visitors who come to stay, is no longer of the old type. A large proportion consists of invalids and old people who could never have reached Zermatt at all without the railway to bring them. There are fewer climbers, though perhaps ascents are more numerous, for multitudes undertake a scramble as an exceptional experience, who in the old days would not have dreamt of going on snow. There appear to be few or no *habitués*. The guides, who have greatly increased in numbers, complain that work is diminishing except during a few days in the height of the season.

Our intention in coming to Zermatt was to traverse the Matterhorn, but a single glance at the mountain showed it to be for the time inaccessible. Not a guide would stir for it at any price.

If the Matterhorn was closed, Monte Rosa was not; so we started after lunch on July 11th, 1894, and walked slowly up to the Riffelalp and on to the Riffelberg inn. A broad and well engineered mule-road has supplanted the old faint foot-track. The old Riffel inn is little changed.

Promptly at midnight, I was summoned from a deep delicious slumber. In half an hour, a hasty breakfast was despatched, and we were on our way, lighted by two flickering lanterns. There was no change in the weather, save that a broad bed of cloud lay across the south, and was piled high over the Theodul Pass. We marched steadily up the good path leading to the gap between the Riffelhorn and Gorner Grat. Beyond the gap, it traverses the broad hillside, and descends slowly to the Gorner glacier. It has of late been much improved, so that mules can follow it to the edge of the ice, a state of things very different from the old.

In a little more than half an hour we trod the ice. Night still reigned in its blackest hour. Nowhere was there visible promise of dawn. Over the Weissthor, the Pleiades were rising on the edge of the ice. The great mountains stood up dimly around, felt rather than seen. Our tread crunched the crisp honey-combed surface of the glacier; streamlets jangled past beneath us, or leapt into mills; the wind visited us in noisy puffs. Now and again a step had to be cut, and once the strained glacier burst across with a ringing sound at the point where Carrel's axe struck it, and a baby crevasse was formed.

We did not take the best way over the ice, and we remained on it too long, thus providing for ourselves difficulty in effecting an exit on to the moraine that borders the rocks called the Plattze at the foot of Monte Rosa. It was here that a new hut was building. The carefully made road to it, easily found by daylight, would have saved us trouble. Above the hut one mounts over rough crystalline rocks, rounded by the ancient glacier that covered them, and up a few snow-slopes to the highest rocks, called *Auf'm Felsen*, where we could extinguish the lanterns on halting for a brief meal.

Such halts for refreshment are among the best of mountain pleasures. They are generally made in the midst of fine scenery and at some period of the climb when a definite stage of the work has been accomplished, so that there is a sense of repose well earned. But this morning there was no pleasure in our halt. The wind was already howling about us. Shelter could not be found. The sky was overcast with leaden clouds which, hanging above or behind the mountains, seemed to depress them into little hills. Only in the blue, purple and grey chord of colour was there a

strange dignity and beauty of a threatening sort. We could hardly eat for shivering. Each put on whatever extra wrap he had and prepared to face the elements. At 4:15, we fastened ourselves to the rope and started again in grim humour.

The sun was just coming up, and pouring a golden flood of light beneath the roof of clouds. It caught their rippled undersurface and revealed a series of tiny parallel wavelets, formed by the hurrying wind. Great waves and umbrellas of cloud hung over most of the peaks. There was a pallor of death upon the snow which was hard as a wooden floor. We advanced rapidly over the region of hidden crevasses just above the Felsen, without need for cautious inquiry as to the strength of their roofs. Beyond came the snow-slopes of the beautiful Monte Rosa glacier, where, when the snow is soft, fatigue awaits the aspiring traveller.

The top of the mountain mass, which goes collectively under the name of Monte Rosa, that is to say "Monte Roese" or the "Glacier Mountain," is a long ridge with several peaks. The Nord End, as the name implies, is the most northerly and is on the frontier, then comes the highest point or Dufour Spitze. The Zumstein Spitze follows and then the Signal Kuppe, where the two great ridges intersect and form what ought to be the culminating point of the mountain. The Dufour Spitze is eighty-five feet higher than the Nord End. So slight a difference is not worth mentioning. As the Nord End is but rarely climbed and occupies to my thinking a finer situation than its neighbour, I determined to make it our goal. The route to it had this advantage that it was protected from the raging gale.

Accordingly, after mounting snow-slopes for an hour or so, we bore away to the left into the heart of the Monte

Rosa *névé*, instead of turning up to the right and climbing to the saddle, whence a rock- and snow-*arête* leads to the highest peak. The two highest summits are connected by a beautiful white ridge, called the Silber Sattel, the upper edge of a great snow-field, one of the loftiest in the Alps, where storms rage with unusual frequency, and the annual snow-fall is doubtless above the average. The Monte Rosa glacier drains this plateau. The descending *névé* breaks away in huge steps, each overhung by a wall of threatening ice. Avalanches break from these walls and their ruins encumber the slopes. The *schrunds*, ice-walls, and *séracs* of the Monte Rose *névé* are some of the finest in Europe.

Our original intention was to climb first to the Silber Sattel and then to the Nord End, but we could not see a way through the great crevasses, so we turned instead up the mountain's face and made for its north ridge, a route I took many years ago in company with that excellent guide Ferdinard Imseng, who met his death shortly afterwards on the Macugnaga side of the same mountain. In three hours and a half from our breakfast place, we reached the *bergschrund* at the foot of the face. It was not very quick going, but then we did not always choose the best route amongst the crevasses, and once we made a long descent below some tottering *séracs*, which would have been dangerous in the afternoon.

For a time the gale kept off the clouds. They remained high above the great peaks, and patches of blue sky were amongst them. The effect was wild and fine. As we crossed the *bergschrund* our spirits rose. "In an hour," said Aymonod, "we ought to be on the top." His axe went to work on the slope of hard snow, and step followed step in quick succession. At a pause, the word "ice" came down

the line. There was no mistake about it. It was as hard and blue as any I ever saw. Our rate of progress became slow in proportion. Each step had now to be hewn as out of rock. The higher we mounted, the stronger blew the wind. It bore a freezing cloud of fresh fallen snow, wherewith it filled the steps as we quitted them. The cold became intense; the fitful sunshine was scarcely felt. Fortunately I was wearing a new pair of Zermatt-made boots, and for the first time in my life knew what it was to be warmly shod. Three thicknesses of leather over the foot form a real protection. I kept asking the men about their state and all assured me they were right; but doubtless it was at this time the frost caught Amar Sing, though he did not discover that his toes were frost-bitten till the evening. Hour passed after hour and we scarcely seemed to approach the gap for which we were making in the rock ridge above. One guide relieved the other and then we sent Karbri ahead. He worked admirably and brought us to the top of the slope. Beyond the gap we emerged on to a snow-field, where the new snow was piled in powdery drifts, up which we waded, after Amar Sing, to the sharp rock top.

There was no talk of halting for the view; there was little view to halt for. The Macugnaga Valley below was one great cauldron of whirling mists, clouds were sweeping down towards us in massed battalions and wreaths of snow were whirling about in tiny cyclones all around. We just passed over the peak, noticed that the hour was noon, and at once began the descent along the other ridge towards the Silber Sattel, judging that the slopes in that direction were of snow. We did not relish the idea of going down our ice staircase of a thousand steps, when each step would first have to be cleared of drifted snow. Moreover, we

had seen a way through the crevasses which we judged would prove both safe and rapid.

Before descending far, we found that, though the slope was of snow, the snow was too hard to be trodden, so step-cutting began again. For an hour we made tantalizingly slow progress. The maze of crevasses was at our feet and there was our way visible through it; but it was an intricate way and I questioned whether we should find it in a fog, whilst there seemed every probability that mist soon would envelop us. The clouds passing over the landscape from Italy, were now coming in thicker ranks and at a continually lowering elevation. The Matterhorn was half buried in them. They were on the point of swallowing up all the higher levels. They poured over the Lyskamm, reached the crest of the Dufour peak, and began tearing down upon us. One moment the glacier below was like a map before us; the next it was utterly blotted out. We could barely see one another. The worst appeared to have come, yet Fortune was not utterly cruel. A slight change in the wind turned our glacier-valley into a draught-way for the gale, which rent the mists asunder and enabled us thenceforth to see far enough for our needs. We gained slopes where the axe was no longer required, and began threading our way amongst the large crevasses. Cold kept the snow-bridges firm. We crossed one after another in quick succession. But a new danger awaited us. The fresh snow was piled up by the wind into heavy drifts on various slopes, too steep to retain it in stable equilibrium. Just as we were about to cross one of these, there was a dull crack, followed by a muffled roar; the soft blanket peeled away and shot down to a lower level. We had again to cross such a slope, bordered below by an enormous *schrund;* we

cut it at its narrowest place but paid for our passage by traversing immediately below *névé séracs*, some of which had recently fallen, whilst others, loaded with the fresh snow, seemed just about to fall. Here our only path was down an ice-gully, well used as an avalanche-trough, and so to a firm bridge over the lowest of the great crevasses. No time was lost in this part of the descent till we rejoined our old tracks. With swift feet and light hearts we hurried along them over endless easy snow-slopes to the Felsen breakfast-place, where the rope could be laid aside. Seated in what now seemed good shelter we took a hasty and uncomfortable meal after eight hours of enforced abstinence. Then, but not till then, I discovered that the bitter cold had wrought an internal mischief in me, the effect of which was to last several days.

The storm continued to rage, but intermittently, and on the whole at high elevations. It was the beginning of prolonged bad weather and it took the peaks first. Not till the third day did it penetrate to the valleys and envelop them in its full fury, to the delight of the peasantry, who had been praying for rain. We watched the black clouds sweep over from Italy and stalk northwards, a whole series of them, following the Zinal ridge, each with a white or dark skirt according as it was strewing hail or rain. When these had passed to the Bernese Oberland, a new series came over and cast hail upon us, before taking the line of the Saas Grat and vanishing northwards in their turn, one behind the other. There was no lightning, and as for rain and hail, little cared we about them. We descended as fast as my injured condition allowed, to the place where men were erecting the new hut, whence a series of stones and one or two red flags (*not* of Liberty), set up on the glacier,

guided us along the track smoothed for the mules. Thus without further adventure we reached the old Riffelhaus, eighteen hours after setting out from it. I contented my-self with descending for the night to the Riffelalp.

TYPICAL TOURISTS

VICTOR TISSOT

FROM the left bank of the Reuss, the view of Lucerne is strikingly beautiful, with its bright quays covered with splendid hotels amid flowery terraces; its shady promenade, so gay and animated; its clean, light squares; its towers, raising into the sky their pepper-box roofs; its bushy green hills, among which so many villas lie sheltered like linnets' nests in thickets of roses. It gives one the idea of a very large and very wealthy city,—a kind of rural Capua, which attracts and retains all who do not know what to make of their life.

The opening of the St. Gothard railway has given a new impulse to this cosmopolitan city, which has a great future before it. Already it has supplanted Interlaken in the estimation of the furbelowed, fashionable world,—the women who come to Switzerland not to see, but to be seen. Lucerne is now the chief summer station of the twenty-two Cantons; and yet it does not possess many objects of interest. There is the old bridge on the Reuss, with its ancient paintings; the Church of St. Leger, with its lateral altars and its Campo Santo, reminding us of Italian cemeteries; the museum at the Town Hall, with its fine collection of stained glass; the blood-stained standards from the Burgundian wars; and the flag in which noble old Gundolfingen, after charging his fellow-citizens never to elect their

MALOJA HOTEL, ENGADINE

magistrates for more than a year, wrapped himself as in a shroud of glory to die in the fight; finally, there is the Lion of Lucerne,—and that is all.

The most wonderful thing of all is that you are allowed to see this Lion for nothing; for close beside it you are charged a franc for permission to cast an indifferent glance on some uninteresting excavations, which date, it is said, from the glacial period. We do not care if they do.

The garden in which these latter "curiosities" are found is a distressingly dull place, with its pond of stagnant water in which some unfortunate ducks are imprisoned; its little wooden booths, in which is sold "everything that your honours can fancy;" Havana cigars at a penny; match-boxes; paper-cutters; little boxes with the Lion painted on the top and music inside; carved napkin-rings; and bears without number,—dancing bears, bears wearing spectacles, performing military drill, carrying the Federal banner or an umbrella, singing the "Ranz des Vaches," or enjoying a cup of Suchard chocolate. This continual fair going on close by is quite out of harmony with the feeling of reverence with which we regard the grand Lion dying so nobly, as the Swiss Guards died in Paris in 1792. Such a monument would stand more fittingly in the silent sanctuary of some beautiful forest.

But to return to the quay. The great quay of Lucerne is delightful,—as good as the seashore at Dieppe or Trouville. Before you, limpid and blue, lies the lake, which from the character of its shores, at once stern and graceful, is the finest in Switzerland. In front rise the snow-clad peaks of Uri, to the left the Rigi, to the right the austere Pilatus, almost always wearing his high cap of clouds.

This beautiful walk on the quay, long and shady like the

avenue of a gentleman's park, is the daily resort, towards four o'clock, of all the foreigners who are crowded in the hotels or packed in the boarding-houses. Here are Russian and Polish counts with long mustaches, and pins set with false brilliants; Englishmen with fishes' or horses' heads; Englishwomen with the figures of angels or of giraffes; Parisian women, daintily attired, sprightly and coquettish; American women, free in their bearing and eccentric in their dress, and their men as stiff as the smoke-pipes of steamboats; German women, with languishing voices, drooping and pale like willow branches, fair-haired and blue-eyed, talking in the same breath of Goethe and the price of sausages, of the moon and their glass of beer, of stars and black radishes. And here and there are a few little Swiss girls, fresh and rosy as wood strawberries, smiling darlings like Dresden shepherdesses, dreaming of scenes of platonic love in a great garden adorned with the statue of William Tell or General Dufour.

The quay is the great open-air drawing-room of this Alpine high life which has its representatives from all nations, and which has selected Lucerne as one of its rendezvous, one of its summer halting-places.

There you meet at every step faces that you have seen before in Paris or London, in Vienna or in Berlin. There are dresses of tints as transparent as water-colours, fashions of an elegant modernism enough to ravish the eye of a *genre* painter. And what variety of types among all those holiday-making people who are walking and talking and jabbering and chattering, discussing and slandering, hating or loving, seeking out or avoiding each other, looking at others or exhibiting themselves! It does not take long to classify them.

Take first the French. Here is the married tourist,—the most serious of all,—already rather portly and half bald. You recognize him by his small figure, his short legs, by his wife walking like a sentinel at his side, and by his absorbing occupation as nurse-maid. He is continually in search of Paul or Jeanne, whom he is always in dread of seeing disappear over a precipice or into a torrent; carries madame's waterproof and shawl, and the brats also when they are tired; is always in a profuse perspiration, and casts envious looks at dogs without collars; thinks nothing finer than the railways that go to the tops of mountains, and the tramways that carry him to the foot of the glaciers; travels, to be like everybody else, to write his name and designation in the hotel registers, and to enable his wife to say on her reception days next winter, "Ah, yes, the Rigi,—that dear little baby railway; oh, delicious!"

Next comes the bachelor tourist, twenty-five or thirty, as alert and bold as the married tourist is prudent and slow; treats the mountains with the familiarity of a superior towards an inferior; pats the Matterhorn on the shoulder, and takes the Jungfrau by the chin like a tavern bar-maid. In close-fitting cloth suit, felt hat over his ear, knapsack on his back, gaitered, and armed with alpenstock, he goes everywhere, fears nothing, climbs as far as the chamois does, and arrives in the evening, sunburnt and looking like a bandit, at some mountain hotel, where after supper he invites the ladies to waltz; assumes with ease the airs of my lord, drinks hard, and finishes by marrying an heiress whom he has saved from an inundation or an avalanche.

The *Tartarin* (see Daudet). A very common type. Travels in illusion and flannel, and changes his clothes four times a day for fear of catching cold; discourses with the

peasants in the plains, to teach them how to sow wheat and to know turnips from potatoes; believes that the Swiss still shoot with cross-bows, and that the bears at Berne were caught in the Oberland; greets everybody; chats familiarly with the hotel porter, whom he takes for the steward, or for a Swiss admiral, because of his gold-laced cap; makes jokes with the waiters and becomes confidential with the attendants in *cafés* and with street-porters; has seen everything, visited everything, ascended everything; relates stories that never happened; is infatuated with himself; thinks himself a better mountaineer than the men born on the mountains, and proclaims it aloud. The terror of *tables d'hôte*, the bugbear of all sensible people.

Next, the English. Finely and firmly built, accustomed from their early youth to violent exercise, they are invincible to fatigue; make thirty or forty miles a day without resting their iron limbs; the foremost and most intrepid climbers in the world, always rushing to a discovery or a conquest; fierce, tenacious spirits, full of passion under their apparent coldness, scaling mountains with a martial ardour and carrying inaccessible summits by assault; seek out danger as an enjoyment and a luxury; travel also as families, with a whole regiment of daughters dressed in the same material made on the same pattern,—short dresses, Scotch petticoats, tight black stockings, hair cut short on the forehead, or hanging far down the back like a long mane, the neck imprisoned in a man's collar, a tight jacket of military cut, —neither girl nor boy, just English; carry telescopes, botanical boxes, fishing-rods, butterfly-nets, and pick up all the little sparkling stones they see.

We also meet in Switzerland a type of Englishwoman who deserves special mention,—the tall old maid, thin and

wiry, as dry as the moral of an ill-written tract. She has been travelling since she was thirty, and is now approaching fifty; has crossed the Sahara alone on camel back; has been a prisoner for two months among Greek brigands; has ascended to the top of the Jungfrau with no guide but a little shepherd-boy; travels with the sole object of accomplishing so many miles. Last year she had measured with the pair of compasses on which she walks 7,500 miles; this year she has but one desire, one aim, one ambition,—to go beyond that number.

This is the Englishwoman of our French caricatures, made up like a scarecrow, with a red-checked tartan shawl, her eyes covered up with great blue spectacles, a mouth from ear to ear, showing teeth like the keys of a piano, her figure squeezed into a black gown like an umbrella case, emptying her bottle of wine while she reads "The Times."

All Englishwomen, we may add, think the crevasses "very lovely" and the precipices "charming"!

Then the Germans. We meet almost as many of them as of English nowadays. They treat Switzerland rather like an annexed province; wear straw hats covered with grey cloth, in the shape of a bombshell or a melon; are always smoking something,—pipe or cigar; very noisy in public places, railway carriages, and decks of steamers; are perpetually discussing religious, social, or political questions; even on the Rigi, in presence of the rising sun, they talk about the new law about alcohol; and knowing Switzerland better than the Swiss, are thoroughly skilled in the science of travelling economically,—eating and drinking much and spending little. Merry fellows and good companions when they are neither nobles nor men of letters nor

officers nor corporals nor lawyers nor Prussians of Prussia, nor have been covered with glory and laden with medals in 1871.

One particular type is the Jaegerite, so called from the name of Dr. Jaeger, who now counts more than fifty thousand disciples in Germany. The Jaegerite is entirely sworn to wool, as the vegetarian is to vegetables. Apart from woollen clothing there is no safety. The shirt is of wool; the hat is of wool; the necktie is of wool. A knitted woollen garment, something between an overall and a greatcoat, covers the back and the chest; and the shoes and stockings are also of wool. The Jaegerite lets his hair grow long, and performs as few ablutions as possible, lest he should catch cold.

The Prussian woman steps along erect, stiff,—her eyeglass at her eye,—like a corporal in woman's dress. These daughters of soldiers have a soldierly carriage,—no flexibility in the figure, no grace in the walk and bearing. They are like figures screwed to a wooden stand, with an iron rod running from head to heel. And what voices! they might be produced by iron machinery, they are so harsh and grating. Their pale eyes have the cold brightness of two steel buttons on a uniform.

Among the ladies, we must note also the little American girls of eighteen, who make the tour of Europe and of Switzerland in parties of two. But as they always travel in the compartments where there are gentlemen, they have the appearance of taking their amusement in parties of four.

These different species of tourists are capable of subdivision into endless varieties. There is the grave, conscientious tourist, who goes to the mountain with the piety

and fervour of a priest going to the altar, who is fulfilling a mission,—a sacred function. There is the fancy tourist, who dresses and fits himself out like a fashion-plate; the drawing-room tourist, who only looks at Switzerland from the decks of steamboats, from the windows of the railway carriage, or from the balcony of his hotel; the listless or dreamy tourist, who spends his days on the banks of the streams, stretched at full length in the soft, cool grass. Or again, there is the easy, philosophic tourist, laughing over his bad dinner or his uncomfortable bed,—always content, even when he knows he is being scandalously overcharged; and the man of progress, wearing a helmet of elder-pith, dressed in waterproof and carrying appliances of all kinds, for doing his own cooking, for lighting up the glaciers at night, for taking instantaneous photographs of the chamois, for crossing the crevasses and climbing perpendicular rocks. But the funniest of all is the half-crazy *savant*, with his pockets filled with thermometers, with thermometers stuck in his hat, under his arms, in the band of his trousers, and in his garters; he carries hydrometers, pedometers, instruments for measuring the height of the mountains and the depth of the rivers, plummets, hammers, microscopes, pincers, phials and labelled note-books in which he records how many panes of glass there are in the windows of the villages of the first zone, and if in the second zone the tails of the pigs hang down or curl up.

Among all those varieties, the happiest is the cynical or eccentric tourist, who laughs at Mrs. Grundy. Absolutely at his ease, and scorning what may be thought of him, he behaves among other people just as he does in his own house. He lives and travels for himself alone, cares for nobody, eats and sleeps with the shepherds, lets his beard

grow, returning to a state of nature; he defies all sorts of weather and danger, carves out a kingdom for himself, and wraps himself in a veritable royalty in the solitude of the mountains.

BERNE

ESTHER SINGLETON

BERNE, the capital of the Canton of Berne and since 1848 of the Swiss Confederation, is one of the most beautiful cities in Europe. Its situation is ideal; for it is framed by the imposing chains of the Bernese Alps and the Jura, and encircled by the winding arm of the Aar. The ornate spire of St. Vincent pierces the sky above the quaint old houses, abbeys, churches, fountains and monuments that attract the lover of both old and modern architecture, while beautiful gardens, terraces, forests and woods suggest innumerable pleasant walks and drives in the environs. Of late years Berne has stretched beyond the Aar and new bridges have been erected to lead across the river; but the traveller will doubtless prefer to linger in the ancient town that still justifies the words Goethe wrote to Frau von Stein in 1779: "It is the most beautiful town we have ever seen."

Berne—the city of Bears—was founded in 1191 by Duke Berchtold V., of Zæhringen, vice-regent of the Emperor. In order to protect the smaller nobility from the greater lords, he built a wall and had a moat dug around his castle of Nydeck and its buildings. To this stronghold, he gave the name of Berne, because on this spot he had killed a bear. After Berchtold's death in 1218, this little colony grew in strength and boldness, and in 1288 defied the Emperor Rodolphe of Hapsburg and vanquished him in 1291.

In 1339, after Laupen, Berne formed herself into a coalition of princes and nobles, and in 1353 joined the Helvetian Confederation. From that time onward, Berne increased in territory and power.

On arriving at Berne, the traveller is astonished to find a mediæval instead of a modern city, and, moreover, a city characteristically Swiss. The houses are built of a greyish-white sandstone, with high and projecting roofs that are somewhat heavy, but create the same pleasant impression as do the houses of Holland and Belgium. The most striking feature of Berne, however, is found in the arcades (*Lauben*) consisting of low arches supported by heavy buttresses, that border both sides of the street. These were built in the days before the streets were paved, to protect the foot passengers from bad weather and muddy paths.

Old Berne stands on its rocky height like a fortress, below which stretches an undulating fertile plain from the foot of the Alps to the Jura and from it may be seen the splendid peaks of the Grimsel, Wetterhorn, Eiger, Jungfrau, Schreckhorn and Finster-aarhorn. The city is practically a peninsula, formed by the winding Aar, which is crossed on the south side by an extensive weir (the *Schwelle*) and which further down is crossed by seven bridges. First comes the Marzili-bridge, then the iron Kirchenfeld-bridge (built in 1883), the granite and sandstone Nydeck with its bold, middle arch, the lower Nydeck (oldest of all built in 1461), the Altenberg suspension bridge (for foot passengers only), the Kornhaus-bridge (built in 1898), and, lastly, the iron-trellised Railway-bridge, from which, as a rule, the traveller receives his first and last impressions of Berne.

The Bernese always advise the traveller to view their

BERNE

city from an eminence, and recommend the Schosshalde to the east, from the point where the Haspelgasse joins the Laubeckstrasse, or from the road which leads from Murisfalden to the Kirchenfeld; the walk or drive from the Schænzli to the Laubeckstrasse and thence through the Schosshaldenstrasse and to the Kirchenfeld. From these points Berne and the surrounding country are seen to great advantage.

In whatever direction one looks, the tower of the Cathedral of St. Vincent strikes the eye; and not far from it, but more to the west, shines the golden cross upon the cupola of the Federal Palace.

The Cathedral of St. Vincent, which dominates the town with its spire 100 metres high, completed in 1896, was begun by Matthias Heinz, a son of one of the architects of the Strasburg Cathedral, the Ensingers, Stephan Abrügger and others. It is built in the Gothic style and is remarkable for its fine proportions and its boldness. The chief entrance has three doors, the central one of which is closed by an iron grille decorated with the coats-of-arms of the principal Bernese families. The western door is ornamented with fine sculpture, representing the Last Judgment, Christ and the Apostles, the Wise and Foolish Virgins and the Prophets, attributed to Erhard Kung, a Westphalian artist. The north entrance is known as the Schultheiss. The beautiful windows of the choir and the choir-stalls, richly carved in the Renaissance style (1517–1525), will attract the artist's attention. The mausoleum of Berchtold V. of Zæhringen and that of N. F. von Steiger, the last Schultheiss of the old *régime* of Berne (died 1799), bring the tourist once again into relation with the history of the town. The nave, which is supported by ten pillars, was once hung with

banners taken from enemies in battle; but the famous tapestries which decorated the tent of Charles the Bold at Granson and a splendid one representing the martyrdom of Saint Vincent of Saragossa are preserved in the Sacristy. These were removed in 1848 to make room for the great organ, with its fifty-six registers and 5,000 pipes.

On the south side of the cathedral is the terrace known as the Plattform, a shady promenade, formerly a cemetery. Here are pavilions for refreshments and also a bronze statue to Berchtold V., modelled in 1847 by the Bernese sculptor, Tscharner. He is accompanied by the famous bear that he is said to have killed on the day that Berne was founded.

The bear, it may here be remarked, is an important figure in Berne. It appears on the coat-of-arms of the town, and is constantly seen carved in stone, modelled in bronze and even baked in gingerbread. Living bears have been kept in Berne since 1480, and no traveller fails to visit the bear-pit at the eastern end of the Nydeck-bridge.

Among the numerous and very celebrated fountains, the most remarkable, perhaps, is that of the Ogre (the Kindlifresser-brunnen), representing a seated Jew in the act of devouring a child, erected to commemorate a ritual murder attributed to the Jews in 1287. This is on the Kornhausplatz. In the Kramgasse, there are two: the Zähringer fountain (1542), representing a bear in armour, and the Samson fountain (1544). In the Marktgasse stands the Archer fountain (1527); and in the Spitalgasse the Bag-piper fountain. The fountain in the court-yard of the Federal Palace is also highly esteemed for the allegorical figure of the city —Berna—modelled by the Bernese sculptor, R. Christen, cast in bronze in Munich, and erected in 1863.

The equestrian statue of Rudolf von Erlach, the hero of the Battle of Laupen (1339), by Volmar (1848), on the Münsterplatz; that of Berchtold V. by Tscharner already mentioned; and that of Adrian van Bubenberg, the defender of Murten (1476) by Leu, on the Bubenbergplatz, are considered masterpieces of their kind.

Next in interest to the Cathedral is the Dominicans or Preachers Church in the Zeughausgasse, behind the Kornhaus, now used by the French Protestants. It is a Gothic edifice, built in 1265–1269. In this church Zwingli held the famous discussion in 1528 that decided the senate of Berne to introduce the reformed religion into the city. The walls were decorated in the Sixteenth Century by Niholas Manuel, a Bernese painter, with forty-six large frescos representing the *Dance of Death*.

The old Dominican cloister, of which a wing remains, was often used as an inn by princes. The Nydeck-Church in the Nydeckgasse, built in 1494 on the site of the Castle of Nydeck, is also worthy of a visit. The old clock tower (*Zeitglockenthurm*) at the western end of the Kramgasse was originally a gate of the town. It was built in the Fifteenth Century and is most picturesque. An immense dial is enclosed in the face of the tower and near it a most ingenious mechanism which all visitors love to watch. Just before the hour, a wooden cock beats its wings and crows. A little Jack of the clock-house strikes the hour with a hammer on a bell, whereupon a number of bears in grotesque attitudes pass before a mannikin who is seated on a throne and who lifts and lowers his sceptre to mark the number of hours.

Two other gates of the old walls only remain: the Käfigthurm, or prison-tower, at the western end of the

Marktgasse, dating in its present form from the Seventeenth Century; and the Aarziele, or Mintgate, near the Mint-terrace, erected in 1793 in place of an older gate.

The Rathaus, or Town Hall, built in 1404–1416 and restored in 1862, is chiefly remarkable for its staircase, frieze and interior carvings. The façade is decorated with the arms of the préfectures of the Canton.

The Federal Palace, or Bundeshaus, in the Bundesgasse, built in 1852–1857, was the gift of Berne to the Swiss Confederation. It consists of three buildings: the Western Wing, the Eastern Wing and the Central Building, called House of Parliament.

The town-library in the Kesslergasse, established in 1548, contains about 100,000 books and more than 3,000 valuable manuscripts, many of which were taken from the convents and monasteries that were suppressed by the Reformation. The Federal Library, near the Helvetiaplatz, also contains about 100,000 volumes and other rich collections. The Historical Museum on the Kirchenfeld, opened in 1895, contains among other treasures many fine Gobelin tapestries, trophies of the Battle of Granson, ancient goldsmiths' work, remains of the lake-dwellers, cups of the Bernese guilds and models of ancient rooms, etc.

Examples of Swiss arts and crafts are exhibited at the Museum in the Kornhaus, on the Kornhaus-platz, and rich mineral, paleontological and zoölogical collections may be seen in the Natural History Museum.

The Botanical Garden in the Rabbenthal, on the right bank of the Aar, should be visited if only for the sake of the alpine plants.

From the Gurten, a beautiful view is obtained of the Alps and Jura with the intervening plains dotted with vil-

lages, churches, lakes and woods; and beautiful views and romantic walks are found in the Dæhlhœlzli, a pretty wood on the Kirchenfeld and in the Bremgartenwald, a larger forest on the Laenggass-quarter.

THE LAKE OF THUN

T. G. BONNEY

OUR wanderings are drawing to an end. Swiftly, the boat bears us on over the blue Lake of Thun, through the "gates of the hills." On one side rise steep ridges, rearing bare craggy summits above long slopes of forest and pasture, furrowed by narrow ravines; on the other is yet a loftier mountain mass. This extends along the whole length of the southern shore, and stretches away beyond the great green pyramid of the Niesen, between the Kanderthal and Simmenthal, to the rocky head of the Stockhorn. We have thus here at the end the same variety of scenery which we found at the beginning of our journey, on the Lake of Lucerne. The limestone ranges—which form the mid-Alpine district—cross the Lake of Thun diagonally, so that on the northern shore, at its extremity, we have once more the rolling hills of sandstone and hardened gravel from which we parted in the neighbourhood of Lucerne. Here the fir is replaced by the vine, the pasture by the cornfield—in a word, the Alps by the lowlands. From the upper part of the lake the Oberland peaks now and again afford us parting glimpses, and the Schilthorn's snowy cap recalls pleasant memories of the hours passed on that lofty watch-tower. One peak, indeed, the Schreckhorn, which hitherto has rarely shown itself in its full majesty, now makes amends; and as we cross the lake from shore to shore, is revealed, rising pinnacle above pinnacle,

THUN

beyond the folding lines of the nearer mountains, forming one of the most perfect pictures that I have seen in the whole range of the Alps.

Then, when all too soon this vision has been shut out, new peaks are disclosed, rising above the line of wooded hills that extend along a considerable portion of the southern shore. These belong to a region of which we have hitherto only now and then caught a glimpse from some commanding height, the region above the valleys descending to the lower end of the Lake of Thun. They fall, indeed, considerably short of the elevation attained by the peaks further east, and are less striking in outline; but, perhaps, all the more for that, harmonize well with the less rugged scenery of the neighbourhood of Thun. The pyramidal mountain on the right is the Niesen, and the snowy ridge above the valley is the Blumlis Alp, the highest of whose peaks is a little more than twelve thousand feet above the sea. It is the first example of a type of mountain very common in this western district, a great limestone block, with magnificent precipices on both sides, capped by snow-fields and glaciers, and terminated by several peaks of nearly equal height. It owes its name to another of those legends of pride going before a fall, and a haughty spirit before destruction. Here the "Senn" had built for himself a staircase of cheeses, and had insolently driven away from his door the parents of a damsel whom he had deeply wronged. During the next night a fearful storm arose, and when the morning broke, the "flowery alp" lay deep under snow and glacier.

The shores of Thun are unusually rich in objects of interest both natural and artificial. Many of these centre about the Justishal, a narrow glen on the northern shore,

the first of those which lie among the mid-Alpine ranges. Under the cliff, high up on its right bank, is one of those singular caves called *glacières*, which are occasionally found in the limestone districts of the Alps and Jura. They are natural ice-houses, the floor being often covered with a mass of ice, and the walls and roof hung with a drapery of the same. This cave is called the Schafloch; it can be reached either from the glen below or by a very beautiful walk over the shoulder of the cliffs beneath which it lies. It is about five thousand eight hundred feet above the sea, and thus, like all the others, many of which occur at a much lower level, is far beneath the limit of perpetual snow. A fine natural doorway, some eight yards high and eleven wide, gives entrance to the cave, the floor of which soon begins to descend gradually. Ice at first appears sparsely, forming stalagmitic patches on the fallen blocks which strew the ground, but when we reach a part where the light of day has faded away it occurs in large quantities; it streams down the rocky walls in transparent sheets, and hangs in clustering stalactites from the roof. Beneath these, stalagmitic masses rise up from the floor; and in one instance they had united with the pendents above, so as to form a column of purest ice; the intervening spaces also become covered with ice, which soon extends from side to side in an unbroken sheet. At last the whole mass shelves suddenly downwards at a steep inclination, and appears to plunge into the heart of the earth. This appearance of an unfathomable abyss is, however, illusory, for the slope comes to an end a few dozen feet below, and the cave itself does not extend much further.

It is worth a visit, if only for the magnificent views which are obtained during the walk; and the peak of the Jungfrau

itself may be seen from within the rocky entrance of the cave like a picture in a frame. On the occasion of my visit the Oberland mountains were unusually magnificent. The morning at first was brilliantly fine and intensely hot, so that the snow fairly glistened in the sun; then the sky to the south gradually grew murky and the peaks were slowly blotted out by a cloud of inky blackness which was soon riven by frequent flashes of lightning. Then the storm burst upon us, with a deluge of hail and rain, and sharp rattling peals of thunder. In an hour or two this rolled off to the north, and again the peaks broke forth from the eddying vapours, which slowly melted away till once more all was clear.

The shores of the Thüner See were among the spots where the Gospel was first proclaimed, and it is a curious circumstance how many among the noblest band of Alpine travellers came from our own shores. St. Lucius, the apostle of the Grisons; St. Fridolin, of Glarus; St. Gall, of the district which now bears his name; and St. Beatus, of the valley of the Aar, all were Britons.

Beatus fixed his residence in a cave at the mouth of the Justishal. Here he spent his life gathering converts from the wild tribes who then inhabited the district, and winning their hearts by deeds of mercy and by miracles. One of the first of these, so the story runs, was the destruction of a dragon which had taken up its abode in the cave afterwards occupied by the saint, whence it issued forth to ravage the neighbourhood. Beatus encountered it, and after a severe struggle, in which the dragon's fire and venom were powerless against the saint's prayers, drove it into the lake, where it disappeared forever. In this cave the saint at last died, full of years, and was buried at its mouth by his

scholar and friend, Achates. The spot was held in affectionate remembrance by the inhabitants of the neighbourhood, and centuries later, when the fashion of pilgrimages began to prevail, the monks of Interlaken converted the cave into a chapel and erected hard by a shelter for visitors. Miracles, of course, were not lacking, the reputation of the place increased, and offerings came in apace. So highly esteemed was it, that in the middle of the Fifteenth Century, during a time of pestilence, the Senate of Berne, in a body, went on a pilgrimage thither. As might be expected, abuses gradually crept in, and the spirit of simple faith gave place to that which prevails at the "tables of the money changers, and the seats of those who sell doves." The Reformation took place, Berne became a Protestant Canton, and it was determined to put a stop to the pilgrimages. By way of an effectual remedy, the remains of the saint were exhumed, and conveyed to Innsbruck, and the mouth of the cave was closed by a wall. The stream was thus diverted, though still occasionally a solitary pilgrim may be seen at the lonely spot. Except then, or when some passing shower drives the goatherd thither to shelter his flock, the cave is now untenanted. Chapel, and all that man had built, have fallen down, and only a few fragments of wall or foundation stones remain to mark the once busy scene.

But while we are dreaming on the changes that this lake has seen since first the savage tribes built their log-huts on piles among its shallows, the steamer is cleaving its swift way through the water. We hasten on by brown houses, nestling among vine leaves and walnut-trees, in gardens bright with many-coloured flowers, by the fortress of Spiez, once a possession of the Dukes of Burgundy; by the battlemented walls of Knightly Oberhofen, where, in feudal

times, powerful barons ruled, famed in Swiss history as the comrades of Eschenbach, Brundis, and Erlach; by lofty Sigriswyl and all the charming country houses with their shady alleys and wooded meadows. The towers of Thun and the gabled houses rise higher above the lake as the prospect around and beyond them widens out; a few minutes more and we step upon the pier, and the last stage of our Alpine journey is over. Here, then, let us pause for a night to watch from the churchyard wall the sunset colours fading from Blumeis Alp, and take one last longing look at this earthly Paradise. To-morrow the Alps will fade away like a purple cloud in the distance; and in a few days more, amid the familiar daily round, our wanderings among the mountains will seem like a part of another life, or as a pleasant dream that is past.

INTERLAKEN

T. G. BONNEY

PLACES like Interlaken are a delight to one, an abomination to another class of tourists. To those who only go to the Alps because it is "the thing" to do, it is the first; to those who are only happy on a glacier, it is the second. Thus the town is alternately praised and condemned, according to the humour of the speaker. Let us try to sum up impartially its merits and demerits. It is, indeed, a place of one view, but that is among the most beautiful of its kind in the Alps; of one street, but that is shaded by magnificent trees; its hotels are "palatial"; but it must be owned that they are very comfortable and by no means exorbitant in their prices; it is crowded with heavy fathers and matrons *à la Madame Grundy*, with vapid dandies, wearing lacquered boots and glass in eye, and with chattering coquettes, tottering along on high heels, and bedizened with the last folly of fashion; but it is not difficult to get out of their way;—in a word, it has a good many drawbacks and not a few advantages. Of the former, the most serious are that, as it stands upon a flat delta, here and there inclined to be marshy, in a rather narrow valley with steep mountains on either side, the air is apt to be hot, stuffy, and enervating; and a considerable distance of level, dusty road has to be traversed before either of the lakes can be reached, or any excursion of interest

INTERLAKEN AND JUNGFRAU

undertaken; unless the hills to the north of the town be climbed, and here the ascent is too rapid for excursions in warm weather. In fact, it is an Alpine Capua; but, though regarding all such places severely, as becomes a mountaineer, I must confess to admitting the plea of extenuating circumstances in the case of Interlaken. Perhaps gratitude has something to do with it; for on my first visit I was detained there for three days by incessant rain; and found that I did not consider life a mistake, as I have been tempted to do under similar circumstances in a mountain *auberge*. This may be thankfulness for small mercies; but is not gratitude due even for these? Again, I cannot forget certain evenings spent, when travelling with a companion who required rest, under the walnut trees in front of our hotel, while the Jungfrau's snows slowly changed from the rosy tints of sunset to the silver gleam of moonlight. Thus, often, as one may be provoked "to make painful comparisons between the condition of Dr. Guggenbuhl's patients on the Abendberg," and that of numerous visitors, of whom "the gentler sex find constant occupation in the display of city finery, while the less fortunate male idlers are too often reduced to a condition of utter vacuity," I cannot but advise every one who visits the Oberland to spend a day or two of rest at Interlaken; promising them that unless things have changed since I was there, they will find some of the best hotels and shops (especially for wood carving) in Switzerland, with a reasonable number of excursions, which will be pleasant enough to those who do not mind early rising.

Visitors lounge under the trees in the hotel gardens, or stroll along the street under the shade of the great walnut avenue, a mile in length; new arrivals on foot or horseback are coming from the mountains; carriages are

bringing their loads from the lake steamers; peasants, women and children, are busy with their baskets of wares and fruits; the flowers are gay in the gardens, the leaves thick on the trees, the sun is shining brightly in the sky.

We look up the Lauterbrunnen Valley; the great cliff on the right hand is part of the range down which the Staubbach is precipitated; the wooded hill above the house in the corner is the Klein-rugen, an almost isolated mound, from which beautiful views of the neighbourhood are obtained. On the right are the broken hills below the Schienige Platte, another favourite but longer excursion; and in the middle is the Jungfrau, no longer masked by intervening buttresses, but seen in its true proportions, and contrasting beautifully with the level meadows and lowland foliage of the foreground.

From Interlaken the contours, owing to the greater distance, are far more harmonious. The sharp summit cone rises well above the flatter edge of the Wengern Jungfrau. To the right of this is the snowy dome of the Silberhorn, with the Giessen Glacier, from which a long spur runs out to the left, terminating in the Schneehorn,—the dark, triangular cliff just above one of the trees. Between this spur and the main ridge of the mountain lies a great snow basin, which feeds the Guggi Glacier.

The Jungfrau, as might be expected from its conspicuous position and beautiful form, was one of the earliest among the Oberland peaks to attract the attention of adventurous climbers. The first ascent was accomplished in the year 1811, by the Messrs. Meyer of Aarau, from the Aletsch Glacier; and for many years the summit of the mountain was always attained from the south. The course usually adopted was to climb to a gap called the Col du Roththal,

south of the summit, in the main ridge, and then turn to the right.

In 1864, a point near this gap was reached from the head of the Lauterbrunnen Valley by Messrs. Grove, Macdonald, and L. Stephen, with the Andereggs and Bischof. The rocks are steep and difficult on this side; and the fatal accident caused by the fall of an avalanche, when three Swiss lost their lives, is not likely to render this a favourite line of ascent.

One of the party alone escaped, who thus describes his sufferings:—"Suddenly an avalanche from above fell straight upon us. When I returned to consciousness, I found myself on a rock, whither I had been hurled by the avalanche, the mass of which had carried away my companions. The rope by which we were fastened must have been rent asunder, otherwise I should have been hurried to sudden destruction as well as the others. A loud cry from all of us—then silence; and of my unfortunate companions I saw and heard no more. A second avalanche passed by me without injury. I remained safe on my rock, where I also passed the night horror-struck. Next day I succeeded in descending to the "Clubhütte" in the Roththal, where I remained the night with my feet frozen. A little chocolate, some hard cheese-rind and cold water, were my only nourishment during these days. On Friday, painfully and with bare feet, for they could no longer endure the pressure of shoes, I crawled a little further to the Roththal Glacier. On Saturday I managed to leave the Roththal; and to-day (Sunday) I came, with unspeakable toil, to the Stufenstein Alp."

Finally in the summer of 1865, Sir G. Young and Mr. H. B. George, led by Christian Almer and J. Baumann,

reached the summit from the Wengern Alp. Crossing the Guggi Glacier, they spent the night on the rocks of the Schneehorn; and then, passing behind the spur of which mention was made above, gained, after some difficulty, a gap between the Silberhorn and the Wengern Jungfrau. A ridge, at first narrow and difficult, but gradually widening out into easy slopes of snow and at last becoming almost a plateau, led them to the latter point, up to that time unclimbed, and from it the true summit was easily reached. The expedition, since then, has been several times repeated, and though laborious, does not seem unusually difficult to practised travellers with competent guides.

Interlaken was a place of some importance in the Middle Ages by reason of a large convent which was founded in the year 1133, by Baron Seilger of Oberhofen, for monks of the Augustinian order; to this was, not long after, added a nunnery. These religious houses soon became rich and powerful, and under protection of an agreement with the city of Berne, they extended their authority over the neighbouring valleys, to Lauterbrunnen, Grindelwald, and the Haslithal. As they waxed rich they waxed wanton; abuses of their authority led to rebellions among their vassals; abuses of another kind produced a general scandal. Thus a canker was at the heart of the tree while its branches were spreading; and while their power seemed to be extending over almost the whole Oberland, the fall was nigh at hand. The relations of the two houses became so gross, that not only did the Bishop of Lausanne and the Council of Basle order investigation to be made, but the Pope himself intervened, and finally, in the year 1488, suppressed the nunnery as a "sink of wantonness"; the vassals, encouraged by the growing dissatisfaction, entered into

a league with Unterwalden, and resisted the authority of the monks; and, at last, when the Reformed religion prevailed, the monastery was suppressed, in the year 1528, and its revenues devoted to founding an asylum for idiots and for the poor. The church, of which the choir and tower only remain, is now used by the English and Americans in their Sunday services. It is not remarkable for architectural beauty, of which there is but little, as a rule, in any of the ecclesiastical, or indeed other, buildings in the Alps. These are generally plain, simple and almost severe; the cathedral at Coire being the only one of any grandeur that I can remember among the Swiss mountains. Some of the later structures in various Renaissance styles are more pretentious; but these are generally tawdry and deceitful in ornamentation.

THE OESCHINEN SEE AND THE GEMMI PASS

SYDNEY HODGES

AT Thun I caught the afternoon boat for Interlaken in which I proceeded as far as Spiez. Here I landed, and, shouldering my knapsack, set out with the virtuous intention of walking to Frutigen that evening. My way lay under the magnificent slope of the Niesen, that beautiful mountain which overhangs the Lake of Thun, and which is seen to such especial advantage from the neighbourhood of Interlaken.

I had not gone more than a mile or two when I was overtaken by an omnibus which plies between Thun and Frutigen. It occurred to me that if I took advantage of the conveyance as far as the latter place, I might manage to get a trap on to Kandersteg the same night, and thus be enabled to reach the main object of my journey—the Œschinen See—early the next morning.

We arrived at Frutigen at about six o'clock. There I was fortunate enough to find the proprietor of the Bear Inn, at Kandersteg, about to start in a return carriage. I therefore arranged to accompany him.

The night was very fine. As we drew near Kandersteg the moon came up over the magnificent snows of the Weiss-Frau, which closed the valley to the left. Wonderful rays of silver light cast their long arms across the silent mists, and weird shadows from the intervening mountain crags here and there enwrapped our path in gloom.

While walking up a long hill to ease the horse, I overtook a young German, who was also pursuing his way to Kandersteg. We fell into conversation, and while skirting the banks of the Kander I noticed that peculiar effect of the water appearing to run up-hill, which I had once or twice before observed in Switzerland. We were, of course, meeting the stream, which was here flowing over a comparatively level bed. I wondered if my companion would notice the effect, and waited to see. Presently he exclaimed, "The water is running up-hill!" and paused in amazement. I told him I had seen the same thing while journeying to Chamouni one night, and also in the Lauterbrunnen Valley. We vainly endeavoured to account for it, and could only conclude that it was in some way referable to the fact that the extreme height of the surrounding mountains confuses to some extent one's idea of the horizontal line.

As I was travelling with mine host of the Bear—a most intelligent man, who had spent some years in England—I, of course, took up my quarters at that hotel, which lies close under the slope of the Gemmi. The morning following my arrival was magnificent. Looking from my window soon after sunrise, the bare rocky summit of the Gellihorn was before me, its sharp peak, tinted with the rosy light, soaring into the pure blue ether. It is impossible to be a laggard in Switzerland. The crimson tint of morning on the mountain tops, the tinkle of the cattle-bells, the loud voices of the hurrying streams, and, above all, the fresh pure scent of the pine forests all combine to call one forth, hours before the dwellers in cities open their eyes to the dull, smoky light. By six o'clock, therefore, I was working rapidly up the Œschinen Thal, which runs eastward

from the valley of the Kander, at about a mile from the Bear Hotel.

Exquisite views opened on every side as my path rose higher and higher. Behind me was Kandersteg, with its green pastures and rich brown *châlets*. In front was the glorious Weiss-Frau, crowned with everlasting snows. To the right in a deep gorge, the stream from the Œschinen See rushed and tumbled over its rocky bed with a low thunder, which came up to me in a clear monotone through the still air. Away across the stream to the right, a thin cascade came over a buttress of the Doldenhorn, dropping a thousand feet perpendicularly into the gorge below.

As I ascended the last slope and approached the point from which I expected to get my first view of the lake, I felt some anxiety as to the result. Having come so far almost exclusively to see it, the disappointment would have been great had it failed to come up to my anticipations. My anxiety proved to be groundless. Never in my life had I looked upon a more wondrous scene than that which lay before me on surmounting the summit of the path. In the immediate foreground was a stretch of rich grass, intermingled with grey rocks and riven stumps of pines. A little to the left the broken ground rose abruptly to a pine forest, which stretched for a thousand feet up the mountain-side. A few solitary trees—out-lying pickets of the main body as it were—rose on the other side of the grassy foreground, and beyond these lay the lake itself, locked in the arms of the mighty mountains, as still as a sleeping child. The unruffled surface was of that exquisite blue which we get in the hedge-sparrow's egg, and sometimes in the evening sky. Beyond its glassy surface was a scene of splendour which held one breathless. The precipices and snows of

the Weiss-Frau soared upwards, in almost interminable slopes and crags, to the height of twelve thousand feet. Glaciers stretched their mighty arms far down the dim blue gorges, and from their beds of glistening ice, streams, like silver threads, wound downwards to the precipices which overhung the lake, and then dropped in one straight plunge into its placid waters. To the right, pines and bluffs and slopes of grass stretched upwards to the Doldenhorn. To the left, the purple crags above the pine-forest quite shut in the view. It was an amphitheatre of wonder and beauty, with the lovely lake sleeping in the midst. There was not a sight or sound of man to disturb the magical solitude of the spot. One seemed to be locked in the very bosom of the mountains; to be in actual intercourse with the mighty mysteries of nature which surrounded one on every side.

It was long before I could bring myself to the seemingly prosaic task of endeavouring to carry away some slight record of the spot. The whole scene was so awe-inspiring, so overwhelming, that it seemed almost like desecration to attempt it. The hours flew by in contemplation of the lovely scene, and the afternoon sun was declining before I commenced the descent.

I left the Œschinen See with great reluctance. It dwells in my memory as one of the most enchanting spots it was ever my lot to behold. It is but little invaded by tourists. Only one party arrived during the day, and they soon departed, leaving me to my task, and to the companionship of the peasant in charge of the cattle in the high pastures, who came and watched me as I worked, and was put into a seventh heaven of delight at being presented with a franc in return for some delicious milk which he brought me from a *châlet*, hidden somewhere up among the pines.

I secured another slight sketch on my way back to Kandersteg, bringing in the cascade to the right. Before it was finished, however, down came the rain from some huge thunder-clouds, which had been long threatening overhead. I sought shelter beneath a broad-eaved *châlet*, and for upwards of half an hour stood and watched a thunderstorm such as I have never seen equalled elsewhere. The heavens were lit up by such ruddy lightning that the mountains seemed transformed to volcanoes. At times I was literally enveloped in sheets of fire, while the thunder shook the very earth. Never did I realize so forcibly that grand line of Homer's:

> "Heaven opened, roared the mountains, thundered all the ground."

We were away early next morning. The weather was glorious, and that indescribable freshness and beauty which pertains to these mountain-heights was over everything. We wound up through the delicious pine forest for an hour or more and then reached the almost level pathway which skirts the glorious Gasternthal. The valley lay far below, with the silver Kander winding through it for miles. At the further end rose the snows of the Tschingel glacier, and on either side the vast walls of rock revealed a torn and twisted stratification most wonderful to behold. Presently the Altels, with their pure summits of snow, came into view, and then the dark pyramid of the Rinderhorn. We made a two hours' halt here for the purpose of sketching, and then pursued our way steadily up the high pastures until we reached the inn of Schwarenbach, 6,778 feet above the sea.

After a rest of half an hour, we proceeded on our way towards the summit. Patches of snow now began to appear, and here and there the purple gentian raised its exquisite bells from its snowy bed. We skirted the banks of the melancholy Daubensee, and in a short time stood on the highest point of the pass.

There is no greater surprise in all Switzerland than that which awaits the tourist on the summit of the Gemmi. The ascent from the north is comparatively gradual, but on the south side the pass drops sheer down some thousand feet, almost perpendicularly. The village of Leukerbad lies at a giddy depth below. You fancy you could throw a stone on to its roofs. The bare precipices of the Daubenhorn rise to the right. Away to the left lies the Torrenthorn and the pastures about Albinen, while far away in front, one may look for the glorious range of the Pennine Alps beyond the Rhone Valley. We were, however, doomed to disappointment in this respect, for gathering clouds rendered them only just dimly visible for a few moments, and then a storm, which had been threatening for some time, broke upon us with indescribable fury.

A thunder-storm on the summit of the Gemmi is a thing to be remembered for a lifetime. We found shelter in the little stone hut just below the highest point of the pass. For upwards of an hour we stood there watching the lightning far below us, and listening to the reverberations of the thunder among those magnificent crags. By-and-by the storm cleared, and was succeeded by a splendid rainbow, which spread an almost perfect circle before our astonished gaze. As it arched to the left, its curve corresponded exactly to the curve of the rocky pinnacle of the Rinderhorn, which it transformed to a vivid opal of almost unimaginable

beauty. The rain-clouds cleared, and, as the darkness was coming on apace, we hastened our way down the precipitous pathway, which is here cut in the perpendicular face of the rock. This pathway is one of the marvels of Switzerland. In places, one portion of it actually overhangs another, and, from the abrupt angles, you may look down thousands of feet into the gloomy gorges below.

I was determined, if possible, to see the view of the Pennine Alps from the summit. The next morning, therefore, I started from Leukerbad before six, and made my way to the foot of the ascent. The weather was glorious; but even at this hour the sun was beating with unusual power on the southern face of the rocks. It was warm work surmounting the steep and apparently interminable zig-zags, but I stuck to my self-imposed task, and at eight o'clock stood on the highest point, with the keen mountain air playing on my heated forehead, and a prospect of unsurpassable beauty before me. My whole range of the central Alps was visible, including the giant pyramid of the Matterhorn. The clear air was palpitating in the sunny radiance. The cool breeze from the Lämmeren glacier, close to me on the right, acted like a refreshing draught, and stretching myself on the short grass, I enjoyed, in contemplating the wondrous scene before me, half an hour of the purest delight the world can give.

LUCERNE

T. G. BONNEY

WE are speeding on through rich pastoral country. That rounded mass is surely the Rigi; that serrated ridge is Pilatus; there is the snowy cap of the Titlis; there a glimpse of the more distant Oberland summits; the mountain barrier becomes more and more distinct; we dash along by the side of a rushing river; villas and houses thicken, and we are at Lucerne.

There, flashing in the afternoon sun, is the lake, a sheet of blue, like another heaven; there are quaint old towers climbing up the vine-clad hills, and there the great hotels. Certainly the town has lost much since we first knew it, some fifteen years ago. True, the shops are better furnished now than then, and the hotels are more palatial; but the spick-and-span look that is creeping over Lucerne, is, notwithstanding its material advantages, a poor substitute to an artist's eye for the mediæval aspect which once pervaded the whole. We miss the bits of wall, a tower or two, and many a quaint old house, and feel that smart folks crowding to a *table d'hôte* in a grand *salle à manger*, are an unsatisfactory substitute. Let us go to see the Lion; that is not changed; there is even a modern imitation of the original Swiss guard, who will try every art to make you his prey. There is a big wood-carving shop and not a few other incongruities to give a decided cockney flavour to the place;

and a little pond which, when we saw it last, was very dank and ill-smelling; but, for all that, the monument is a grand conception, and worthy of its dedication, "*Helvetiorum fidei et virtuti.*"

But to my mind there are some things in Lucerne even better than the Lion, and these are the bridges, with their sturdy timbers and quaint pictures. What a grim humour it was, as Ruskin well observes, to choose the Dance of Death as a subject here. What a key-note to strike among all the harmonies of the scene. There is the lake, spread like a mirror, with the sunlight flashing like a shower of stars on its rippling surface. There rise the mountain barriers, monuments of struggles bravely waged for freedom, of acres gained by patient toil for corn field and vineyard; their slopes dotted with *châlets*; the outworks to protect the territory recovered from the waste; here is the bright and busy town, its walls and towers at once a safeguard and an adornment; the clear Reuss sweeping swiftly by, turning as it passes the clattering water-wheels; all telling of a struggle, indeed, but one in which the victory has been won by man's strength and endurance; yet overhead, on every beam, in varied form is inscribed, "*Memento mori*," and the timber from the roof cries out, "Vanity of vanities." There the reveller rises from the table; Death feigns to support his reeling steps, while he lays an icy finger on his heart. Here the merchant among his packages presents his bill-of-lading to Death, while another skeleton smooths a bale into the shape of a tombstone. At the hunt, at the dance, at the marriage feast; by the monarch's side, by the ploughman's share, by the gardener as he plants, by the harvestman as he reaps, by the clockmaker as he marks the flight of time, by the architect as he builds, by the student

LUCERNE

and the sage, by the priest and the monarch—Death is everywhere. Now he plays the triangle to the infant, now leans over the couch of the aged man, now embraces the bride, now plunges his sword into the warrior's heart. Perhaps these Lucerners were, after all, not so far wrong. There is a reverse side to the whole scene around; freedom has been won by self-sacrifice, and Arnold von Winkelried is but a type of many a hero, now forgotten; how many a generation has planted trees to profit a coming age on yon slopes above which rise the eternal hills; even the very Reuss, as it sweeps along in the fullness of its strength, takes up the poet's strains, "Men may come and men may go, but I go on forever." The sun is setting, the night is at hand, we must go home. But he will rise to-morrow.

Before starting upon our journey, let us attempt to sketch the general features of the Lake of Lucerne, and glance at its connexion with Swiss history. As it is one of the most beautiful, so it is one of the most remarkable of the Alpine lakes in form. This at first appears so irregular, that no comparison readily suggests itself as an aid to description. On closer examination this apparent complexity to some extent disappears, and the lake is seen to bear a close relation to the valley systems of the district. These, as is usually the case, run in two directions roughly at right angles to each other; the one nearly parallel, the other nearly perpendicular, to the outcrop of the strata. Thus the famous head of the lake—or Bay of Uri as it is often called—is a prolongation of the deep narrow valley of the Reuss, which, in issuing from the defiles of crystalline rock in the St. Gotthard chain, has sawn a way through the folds of thick limestone by which they are fringed. About half-a-dozen miles from Flüelen, the Muotta river comes in

from the east, and a prolongation of its valley forms the next reach of the lake. This appears formerly to have extended much further west than it now does, past the opening of the Engelberger Aa, to the valley descending from the Brunig pass. In that time the wooded mass of the Bürgenstock, which is practically a prolongation of the ridge of Pilatus, must have risen as an island from the lake; now it is united to the south shore of the delta of the Engelberger Aa. The main body of the lake passes to the east of the Bürgenstock through a short narrow pass, and enters another reach, parallel to that which it has just left, between the sharp ridge of that mountain and the massive cliffs of the Rigi. This remaining part of the lake lies in the more open country, and is an irregular cross in shape; the one bar lying roughly in the line already described and leading to Lucerne, where the Reuss issues from the lake; the other in the line of the valley already mentioned as descending from the Brunig pass. The northern arm of this has of course no outlet; but is separated by low hills from the Lake of Zug. Thus, few lakes afford a greater variety of scenery; for at the one end we are almost in the heart of the Alps, at the other we are in the lowland districts of Switzerland.

As the cradle of Swiss freedom, the Lake of the Four Forest Cantons has no less interest for the historian. Its shores are sacred in the annals of the country with memories of its liberators. The exploits of Tell, whether they be historic or legendary, the confederation of the men of Uri, the New Year's morning attack upon the castles held by the Austrian nobles; all centre around the lake. Not far away among the hills on the north is Morgarten—to Switzerland a happier Thermopylæ. Here on a November

morning in the year 1315, thirteen hundred peasants posted on the heights above the little Egeri See, completely defeated twenty thousand Austrian troops, headed by Duke Leopold himself. These were marching southward along a narrow track between the waters of the lake and a flooded morass, when the head of the column was crushed by rocks and darts hurled by concealed foes; the long line was thrown into confusion; and an impetuous charge completed the invaders' destruction. Sempach, as has been said, is not far away, where, some eighty years later, the son of Leopold was defeated by a handful of men and left dead upon the field.

But, besides these earlier struggles, memories of a later and more chequered age belong to the shores of Lucerne. Liberty of opinion in France too often seems to mean the right of murdering all who have the misfortune to disagree with you, whether at home or abroad. In accordance with this principle, which has in later days been illustrated, both in Rome and at Paris, it was determined towards the end of the last century to communicate the blessings of a newly-acquired *Liberté*, *Egalité*, *Fraternité*, to the Swiss, who for a good many centuries had enjoyed a passable, though not always perfect imitation of a Republic. True it was that these benighted mountaineers were not in the least sensible of the blessings thus offered to them; but the apostles of the new gospel of love would listen to no denial. War was declared, the lowlands were quickly overrun, and once more a stand was made among the old historic sites. Morgarten witnessed a second success, though less decisive than the former triumph. Stanz, however, a village on one arm of the Lake, at the foot of the Brunig pass, was the scene of the last desperate struggle, where a small band of moun-

taineers kept at bay for some days sixteen thousand disciplined troops of France, and at last perished—in many cases, men, women and children together,—amid the flames of their homes.

LAKES OF LUCERNE, ZURICH AND ZUG

VICTOR HUGO

BENEATH my eyes I have the Lake of Lucerne, the wonder of Switzerland. The water of the lake comes up close under my window and beats softly against the old stones of the tower. I hear the faint sound of the fish leaping in it. The darkness is intense. On my right, however, I can distinguish a rotten wooden bridge, with sharp-pointed roofing, extending towards a bulky tower with a superb outline. Vague gleams of light run over the water. Facing me, some five hundred steps from my tower, several tall black poplars are reflected in the dark lake. A wide-stretching mist, spread by the night over the lake, hides the rest from me. It is not raised high enough, however, to prevent me from seeing the sinister growth of Mount Pilatus, planted before me in all its immensity.

Above the three teeth of its summit, Saturn, with the four beautiful stars of gold amid which he is set, outlines a gigantic hour-glass in the sky. Behind Pilatus and on the shores of the lake a crowd of mountains—old, bald and deformed—jostle together confusedly: Titlis, Prosa, Crispalt, Badus, Galenstock, Frado, Furka, Mutthorn, Beckenviederberg, Urihorn, Hochstollen, Rathorn, Thierstock, and Brünig. I have a blurred impression of all these goitred, hunchbacked giants crouching in the shadow around me.

From time to time, through the darkness; the sound of

distant bells is borne to me on the wind. It is the cows and goats wandering in the aërial pastures of Pilatus and Rigi, shaking their little bells and this soft music which reaches me here descends from a height of five or six thousand feet.

In this one day I have seen three lakes: the Lake of Zürich, which I left this morning; the Lake of Zug, which vouchsafed me an excellent eel for lunch; and the Lake of Lucerne, which has just provided me with a supper of its admirable salmon trout.

Seen as a bird flies, the Lake of Zürich has the form of a crescent, one of its horns resting at Zürich and the other at Utznach; the Lake of Zug has the shape of a slipper, of which the road from Zug to Arth forms the sole; the Lake of Lucerne resembles, up to a certain point, an eagle's crushed foot, the fractures of which form the two bays of Brunnen and Buochs, and of which the four claws bury themselves deep, one into Alpnach, another into Winkel, the third into Lucerne, and the last into Küssnacht, where Tell slew Gessler. The culminating point of the lake is Flüelen.

I became reconciled with the Lake of Zürich before leaving it. For it was indeed beautiful seen from the height of the flanks of the Albis. The white houses on the opposite road gleamed like pebbles in the grass, some boats with sails rippled the glistening water, and the rising sun dispersed from off the surface of the lake, one after another, all the mists of the night, which the wind carried away diligently to a huge pile of clouds heaped up in the north. The Lake of Zürich was magnificent like this.

When I tell you that I have seen three lakes during the day, I am over cautious; I saw four. Between Albis and Zug, amid the most picturesque sierras imaginable, in the

depths of a ravine, wild and wooded, and solitary, one perceives a little lake of sombre green called the Durlersee, of which the plummet has never yet found the bottom. It appears that a wayside village sank into it and was swallowed up. The colour of this pool of water is disquieting. One would take it for a great tubful of verdigris.—"A wicked lake!" said an old peasant to me as he passed.

The further one goes, the stranger become the horizons. At Albis, one seems to have four ridges of mountains superimposed before one's eyes: the first layer, the green Ardennes; the second layer, the dark Jura, with its abrupt outlines; the third ledge, the bare, precipitous Apennines; behind and above all the white Alps. One might think them the first four steps of the ancient stairway of the Titans.

Then one goes down again into the valleys; one plunges into the forests. The boughs weighted with leaves form over the road a reticulated vault, the meshes of which allow warmth and daylight to rain through. A few sparse cottages, genial and enticing, half hide their frontages of yellow wood, with their windows of round panes, which one might think set in coarse tulle. A benevolent-looking peasant passes with his wagon drawn by oxen. The ravines make wide gaps in the trees, the eye escapes through the cuttings, and, if it is noon and the weather is fine, a magnificent interchange of lights and shadows takes place on every side between earth and sky. The wide curtains of mist overhanging the horizon are rent here and there, and, through the rents, the distant mountains suddenly appear in the depths of a cavern of light as in a magic mirror.

Zug, like Bruck and like Baden, is a charming feudal commune, still encircled with towers, its massive pointed gates blazoned and crenelated, and all battered by assaults

and escalades. Zug has not the Aar, like Bruck; Zug has not the Limmat, like Baden; but Zug has its lake, its tiny lake, which is one of the loveliest in Switzerland. I seated myself upon a slight fence overshadowed by linden-trees, a few steps from my inn. Before me I had the Rigi and Pilatus, which formed four gigantic pyramids, two rising up into the sky and two throwing themselves backwards into the water.

At Zürich I hired a little four wheeled cabriolet, which bowled in the most delightful way imaginable along this pretty road, with its escarpments of trees and rocks on the left, and on the right the water of the lake scarcely ruffled by a breath of air. The lake is graceful on leaving Zug; it becomes magnificent as one approaches Arth. For above Arth, a large village in the Canton of Schwytz, is the Rossberg, which the country-folk call the "*Sonnenberg*" (the mountain in the sunlight), and the Rigi, which they call the "*Schattenberg*" (the mountain in the shadow).

At three o'clock I entered the shadow of the Rigi, leaving dazzling sunshine on the hills of Zug. As I approached Arth, I thought of Goldau. I knew that that pretty laughing town hid from the wayfarer the corpse of the crushed village. I gazed at that placid lake in which *châlets* and mountains were mirrored. It also conceals terrible things. Beneath the Rigi it is twelve hundred feet deep, and when it is swept by the two violent winds which the boatmen of Arth and Zug call the Arbis and the Wetterfœhn, this charming pool of water becomes more formidable and horrible than the ocean. Before me, in the far distance rose the Rigi, a huge, dark, precipitous wall, up which the fir-trees clambered in confused and emulous haste, like battalions climbing to the assault.

At five o'clock I emerged from this shadow of the Rigi. I had crossed the elbow which forms the lower end of the Lake of Zug, I had passed through Arth, and had just left the shore for a road with very steep banks, which ascends one of the low ridges of the Rigi at a tolerably steep incline.

Suddenly the road grows lonely; a dilapidated house emerges from a cluster of trees upon a little grass-plot. My driver had stopped. I was in the famous Hollow Way of Küssnacht. On the 18th of November, 1307—five hundred and thirty-one years, nine months and twenty-two days ago—at this very hour and on this very spot, an arrow, firmly sped through this very forest, pierced a man to the heart. This man was Austrian tyranny; the arrow was Swiss liberty.

The road from Küssnacht to Lucerne skirts the water like that from Zug to Arth. The Lake of Lucerne is even more beautiful than the Lake of Zug. Instead of the Rigi, I had now Mount Pilatus before me.

THE RIGI

DR. S. G. CHEEVER

IT was the 6th of September, and the most perfectly beautiful morning that can be imagined. At a quarter past three the stars were reigning supreme in the heavens, with just enough of the old moon left to make a trail of light in the shape of a little silver boat among them. But speedily the horizon began to redden over the eastern range of mountains, and then the dawn stole on in such a succession of deepening tints, that nothing but the hues of the preceding sunset could be more beautiful. But there is this great difference between the sunrise and sunset, that the hues of sunset are every moment deepening as you look upon them, until they fade into the darkness, while those of the sunrise gradually fade into the light of day. It is difficult to say which process is the more beautiful; for if you could make everything stand still around you, if you could stereotype or stay the process for an hour, you could not tell whether it were the morning dawn or the evening twilight.

A few long, thin stripes of fleecy cloud lay motionless above the eastern horizon, like layers of silver lace, dipped first in crimson, then in gold, then in pink, then lined with an ermine of light, just as if the moon had been lengthened in soft furrows along the sky. The scene in the east attracts every eye at first, but it is not here that *the* glory of the view is to be looked for. This glory is in that part of

RIGI FROM LUCERNE

the horizon on which the sun first falls, as he struggles up behind the mountains to flood the world with light. And the reason why it is so glorious is because, long before you call it sunrise in the east, he lights up in the west a range of colossal pyres that look like blazing cressets kindled from the sky.

The object most conspicuous as the dawn broke, and indeed the most sublimely beautiful, was the vast enormous range of the snowy mountains of the Oberland, without spot or veil of cloud or mist to dim them; the Finster-Aarhorn at the left, and the Jungfrau and Silberhorn at the right, peak after peak and mass after mass, glittering with a cold wintry whiteness in the grey dawn. Almost the exact half of the circumference of the horizon commanded before and behind in our view, was filled with these peaks and masses of snow and ice, then lower down the mountains of bare rock, and lower still the earth with mounds of verdure; and this section of the horizontal circumference, which is filled with the vast ranges of the Oberland Alps, being almost due west from the sun's first appearance, it is on their tops that the rising rays first strike.

This was the scene for which we watched, and it seems as if nothing in nature can ever again be so beautiful. It was as if an angel had flown round the horizon of mountain ranges and lighted up each of their white pyramidal points in succession, like a row of gigantic lamps burning with rosy fires. Just so the sun suddenly tipped the highest points and lines of the snowy outline, and then, descending lower on the body of the mountain, it was as if an invisible Omnipotent hand had taken them, and dipped the whole range in a glowing pink; the line between the cold snow untouched by the sunlight and the warm roseate hue above

remaining perfectly distinct. This effect continued some minutes, becoming, up to a certain point, more and more beautiful.

We were like children in a dark room, watching for the lighting up of some great transparency. Or, to use that image with which the poet Dante endeavoured to describe the expectant gaze of Beatrice in Paradise, awaiting the splendours to be revealed, we might say—

> "E'en as the bird who midst the leafy bower
> Has in her nest set darkling through the night,
> With her sweet brood; impatient to descry
> Their wishèd looks, and to bring home their food,
> In the fond quest unconscious of her toil:
> She of the time prevenient, on the spray
> That overhangs their couch, with wakeful gaze
> Expects the sun; nor ever, till the dawn,
> Removeth from the east her eager ken.
> Wistfully thus we looked to see the heavens
> Wax more and more resplendent, till on earth
> Her mountain peaks burned as with rosy flame.
> . . . . 'Twixt gladness and amaze
> In sooth no will had we to utter aught,
> Or hear. And as a pilgrim, when he rests
> Within the temple of his vow, looks round
> In breathless awe, and hopes some time to tell
> Of all its goodly state; even so our eyes
> Coursed up and down along the living light,
> Now low, and now aloft, and now around
> Visiting every step. Each mount did seem
> Colossal ruby, whereon so inwrought
> The sunbeam glowed, yet soft, it flamed intense
> In ecstasy of glory."

In truth no word was uttered when that scene became visible. Each person gazed in silence. It was as if we witnessed some supernatural revelation, where mighty spirits were the actors between earth and heaven. And yet a devout soul might have almost felt, seeing those fires kindled as on the altars of God made visible, as if it heard the voices of Seraphim crying Holy, Holy, Holy is the Lord of Hosts, the whole earth is full of His glory! For, indeed, the vision was so radiant, so full of sudden, vast and unimaginable beauty and splendour, that methinks a phalanx of the Sons of God, who might have been passing at that moment, could not have helped stopping and shouting for joy as on the morning of creation.

This was the transient view, which, to behold, one might well undertake a voyage across the Atlantic;—of a glory and a beauty indescribable, and nowhere else in the world to be enjoyed, and here only in perfect weather. After these few moments, when the sun rose so high that the whole masses of snow upon the mountain ranges were lighted with the same rosy light, it grew rapidly fainter, till you could no longer distinguish the deep exquisite pink and rosy hues by means of their previous contrast with the cold white. Next the sun's rays fell upon the bare rocky peaks, where there was neither snow nor vegetation, making them shine like jasper, and next on the forests and soft grassy slopes, and so down into the deep bosom of the vales. The pyramidal shadow cast by the Rigi was most distinct and beautiful, but the atmospheric phenomenon of the Spectre of the Rigi was not visible.

This amazing panorama is said to extend over a circumference of three hundred miles. In all this region, when the upper glory of the heavens and mountain-peaks has ceased

playing, then, as the sun gets higher, forests, lakes, hills, rivers, trees and villages, at first indistinct and grey in shadow, become flooded with sunshine and almost seem floating up towards you.

There was for us another feature of the view, constituting by itself one of the most novel and charming sights of Swiss scenery, but which does not always accompany the panorama from the Rigi, even in a fine morning. This was the soft, smooth white body of mist, lying on most of the lakes and in the vales, a sea of mist, floating or rather brooding, like a white dove, over the landscape. The spots of land at first visible in the midst of it were just like islands half emerging to the view. It lay over the Bay of Küssnacht at our feet, like the white robe of an infant in the cradle, but the greater part of the Lake of Lucerne was sleeping quietly without it, as an undressed babe. Over the whole of the Lake of Zug the mist was at first motionless, but in the breath of the morning it began slowly to move altogether towards the west, disclosing the village of Arth and the verdurous borders of the lake, and then uncovering its deep sea-green waters, which reflected the lovely sailing shadows of the clouds as a mirror.

Now the church bells began to chime under this body of mist, and voices from the invisible villages, mingled with the tinkle of sheep-bells and the various stir of life awakening from sleep, came stilly up the mountain. And now some of the mountain peaks themselves began suddenly to be touched with fleeces of cloud, as if smoking with incense in morning worship. Detachments of mist began also to rise from the lakes and valleys, moving from the main body up into the air. The villages, *châlets* and white roads, dot-

ting and threading the vast circumference of landscape, come next into view. And now on the Lake Zug you may see reflected the shadows of clouds that have risen from the surface, but are themselves below us.

MOUNT PILATUS

VICTOR HUGO

PILATUS is a wonderful mountain. It is terrible in shape. In the Middle Ages it was called *Fracmont*, the broken mountain. There is nearly always a cloud over the summit of Mount Pilatus ; hence its name of *Mons pileatus*, the capped mountain. The Lucerne peasants, who know the Gospel better than Latin, turn the word *pileatus* into *Pilatus*, and conclude from this that Pontius Pilate is buried beneath the mountain.

As for the cloud, it behaves according to the old women, in a fantastic fashion: when present, it foretells fine weather; when absent, it foretells a storm. Pilatus, like the eccentric giant that he is, puts on his cap when it is fine and doffs it when it rains. So that this mountain-barometer dispenses four Swiss Cantons from having at their windows those little hermits with movable hoods animated by means of catgut. The existence of the cloud is certain. I watched it all the morning. Within four hours it took twenty different shapes, but did not leave the mountain's brow. Sometimes it resembled a great white stork lying in the hollows of the summit as in a nest; sometimes it split up into five or six little clouds, making an aureole of eagles hovering around the mountain.

You can understand how such a cloud over such a mountain was certain to give rise to many superstitions in the country below. The mountain is peaked, the slope is

laborious ; it is six thousand feet in height, and its summit is surrounded by many terrors. It, therefore, made the most daring chamois-hunters hesitate long.—What could be the cause of that strange cloud ?—Two hundred years ago, a freethinker who had the foot of a mountaineer, risked his life and climbed Mount Pilatus. Then the cloud was explained.

On the mountain's very crest there is a lake, a tiny lake, a bowl of water a hundred and sixty feet long, eighty feet broad and of unknown depth. When it is fine the sun strikes upon this lake and draws a cloud from it; when the weather breaks, there is no more sun and no more cloud.

Besides the lake, prodigious things were found on Mount Pilatus. First, a fir-tree unique in the whole of Switzerland—a colossal fir-tree with nine horizontal branches and bearing on each of these branches another great fir-tree, which must have made it look like a gigantic seven-branched candlestick. Then, in the Bründlisalp, which is the ridge nearest the seven peaks of the summit, an echo, which seems rather a voice than an echo, so perfect is it and so clearly does it repeat words to their last syllables and songs to their last notes. And lastly, in a fearful precipice in the middle of a perpendicular wall of black rock more than six hundred feet in height, the mouth of an inaccessible cavern, and, at the entrance of this cavern, a supernatural statue of white stone some thirty feet in height, sitting cross-legged and leaning its elbows on a granite table, in the redoubtable attitude of a spectre guarding the threshold of the cavern.

It appears that the cave pierces the whole mountain and comes out on the other side beneath the Tomlisalp at an opening called the "Moon-hole" because, says Ebel, much "moon-milk" is found there.

Being unable to scale the wall six hundred feet in height they endeavoured to turn the statue and to enter its retreat by the "moon-hole." This hole is sixteen feet in diameter one way and nine in another. It pours forth a torrent and an icy wind. This in itself was sufficiently dangerous. They ventured it, however. They groped their way through vaulted chambers; they crawled on their faces, now beneath fearful ceilings, now through running streams. No one was able to penetrate to the statue. It is still there, intact in the strict sense of the word, contemplating the abyss, guarding the cavern, serving its term of confinement and dreaming of the mysterious workman who carved it. The mountaineers call this figure Saint Dominic.

The Middle Ages and the Sixteenth Century concerned themselves with Pilatus as much as with Mont Blanc. To-day no one thinks of it. The Rigi is the fashion. The gloomy superstitions of Mount Pilatus have fallen to the level of old wives' tales and there stagnate. The summit is no longer dreaded except for the difficulty of climbing it. General Pfyffer has made barometric observations upon it and declares that the minster of Strasburg can be seen from it with a telescope.

A strange community of shepherds have taken up their quarters and settled there. They are strong, active men, living to be centenarians and profoundly despising the human ants who inhabit the plain.

Nevertheless there are still at Lucerne ancient laws prohibiting the throwing of stones into the little lake at the summit of Pilatus, for the fantastic reason that a flint causes a water-spout to rise out of it, and that the lake repays every stone thrown into it, with a storm that covers the whole of Switzerland.

ZÜRICH

WILLIAM HEPWORTH DIXON

A BRIGHT old city on a fresh green lake—white houses nestling in the midst of trees; quaint streets, arcades and spires; grim minsters looking down on shop and stall; wide quays and bridges, piers and water-mills; old convents, walls and towers; new colleges, hotels and railway lines; the records of a thousand years, the fancies of a passing day; a church of Charles the Great, a palace of the modern arts; one river leading from the lake; a second river rushing from the hills; around you mounds and crests, here rolling outward to the Adlis-berg, there straining upward to the Albis chain; each hill with vineyards at her base and village belfry on her top; and in the front, beyond the stretch of shining lake, a rugged line of Alps, all swathed and lit with snow—is Zürich city, capital of Zürich Canton and a paradise of learning and of learned men.

Some natives speak of Zürich as the Swiss Athens; men who live in books and have their hearts inflamed with ancient Greeks. For Zürich is the centre of a Switzer's intellectual life. Among her literary and artistic circles, she can boast academies of art and music; institutes of science and of law; botanic gardens, public libraries and museums; a society of public usefulness; a Grütli club, an Alpine club, a reading club, a natural-history club; societies of commerce and of agriculture; many hospitals, retreats, asylums; a society of antiquities; a public garden on the lake; a theatre; a temple of freemasons; many Church

unions; and a hundred colleges and schools. The University is here; the Polytechnic is here; the anatomical school is here; the cantonal schools and burgher schools are here. Yon shining edifice on the slope, above the Heretics' Tower is a palace of the practical arts. This block abutting on the minster is the ladies' school. These buildings in the tulip-trees are secondary schools. In the Virgin's quarter, near the Town Hall, stand the city schools for boys. On every side, in almost every street, you find a school; a primary school, a secondary school, a supplementary school; day schools; evening schools; schools for the blind; schools for the deaf and dumb (all models of their kind); industrial schools, commercial schools, linguistic schools: yes, schools of every sort and size excepting actual pauper schools. For Canton Zürich has no paupers born and bred; no paupers known and labelled as a class apart. Some poor she has; but they are few in number; not, as with ourselves, a state within the State.

A prosperous country stretches round the city and reflects her life; a Canton small in size compared with Berne, Graubünden, Vaud and Valais; but teeming with a brave, enduring race; a people full of labour, song and fight; a little rough in speech and hard in style, as men who know their worth are apt to be; yet patient in their strength, disposed to work with nature, not against her laws. The land is lovely in itself, and made more lovely still by art. Fair lakes are brightened by the works of man; by latteen sail and puff of silver cloud, no less than by the cheery range of garden, *châlet*, wood and spire. Low hills are tamed to vineyards, while the higher grounds are fat with fruit. Above these knolls, on which the grapes and medlars seem to ripen against nature, start the bergs and spits

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all green with wood; and straining up their sides, and flowing from their feet, broad belts of pasture land, on which vast herds of cattle range to browse. So far as art can reach, these mountain slopes are cleared and fenced for use. A craft, a will, a strength, but seldom seen in man's affairs, are noted in this Canton; not in one part only and in one thing only, but in every part and everything alike. The climate is not good. The average warmth is lower than in Kent. Sharp winds sweep down the gullies and across the lake. Yon peaks are noted for their wintry storms, and one great breadth of alp in front of Zürich bears the name of Windgelle—screaming wind. The soil is poor and gritty; three parts pounded rock to one part vegetable mould. Yet when the best is made of it, how much that best can do! Observe the peasant's shed, the pastor's porch, the farmer's field: how clean that shed, how bright that porch, how orderly that field! You see no heaps of mess, you smell no hidden filth. Each article is in its place; and order reigns by virtue of some natural law. These roads are wide, these bridges strong, these waters fenced. The snows melt rapidly in Canton Zürich; yet the floods, being guided and contained by dykes, roll down their beds, and through their overflows, without much hurt; while in some neighbouring and neglected Cantons they are dashing mills to pieces, drowning goats and sheep, and tearing forests from the ground. In small things and in great you find these proofs of active thought and ready hand. Just peep into this bit of ground; a common garden, with the usual herbs and roots, the usual flowers and seeds. Each bed, each tree, each plant, is treated by itself, as though it were a child. Observe how every branch is pruned, how every leek is watered and how every gourd is trained. You need not marvel

at the cherries on that tree. Here in the corner climbs a vine. The summer heat is on her leaves, and what a promise of the blood red grapes to come!

The country all round Zürich is a garden, watered by innumerable springs and lakes. These springs and lakes are trained with Oriental craft, to flow about the orchards and potato-fields. Though mostly built of stone, the farms are painted of a cheery yellow, pink and white. These walks are planted and these roads well kept. Each house appears to stand in its own grounds. No poor are to be seen about the roads, save here and there some Swabian tramp, some Savoy beggar, or some pilgrim to St. Meinrad's cell. No Züricher is homeless; hardly any Züricher is poor. In driving on these roads, you hear at every turn the song of life and work—the woodman felling trees, the milkmaid bringing home her pail, the cobbler stitching at his stall, the miller grinding at his wheel—all chirping at their task, the live-long day. The secret of this gracious look of things in Canton Zürich is, that every man enjoys an independent place.

These labourers have an interest in the soil they till. No ballast for a man like that of having a little earth—his own—about his feet. These rustics own the cottages in which they live—the ground on which they toil. Though peasants born and bred, they understand their rights. They have been long at school and know the history of their Canton and their country. Every man among them has been taught his civic duties—has been schooled and drilled into a man. A child, he conned his lessons in the Virgin's quarter of the town; a youth, he marched and wheeled on the parade; a man, he casts his vote in the electoral urn and scores the bull's eye at the Wollis Hofenbutts.

Each peasant owns, besides his house and field, a rifle and a vote.

No sleepy hollow, where a shepherd feeds his flock, a craftsman plies his trade, without one thought beyond the summer heat and winter cold, is Canton Zürich; but a fierce and busy agora, in which all news are searched, all questions put, all answers canvassed in their length and depth. The heat of life is felt in every vein. All forces here seem vital forces; pulse and brain beat time together; and the hearts of men dilate with the abounding tides. Democracy is not a name—a form of words—a label on a book of laws; it is a fact. Each unit in the body politic is a living force. At dawn, a man gets up to work; while sitting at his loom, he thinks; some grievance in the code arrests him; he imparts his fancy to a neighbour; in a week a new discussion may arise. A thousand projects agitate men's minds and keep them in a state of civic health; from Federal questions down to Communal questions, and from problems of the church and state to trifles of the streets and stalls. But most of all, men talk and fight about political forms.

In one sense, Canton Zürich is conservative. She clings with limpet-like tenacity to her main ideas—her republican faith, her Federal duty, her religious life; but in a lower plane she is of revolutionary cities the most revolutionary. Every twenty years or so, she sets about revising her fundamental pact. Men yet living can remember five or six fundamental laws in Zürich, from the semi-feudal constitution overthrown in 1831, to the new and perfect system of democracy set up in 1869.

Some years ago, some Feudal families in Zürich, boasting of descent from ancient vogts and bailiffs, held the whip; an aristocracy of wealth and learning, fenced about with

privilege and immunity, and holding by the right of birth all avenues to political power. By a set of public movements and with scarcely any bloodshed in her streets, these Feudal families were displaced. It is the genius of the Züricher to gain his ends by short and easy steps. A man of order, he contents himself with action in the polling-booths. One day he gains a point; another day he gains a point. In time his revolution has been made, and public order has not been disturbed.

The University was in the lower town, in old monastic lodgings, dreary, small and dark. The Liberals wished to plant it out on open ground, in sunshine, on the crest, where every eye could catch a glimpse of it. The Feudalists would have no change; the Liberals beat them, and the University was removed.

Old walls and towers surrounded, cramped, and closed the town. The Liberals wished to pull them down, to let in air and light, to build a railway station near the city gates, to fill the ditch, and turn the glacis into terraces and schools. The Feudalists opposed this change ; the Liberals beat them, and the walls came down, excepting only two or three old towers retained as picturesque memorials of the past.

The constitution was too feudal in its character to please a democratic people holding guns and votes. A public meeting was convened in 1867 to ask for a revision. What the Liberals wanted was a more direct relation of the voters to the government; a right to choose the State Council as well as the Grand Council; a veto on financial projects; and a larger influence over church and school. The Feudalists protested ; but the Liberals beat them on appeal, and then the Cantonal constitution was revised.

BASLE

VICTOR TISSOT

WHEN the Paris-Lucerne express arrives at Basle, there is an hour or two that may be spent in seeing the city; that is long enough. The principal objects of curiosity in Basle are its ancient-looking buildings, giving it the aspect of an old German city; its fortress gates, flanked by towers which in olden times were connected by rampart walls; its long, winding streets, dark and narrow, with here a flight of many steps, and there a steep paved slope; its dull little squares, adorned with playing fountains, and some of the houses with many-gabled roofs, and windows still made with round panes set in a slender trellis-work of lead. The visitor should also notice the forged iron signs of the inns, hung from supports that look as light and delicate as lace-work, and consisting of fantastic arabesques, conventional flowers, golden roses, heraldic birds, swans with expanded wings, wild men armed with clubs, or crowned lions bearing the sword and globe as emperors of the Holy Empire.

The large number of historical houses shows how important a position this town formerly occupied in the world.

The Emperor Rudolph of Hapsburg lodged at the Seidenhof; the conclave that elected Pope Felix II. was held in the house Zur Mücke; Erasmus lived in the house Zur Luft; peace between Prussia and France was signed in 1795 in the house Burkhard; the members of the Conven-

tion who had been taken prisoners were exchanged for the Duchess of Angoulême in the house Hirsch.

The Town Hall occupies one side of a little square, in the middle of which a Gothic fountain sends up a pretty, bell-shaped jet of water. The Hall has a magnificent, delicately carved front, with a fine clock, a belfry pointed like an arrow, fresco paintings, and a herald-at-arms in splendid plumes, bearing the coat-of-arms of Basle. Its iron gate is like a great window-blind, embroidered in open-work. All over there are statues, doors of carved wood, and in a prominent position, the escutcheon of Basle, held on one side by the Virgin and on the other by the emperor. A stone staircase, adorned with the statue of Munatius Plancus, the founder of the city, leads from the court to the vestibule on the first floor, where a Lutheran painter has depicted, according to his idea, some scenes of the Last Judgment. A devil in yellow trousers, with a cock's head and a duck's feet, is throwing nuns, monks, a pope, and a courtesan into the flames; while another, as green as a frog, is bringing a lectern on his shoulders, and above him, in all the glory of paradise, and under the eye of a figure meant to represent the Eternal, rosy, chubby-cheeked angels sound the resurrection-trumpet.

Religious disputes have always been carried on very keenly in Switzerland, and have everywhere left deep and permanent traces.

When you go up from the Town Hall to the cathedral, you see how it has suffered in those times of strife,—how volleys of stones have defaced and mutilated the saints mutely praying under the arches of its three doorways. But you quickly lose sight of these marks of violence in looking at the building as a majestic whole, with its two

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graceful towers terminating in spires carved in wavy lines like a delicate piece of goldsmith's work, and showing the light through innumerable openings, and the grand outline of this huge red mass, thrown out from the deep blue of the sky like a mountain of porphyry hewn out by giants.

This cathedral of Basle is, like its sister temples on the banks of the Rhine, a truly magnificent building. It was begun in 1010 by the Emperor Henry II., and built after the Byzantine school. Three centuries and a half later it was rebuilt in Gothic style. Proudly holding its place as the sentinel of an older time, on the bank of the river that flows at its feet, it looks right across the plain broken up into meadows, fields, and forests, to the great embattled ramparts of the High Alps, pencilled faintly afar on a turquoise sky.

Close to the cathedral rise the graceful, tapering arches of an old cloister, where many, once full of eager, busy life, now lie in their last long sleep. Under their cool shadow there is a sense of restful solitude, of quiet well-being, as if the soul had already laid aside its miserable garment of flesh and of pain. In this quiet enclosure, pacing these long, melancholy arcades, besides all those silent dead, we feel as if we, like them, were delivered from all the troubles and torments of life.

Those long aisles, paved with tombstones, were the favourite walk of Erasmus. When he stayed his steps at one of those deep Gothic windows looking towards the town, with its streets rising one above another like the tiers of a theatre, what looks of irony he must have cast at the world,—its juggling tricks, its false appearances, its hypocrisies, its roguery and falsehood!

At such times he was meditating, with a cynical smile on

his face, on his "Praise of Folly," or composing his sceptical and bitter "Colloquia" between the Soldier and the Carthusian, the Abbé and the Blue-stocking, the Liar and the Man of Truth. All the characters with which the public were familiar in the comedy of the period—monks and soldiers, scholars and pilgrims, women and abbés—he drew to the life in those dialogues, full of pungent wit, in which he makes them speak and act in a terribly realistic manner.

But now here we are on the terrace, in the cool, green shade of the great chestnut-trees. The view that suddenly meets our eye is as charming as unexpected.

At our feet flows the Rhine, already broad enough to reflect a cathedral or a citadel; to the right, above the slopes that run down to the river, are seen fine trees, towers and pinnacles, weather-cocks and turret windows, mingling in delightful confusion amid the uneven sea of old roofs; to the left, terraced gardens with white retaining walls, the end of a steep street, and the great stone bridge that partly replaces the old wooden one.

On the opposite side, Little Basle presents the regular lines of its modern houses, broken here and there by a factory with its tall red chimney; and beyond that, a vast plain, green as the Rhine, stretches away into the far distance, with little white points that are villages, and ribbons of silver that are brooks or rivers, or perhaps roads with grey fringes, which are poplars, waving like plumes in the breeze.

On the dim horizon, half seen through a silvery haze, the mountains crowd one on another, rank after rank, like a whole procession of pilgrims kneeling before the white marble shrine of the eternal snows.

The two Basles have not always been good neighbours; for a long time they lived like brothers at war. The inhabitants of the left bank held themselves superior to those on the right; and there is a tradition that in order to insult their rivals they erected on the tower that guards the bridge a grotesque figure, which at every quarter of an hour thrust out its tongue towards Little Basle. But though such a figure was really placed on the bridge, there seems to be no foundation for ascribing such a motive.

Until the close of the last century, it was the custom for all the clocks of Basle to strike an hour in advance. It was only in 1778 that the town authorities secretly agreed to set back the hands half a minute daily, and thus imperceptibly to reach correct time.

The origin of this custom dates as far back as the first council that was held in Basle, during which it had been found necessary to put forward the clocks that the bishops and cardinals might rise in the morning; for they were said to be "very lazy persons, never in a hurry to come to the meetings."

Basle is not a cheerful town. The bankers, who form a large part of its population, weave their webs in silence,—a solid and beautiful fabric of silver, which they do not hang out to shine and sparkle in the sun, but hide away in great iron coffers.

There is something angular and stiff about Basle,—something that belongs to its rigid orthodoxy and its Puritan worship. The most elegant houses have an austere aspect, which is owing not only to their style of architecture but to the people who live in them.

After leaving Paris only the day before,—Paris, so bright, so easily pleased, so wide awake, so full of life and stir, and

yet so foolish and idle,—even the most unobservant person must be struck by the contrast. It seems like another world, cramped and restricted. Therefore we make no long stay at Basle.

And yet its museum is really a wonder,—a treasure beyond value. Whole days might be spent there in studying the works of Holbein and Dürer.

GENEVA

CHARLES W. WOOD, F. R. G. S.

THE next morning, the weather as brilliant and glorious and warm as an August day, we took passage in the little steamer for Geneva.

Nothing could be more lovely. The blueness of the lake rivalled the far-off skies. Not a cloud or the faintest wreath of mist hung about the mountains. The Dent du Midi stood out in all its massive splendour. The grey walls of Chillon were reflected in the calm water, its towers and turrets were sharply outlined against the background of hills. Again we thought of the Oubliette, the spiral staircase and the pointed knives—and shuddered. With quite a feeling of excitement we saw the train far up the mountain leave Glion and go on its way towards the Rochers de Naye. Oh, to be there in such weather! What a paradise above the earth!

We had quite a long day before us on the lake and for a time nothing could be more delightful. The steamer stopped frequently at places that have become household words to all; Clarens, Vevey, Lausanne, Morges. The day was so calm, the lake so clear that we saw two worlds: one above the water, one below it: and the reflections were as vivid and life-like as the realities, and more poetical. Our human freight changed frequently. Many a town and village was wonderfully picturesque with mediæval outlines; ancient fortresses and turreted castles that had played their part in a world that is receding from us and growing

very faint and shadowy. At Lausanne the town stretched far up the slopes, and in the distance the cathedral towers were outlined. Morges, with its old castle and its ancient harbour and romantic associations, was especially interesting. Here as we glided gently over the smooth surface of the water, we thought we saw far down the pile-city of the Lake-dwellers. We fancied we heard voices speaking, church bells ringing. Of course it was all imagination, but it was sufficient to plunge us into a dream of that strange story of the past.

As the afternoon went on, the lake widened and lost its immediate charm; the air grew chilly; and when towards five o'clock Geneva came in sight, we were glad that the journey was coming to an end.

As we approached it from the water its outlines were sufficiently commonplace; but we had formed no very exalted ideas of its beauty and were not likely to be disappointed. Geneva is essentially a city of to-day. Fifty years ago it was a small place with mean and narrow streets, unwholesome and unattractive. During this half century it has been almost entirely rebuilt. Few towns have had more uninterrupted prosperity. All the world and his wife have visited and continue to visit Geneva. Least interesting of all Swiss towns, it is the central point towards which all radiate. Nor can we wonder, for if its visible and tangible attractions are small, its historical atmosphere is in its way unrivalled.

As we approached the quays we saw that they were lined with strictly modern outlines; enormous houses and hotels common to the end of the Nineteenth Century. Immediately facing the landing-stage was one of the largest of the hotels, the Beau Rivage. It ranks among the first, and

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was so near at hand that we decided to take it; but we found it dear and uncomfortable, the bedrooms close and stuffy.

As the steamer glided up the lake towards the landing-stage Rousseau's Island reposed at the other end, and under the trees we caught sight of the outlines of the bust of that strange man, with his mixed and complicated and contradictory nature; full of poetical aspirations and lofty intentions, if we may believe him, joined to a constant weakness of purpose, a frailty of temperament which left him helpless and yielding in the face of every temptation.

Geneva, we have said, has been for the most part rebuilt in the last half century; looking at her enormous houses and hotels, her tree-lined thoroughfares, one might say in the last ten years. But there still remains a small part of the upper town that is ancient. Of this, the cathedral is the centre, the latter very much spoilt by its Eighteenth Century portico.

It is impossible to walk these old streets of the past without feeling oneself surrounded by that little crowd of people who have made Geneva forever famous: Calvin, Beza, Farel, Knox, Voltaire (what a juxtaposition, those two!), Rousseau, Neckar, Madame de Staël, Casaubon, de Candolle, Huber, Sismondi, Bonivard, d'Aubigné—why multiply names? And then there are a few names to cast a reflection upon the greatness of some of these—such names as Castellio and Servetus.

The streets seem haunted by that great crowd of reformers and literary stars. Their shadowy forms surround one. You pass the houses some of them inhabited, and ghostly faces peer at you through the old windows, and ghostly forms glide through the open doorways. You enter

an old-fashioned room and hear Farel threatening Calvin with the wrath of Heaven if he will not make their cause his own. Calvin trembles and yields. You enter the cathedral and the building rings with the voice of Calvin, his presence fills the pulpit; his eloquence, his earnestness, his indomitable will carry the people with him, as a rushing stream sweeps down all obstruction upon its bosom. Whatever its views and opinions, he was a man raised up for the times; and to him and his band of reformers Protestantism owes an undying debt.

After visiting Italy, Calvin, at the request of his enthusiastic friend, Tillet, went to Geneva. His arrival was made known to the still more devoted Farel, who had also escaped from Paris.

The marvellous changes proceeded with the rapidity almost of a revival. Geneva had just thrown off the yoke of the Dukes of Savoy, thus breaking the link with Rome. The times were ripe for the Reformer. The people eagerly embraced Protestantism. A Protestant Confession of Faith was drawn up and proclaimed in the Cathedral church of St. Peter's. A vast concourse of people accepted it. Vice and frivolity gave place to gravity of demeanour and religious observances.

Then came a reaction. The reform was too sudden. A certain section of the people rebelled. These were called Libertines, and grew so strong in power that once more Calvin had to fly from Geneva—or rather was expelled from it. He went to Strasburg, devoted himself to study, and married a widow: but death soon dissolved the happy marriage, and though a young man, he never married again.

Three years passed away. During all this time the people of Geneva were gradually repenting their conduct to

Calvin. Everything had gone wrong. The Libertines proved themselves unable to govern; disorder reigned. They begged Calvin to return to them, and he did so. This time it was to remain. His rule was established, though not without opposition. For fifteen years the Libertines opposed him to the utmost. At last, after a semi-riot in the streets, accompanied by more noise than bloodshed, the leaders were driven from the city and burnt in effigy. The town had peace.

Other disputes would occasionally arise, some of which were conducted with more zeal than charity or discretion. One's sympathies go out to his old friend Castellio, whom, in his religious fervour he persecuted.

He found Castellio at Strasburg, had admired his learning, bewailed his poverty. He it was who brought Castellio to Geneva and gave him a post in the city. Then their religious views came into conflict, and Calvin, intolerant and narrow-minded, could permit no departure from his own firmly-rooted convictions. He became terribly bitter against Castellio and in the end drove him from the city.

Still more sad was the history of Servetus, or Servede, in the language of his native country, Aragon. Servetus was so quarrelsome, fiery and impetuous that he was always in trouble. Having made himself notorious by his religious views, he proceeded to Paris and took up the study of medicine, passing with honours. He is said to have been the first to guess at the circulation of blood. Getting into trouble with the Faculty, he left Paris and came into contact with Calvin, challenging his doctrines and advancing his own, which were full of error. He was brought to trial and sentenced to be burnt, a sentence altogether without defence.

Servetus escaped, and for a time lived in Provence, supporting himself by writing. After this, on his way to Italy, he had the folly to pass through Geneva, actually appearing in church. He was recognized, and Calvin caused him to be arrested.

Again he was tried, the trial lasting two months, was found guilty, and again sentenced to be burnt. Calvin endeavoured to have the sentence changed to imprisonment or banishment, but unsuccessfully. The very next day Servetus was bound to the stake; his heretical works were thrown upon the piles of wood, and he died in great agony: a blot upon the times of the Reformation, a reproach to its leaders, of whom Calvin was the foremost.

From this time Calvin's power and influence were greater than ever. It reached not only his immediate surroundings, but extended to many parts of Europe. His whole life and soul and devotion lay in his cause; for which indeed he shortened his days. When health began to fail he would not relax his efforts. For two years his great strength of will and determination of character supported him: and then on the 27th May, 1564, the end came.

His strong personality still seems to haunt the old streets of Geneva, just as his religious teaching and influence remain.

And passing beyond those streets to the heights above, we reach the spot where Servetus was burnt. It was the autumn of the year, when the trees were turning brown and the leaves were dying. The aspect of Nature was in harmony with the inhuman sacrifice. It was just such a scene as we looked upon one morning, also the autumn of the year; but we put from us the tragedy of three centuries and a half ago. Nor was it difficult as we advanced to the front of the cliff and gazed upon the marvellous view.

Far below us the two rivers ran their course : the Rhone and the Arve. A little further on and there came the wedding of the waters : the two rivers became one. For seventy miles it pursues its course through the wonderful Rhone valley, until, reaching the ancient town of Lyons, its emerald waters run side by side with the turbid Saone.

To our right stretched the Lake of Geneva, surrounded by the town. In the distance uprose those glorious mountains, everlastingly snow-capped. Their outlines melted into the blue of the sky : a sky so lofty, so serene, it seemed impossible that it had ever looked down upon a human sacrifice or listened to the cries of a death-agony. Behind us were the trees of a lovely wood full of rich and varied tints, where the birds chirped their autumn song. We had the whole scene to ourselves.

From this point Geneva appeared even interesting and romantic. We looked down upon a multitude of roofs, upon softened outlines rendered slightly hazy as the blue smoke rose and lost itself in the clear, pure air. On the lake a few white-winged boats were gliding about, small steamers were going to and fro. But we were above all sound, beyond all disturbing elements. Down below was Rousseau's Island, and here we felt was a scene that Rousseau must have loved, the contemplation of which must have appealed to all his better nature.

CHILLON AND THE LAKE OF GENEVA

CHARLES W. WOOD, F. R. G. S.

THE train crept down to Glion, where the snow had given place to a deluge of rain. We changed trains, and as the car was open we had the benefit of a free shower-bath. Territet was hailed as a City of Refuge.

As good fortune would have it, the rain ceased though the clouds did not lift, and we decided to take a short walk to Chillon in spite of muddy roads. Down the road we went, through the mud and under the clouds. Clouds and fantastic mists hung about the mountains; the Dent du Midi was quite invisible. This was not our idea of the sunny, romantic, mountain-bound Lake of Geneva. But there was the water, what we could see of it; and in spite of adverse circumstances, it charmed.

A very short walk brought us to Chillon, most ancient and romantic, most historical and beautiful object on Lake Léman. It is in the neighbourhood of the high mountains. The Dent du Midi stands near it across the water, in all its glory. One feels with melancholy satisfaction that at least the prisoners had the beauties of Nature to look upon and while away their captive hours. The Castle has existed for centuries, and yet very little was said or sung about it before the days of Byron. One meets the name of Byron at every turn.

We soon reached the well-known outlines. Like a lovely

CHILLON

air, hackneyed on a barrel-organ, Chillon has been so written about, so sketched and painted, one feared a commonplace atmosphere would surround and spoil it. But as soon as you catch sight of its walls and towers, reflected in the clear water, surrounded by those splendid mountains, every past impression gives place to present charm. You see it for the first time as it is, and are fascinated. At once it creeps into your heart, for its own sake as well as that of Bonivard, the Prisoner of Chillon. Not only the prisoner, for it has had numberless victims far more to be pitied than Bonivard; but only Bonivard had a Byron to immortalize his name: though after all, Byron's prisoner was more imaginary than real; more a type than an actual personage. And yet he very closely touched the truth. It was later on that he knew all about Bonivard and introduced him into those well-known lines, so often quoted:

> "Chillon! thy prison is a holy place,
> And thy sad floor an altar; for 'twas trod
> Until his very steps have left a trace
> Worn, as if the cold pavement were a sod,
> By Bonivard! May none those marks efface!
> For they appeal from tyranny to God!"

Historically, we first hear of the Castle of Chillon in the year 830, and even then it was used as a prison; a gloomy building, shut out from the world, where only sky, lake and mountains could be seen. Here Louis-le-Débonnaire imprisoned Count Wala, Abbé of Corbie, for inciting Louis's son to rebellion against him. Wala was cousin to Charlemagne, grandson to Charles Martel, and was ambitious.

Chillon in those days was a small habitation, perched on the rock. In 1150 it belonged to the Bishop of Sion, who possibly satisfied with his own magnificent stronghold, leased his Chillon property to the Counts of Savoy. In 1224 it passed into their possession; and in 1250 Count Peter of Savoy, who was called "*Le petit Charlemagne*," added to it and turned it into a strong fortress and a royal residence. When he died, it lost much of its importance as a residence, but was kept up as a fortress and a prison.

The Castle stands close to the road. A wooden bridge over the moat leads to the interior, where you find yourself in an atmosphere of the past. It now belongs to the Canton de Vaud and has been restored by an Association. The place is empty with the exception of a few old pieces of furniture and carved wood, which seem to indicate the commencement of a museum of antiquities. In spite of restoration the rooms are extremely interesting, with their enormous fireplaces, their ancient windows looking on to lake and mountain.

Interesting above all is the dungeon of Bonivard, with its pillars and Gothic arches, which might almost be the aisles of some lovely cathedral. It certainly must be the most picturesque dungeon in existence, with its exquisite pillars, receding arches and groined roof. Once it was divided into small cells, but now all is thrown open. Here prisoners languish no more. We have fallen upon times of peace and mercy. Massacres, inquisitions, secret tortures, unholy captivities are of the past.

Bonivard was a Prior of St. Victor; a Savoyard by birth, who had transferred his affections to Geneva, then going through its religious crises. The times were out of joint, but momentous and intensely interesting. Farel was sway-

ing Calvin, and Calvin was girding himself to the battle. Whatever Geneva is now, it has had great influence in its day, and seen great men. Such names as Calvin, Beza, Farel, D'Aubigné, Knox, Casaubon, Voltaire, Rousseau, Neckar, Madame de Staël, Saussure, Bonnet, De Luc, De Candolle, Sismondi and others, all rise before us in a great crowd at the mention of Geneva.

Bonivard loved it, and so made an enemy of Duke Charles in his endeavours to free Geneva from the yoke of Savoy. He was seized and secretly imprisoned, but escaped at the end of two years. Again he was taken, and this time more carefully guarded. For six long years he languished in prison, part of the time chained to a pillar—like Lord Bateman in the ballad. That pillar now bears the names of Byron (said to be a forgery), of Shelley, Dumas, George Sand, Quinet, Dickens, Victor Hugo, Eugène Suc, Tartarin, and others protesting against tyranny.

The floor beneath the pillar is worn away with Bonivard's weary footsteps. Looking across his dungeon through the small window he could just see a glimpse of blue sky, to remind him that Heaven was still above all. The first two years of his captivity were comparatively light; but the whole of the last four were spent in this dreary dungeon below the level of the lake. Then in 1536 came the conquest of Vaud by the Bernese. A thousand men under Nægeli besieged Chillon, firing upon it from the lake. Beaufort fled in a barque and the Castle yielded. Bonivard was released and taken in triumph to Geneva, where he lived honoured and useful until 1570, dying at the age of seventy-four. After his freedom the current of his life changed. He had begun life as a Roman Catholic of the interesting Renaissance period. During the six years of his

captivity he must have pondered long and deeply upon all these things. Once free, he became a Protestant, working steadily for the cause. He was also very domesticated, and became the husband of four wives.

Few places with a reputation bear a visit better than Chillon. One is unwilling to leave the interior, still more the exterior. We linger about it, tracing its lovely outlines from every point of view. We go down to the edge of the lake and are fascinated by its reflections. Whatever its past history, it now only suggests peace and repose, swords turned into pruning-hooks. We take a white-winged boat, and waft gently to-and-fro under the very shadow of the great mountains. Chillon stands firm as the ages, full of dignity, romance and beauty.

The air comes down to us, soft and caressing, from the Upper Rhone Valley. Within hail it opens with magnificent scenery. The river, gathering strength from the time it leaves the Rhone glacier, runs between the mountains, falling into the lake; to fall out again near Geneva, and continue its unrivalled course to the Mediterranean.

MONTREUX AND ROCHERS DE NAYE

CHARLES W. WOOD, F. R. G. S.

THE situation of Montreux is delightful. It is a sort of earthly paradise. Below us stretch the lovely waters of the Lake of Geneva. On the other side rise the snow-capped Alps, the Dent du Midi splendid in their midst. On our own side of the lake, the hills rise above Montreux in terraced gardens, rich in vegetation: the fruit of the vine mingling with the blossom of the rose-tree, a delicious perfume scenting the air. Houses high up nestle on the hill-sides: Swiss *châlets* with their painted roofs and overhanging eaves. Everywhere the eye is arrested by gorgeous creepers. Many a wall is a hanging garden of graceful, trailing leaves, of dazzling, vivid colouring.

But then we are in the Canton of Vaud, thought by many to be the loveliest part of Switzerland. And round about Montreux the walks and excursions are charming and endless.

"How exquisite are the secluded wood-paths!" said Mendelssohn, keenly sensitive to the beautiful in Nature. "Of all the countries that I know, the loveliest is the Canton of Vaud! If God should grant me a long old age, there would I live. It is a sweet and wonderful country. In returning from Italy one feels almost moved to tears at the sight of this corner of the world."

"It is not only the hand of man that makes the strong contrasts of this lovely country," said Jean-Jacques Rousseau. "Nature seems to place herself in vivid opposition with herself, so striking are the contrasts in the same spot at different times and under different aspects. In the east we have the flowers of Spring; in the south those of Autumn; in the north, wintry snow and ice. She unites every season at the same moment, every climate in the same spot; contradictory results from the same soil; exhibiting at once a combination elsewhere unknown—the productions of the plains side by side with those of the Alpine mountains. To these wonders must be added innumerable optical illusions; the mountain-peaks standing out in every possible effect, the contrasts of sunshine and shadow, all the accidents and variations of light that repeat themselves night and morning."

All this is quite true. And round about Montreux itself, there is something specially charming and attractive. One feels unconsciously exhilarated, one hardly knows why. There is a lightness about the whole place. It must be the most delightful of sojourns. Like Mendelssohn, we longed to take up our abode here: not for a lifetime, but for days and weeks.

And yet about the town of Montreux itself there is nothing at all out of the common. It is not full of ancient outlines like Nuremberg or Dantzic or Vitré. On the contrary, its streets and houses are modern and ordinary. Even here we begin to realize that the Swiss people are terribly wanting in character and individuality. But somehow, every one seems in a good temper; every one appears to feel that to live is to be happy. It is a land without Black Mondays. The daily round of duties

is a recreation. People go to and fro with a smile on their faces, with hands full of fruit and flowers—those productions that have come down to us from Paradise. The very flower-women are a law unto themselves, and deliberately ask you ten *sous* for a buttonhole: a rose or a dozen violets: for which they would ask one *sou* from their next door neighbour and be well paid. How different from the flower-women of Valencia, who for three or four *sous* would give you more flowers than you could carry away!

But this is the great drawback to Switzerland; this grasping greed of gain. It takes from its charm and beauty, and runs through the country like an insidious evil. Every possible fraction is extracted from the pocket of the visitor; it affects the whole working community, from the hotel keepers downwards; is worse than the *backsheesh* of the Egyptian. But this "spoiling the stranger" has become a law to the people, fixed and unchangeable as the mountains themselves.

Montreux, we have said, was an every day place in appearance. Its hilly streets are of yesterday. The ancient town has nearly all disappeared. Here and there only we came upon a wonderful old-world bit to remind us of what once was. Even for a small torrent running down from the hills through the town to the lake a stone channel has been built, ruining all its rustic beauty. But all round about are the wonderful mountains. In these lies the great charm, and what more would you have? The mountains, snow-capped, cloud-wreathed, find their reflections in the far-famed lake. On this first day, however, we did not see the mountain-tops. They were buried in mist; the skies were grey and lowering; rain had fallen in torrents. It ceased while we were in Montreux, only to begin again

with redoubled force when the tramcar landed us at Terretet.

A funicular railway takes you up the mountain from Terretet to Caux: a tremendously steep climb and a fine bit of engineering. But nothing is impossible in these days; and we shall presently have a railway to the moon and an electric telegraph to Mars.

Glion is the first station, and here we change trains. We imagined, somehow, that Caux was the terminus, and hence arose a blunder by which we eventually profited. The train stopped at Caux: nobody got out or in, nobody called the name of the station. Without half a second's consideration we returned to our seats, the guard shut the door, and again the train moved on.

We now understood why the other passengers were immovable: they were simply taking an excursion beyond cloudland, to the Rochers de Naye. In our ignorance we had never heard of the Rochers de Naye: had no idea this railway had been extended to the mountain-top, with telegraphs, telephones, and a luxurious hotel established above the clouds.

The train puffed and snorted: it was almost like going up the side of a house. Still the mist and the rain went on. It seemed that the journey would never end. Seven thousand feet above the sea? We thought it must be seven thousand miles. Presently in the midst of dense clouds and heavy rain and depressing gloom, we entered a tunnel. It was only changing gloom for pitch darkness. This went on for a time, and when we emerged we thought we were dreaming. Mist and rain had disappeared; there was not a cloud in the sky; the sun was warm and dazzling.

Never shall we forget the effect of the transformation.

Here we were in summer; down at Caux and Montreux it was still misty and gloomy and rainy. We looked out and saw that the clouds were below us, and had never experienced so curious a sensation. We were on a level with the snow-tops of the mountains, glittering in the sunshine, a wonderful forest of peaks around us. In a sheltered spot stood the hotel, large, substantial and a reality. A hundred yards above it was the highest point of all, from which, as it were, you commanded the world.

As for the air—when we left the train, we felt that wings had been given to us. It was a revelation and a new experience. Surely we had never breathed before, and surely our bodies had left all that was earthly and material behind them? The asphyxiated passengers came back to life, unglued themselves, and tumbled out, *pêle-mêle* as the train steamed up to the little station, which is also a post-office. For there is even a post-office up in this mountain fastness above the clouds. It must be that the letters written here have a celestial ring about them.

All the passengers at once made for the highest point, following each other in a long string, like turkeys in a farmyard. Their outlines—curious grotesque outlines, you may be sure—were strongly marked against the white snow. It was a perfectly white world, pure and beautiful.

But the view! We did not shout and gesticulate like the rest of the little crowd, but we were none the less overpowered and impressed. We gazed over vast valleys. They were invisible, it is true, but we knew they were there. Below us was the region of cloudland; impenetrable vapours, rolling and moving and changing form every moment. It seemed a thick, dense curtain, capable of sustaining us. Over and over again the desire seized us to

hurl ourselves from this great height into the yawning abyss of clouds. The impression upon the mind was that we should alight upon a soft and downy substance in which we should float deliciously and for ever. It was impossible to realize that we could fall through that opaque mass; fall, fall, until death met us on the way.

Far down we knew was the Lake of Geneva and from the lake all this wonderful world of mist was rising. All around us, far and near, were the snow-peaks stretching to the skies: the wonderful ranges of the Alps. The clouds wreathed about them in every fantastic form, veiling and unveiling. It seemed that we only were above cloudland. Most of the famous peaks were there: Mont Blanc, Tête Noire, Aiguille Verte, Wetterhorn, Matterhorn, Dent du Midi: all these we caught in a group as it were: one grand, majestic, overpowering assemblage. And though some of the peaks were seven thousand feet and more above our present elevation, yet we almost seemed on a level with them.

As the day went on to evening and sunset, the strange fantastic beauty of the scene was beyond all description. It was a magic world, of which we had never seen the like. The sun went down into the mist and all the mountain-peaks turned rosy red. The sky behind them was everything from pale rose to deep azure: colours that melted into each other. Then the clouds rose out of the abyss and creeped and wreathed about until they swept past us in torrents of vapour.

Next occurred a strange phenomenon: strange to us unacquainted with mountain-tops and the mysteries of their world. We had our backs to the sun. Suddenly in front of us there appeared a great oval frame with prismatic col-

ST. MAURICE, RHONE VALLEY

ours. In this frame we saw ourselves distinctly reflected; diaphanous, intangible. The effect was startling, curious and uncanny. For once we gazed upon our own ghosts and wondered whether they were our astral bodies. It might be that this rarefied air, this Mahomet-coffin position between heaven and earth separated the spiritual from the material. In that case where were our astral bodies off to? What voyage of discovery? Mars or Venus? Were we bound for the mountains of the moon? or an examination of the spots on the sun?

As we looked the vision gradually faded, just as ghosts fade away. We have seen ourselves at midnight in distant cathedrals. We saw them when Quasimodo was charming all our material senses to sleep in Tarragona, and nothing but the spiritual part of us was awake and alert.

The effect was so strange on this mountain-top, the vision so beautiful with all its rainbow hues, that as it faded we called to it to come back; to stop; to gladden our eyes yet a little. It was deaf to entreaty. We waited, hoping it would return. It did so in about four minutes, but this time it was fainter and more shadowy, as though the astrals had gone far on their journey, and were approaching the planets. Only a moment's vision was vouchsafed, and then all was over. But it was almost more beautiful and effective for its fleeting nature. Of course we understood how the effect was produced, but in the first moment we would not examine into causes, preferring to accept the spiritual and supernatural.

We turned to the sun. As it sank into the mist, it seemed to create confusion and consternation in the clouds. They owed their life to the sun: he was about to disappear and they rebelled. There seemed a perfect convulsion

going on amongst them. They tossed and rolled about and crept round the hills. Their motion was as rapid as it was fantastic.

Then suddenly, in a flash, literally in a moment of time, they utterly disappeared; and Geneva's lake was spread out before us in all its glory; the sun still above the horizon flashing upon its surface. We could just discern a steamer ploughing the waters, looking no larger than a fly upon a wall. The whole thing was a dream-world; fairyland; a land of enchantment; anything but the ordinary earth on which we lived and moved. We had never felt so much in another state of existence. It was the experience of our sleeping hours come to life and reality. Even the people of the hotel said it was exceptional. And it seemed as though the mist had cleared for our special benefit, to give us that marvellous view, for it lasted about one minute only. Then vapours and clouds wreathed and tore up from the lake, and quickly as they had disappeared, so the whole vast valley once more filled with cloudland.

The beauties of the afterglow were beyond all imagining in the sky and on the mountains. The white snow-peaks retained their flush; the heavens were a deep, dark azure, out of which the stars came by-and-by like trembling points of liquid silver.

Before this we had watched the human turkeys re-enter the train, which waited for them just beyond the hotel. The Herr Baron, with his three photographic machines, stepped in with his military air and fierce moustache. Not a creature remained behind. Then the whistle shrieked —a funny sound up in these mountain regions—and the train began to serpentine through the snow until it entered the tunnel with another shriek, and we saw it no more.

When it issued out of that tunnel it would have returned to cloudland and the earth; the mist and the rain. We watched the afterglow as long as we could: as long as circulation kept going. When it stopped and we felt in jeopardy, it was time to go down. It was very cold, yet the air was so light and delicious that we were loath to leave it. We had never breathed anything so exhilarating, so health-restoring.

H. C. made a short cut downwards and tobogganed over the hard snow, gradually warming to the speed of an express train. Near the end of the slope, not far from the hotel, he suddenly disappeared, to our intense horror and amazement. We were paralyzed with fear. A patch of soft snow had let him in. We immediately had visions of a funeral, a Dead March in Saul, a great poet's life cut short, agonizing telegrams to heartbroken parents, sensational paper-paragraphs; Lady Maria living just long enough to make another will; and last, but not least, our blighted holiday. But in a moment he reappeared on the surface like a Jack-in-the-box, a black object upon the white snow, suggestive of imp-land and the lower regions. We even thought we smelt sulphur. Then he frantically waved his hat to intimate that he was none the worse for his trip into the bowels of the earth, and to encourage us to follow in his track. We unparalyzed and went down by the path. It was less adventurous, but slow and sure.

As it happened there were no more passengers that night, and the last train did not run. So we had to do without our luggage, and the manager came to the rescue. We found the hotel very comfortable; far more so than one had any right to expect seven thousand feet above the world. Instead of starvation fare, there was abundance and excel-

'ence. The rooms were admirable, and the views from the windows over the mountain ranges would have atoned for any amount of shortcomings.

There was no sunrise the next morning, and so the waiter did not wake us at five o'clock as he had been bidden. "He thought it a pity to disturb *ces messieurs*, as there was nothing to see." And yet, when we did get up, the sun shone so brilliantly that we wondered whether the waiter had not overslept himself and taken refuge in philanthropy. We never knew. For ourselves, we had passed a night in the agonies of neuralgia, and falling asleep at last long after the small hours, should not have been in a very good mood for turning out in the grey dawn, icy cold, to enjoy sunrise effects.

A notice in our room much amused us. "Visitors at the hotel were begged not to take the blankets off their beds when they get up to see the sunrise: the porter having special blankets for the occasion." We imagined the graceful procession of perhaps fifty people of all ages, dimensions and weights starting, struggling on their pilgrimage to the top, in all stages of *déshabille*, one following another—like turkeys again—all wrapped up in blankets over head and ears! Could these unpicturesque people be lovers of the beautiful in Nature?

We shall never forget that quiet Sunday at the Rochers de Naye.

All traces of neuralgia had left us and never came again. We had the whole morning to ourselves up to the arrival of the first train towards mid-day. All clouds had disappeared. We climbed to the Observatory. The view was magnificent, sublime, bewildering; there is no adjective strong enough to express the reality. To-day everything

was visible; and so rarefied was the air that everything seemed near.

Now we saw what vast precipices we overlooked; how, if we had hurled ourselves into cloudland yesterday, we should not have floated on for ever in realms Elysian, but met sudden death in some yawning crevice, or on the point of some jutting rock. Far down below us, looking like a dream, stretched Geneva's fair lake flashing warm in the sunshine. A white-winged boat upon its surface looked like a small toy. The houses on its borders were just discernible. Everything down there was green and summer-like, and far up the mountain-slopes there were sunny nooks where fir-trees grew and *châlets* nestled.

But we were in a white world. The sun shining upon the snow was dazzling. The whole range of mountain peaks uprose pure and white and bridal-like, stretching towards the sky, blue, calm, holy as we had never felt it before. Here we traced the upper valley of the Rhone; and we even imagined we could just discern the far-off Rhone Glacier, where the famous river takes its source. It was Sunday, but every day spent in such delicious solitude must be a Sabbath. There was no church here of man's building, nor was it needed; we were in the midst of a vast heavenly temple; a building not made with hands; and we seemed very close to the portals of heaven itself. There were no clashing peals to irritate with their cracked incessant noise, but if we listened attentively, rising out of the depths and across the chasms, all about the mountain slopes we heard the sweetest, softest stealing of invisible bells; chimes not struck upon earthly metal, but belonging to paradise. We heard them distinctly; the air was full of their melody. It is an illusion peculiar to mountain-tops;

to the centre of the wide ocean ; to all vast solitudes. We have heard it over and over again ; it is the music of the spheres ; and to us this morning it sang of praise and thanksgiving for the beauties of earth. Every hour brought a change of light-and-shadow effect ; a change of colouring ; a succession of lovely and perfect scenes.

LA GRUYÈRE

VICTOR TISSOT

LA GRUYÈRE is the most picturesque part of the Canton of Fribourg, the mountainous part shut in by the Vaudois and Bernese Alps. It is the Oberland of French Switzerland,—an Oberland without glaciers, but without railways; an Oberland with *diligences* and knapsacks, simple, gay, charming, *bon-enfant*, without pretentious hotels with gilded dining-rooms, waiters like apes, and bills higher than the Jungfrau. It is still the old hospitable Switzerland, idyllic and pastoral. Its hotels are inns; but how comfortable one is there, how much at one's ease, and at what ludicrous prices! You can have *pension*,—service, light, and bedroom, everything included, for four or five francs a day.

We descend by a delicious road, shaded by the protecting branches of the great pines. A torrent, the Hongrin, roars at our feet. Near an old bridge the path divides; crossing the water, you go towards Montbovon and Château d'Oex, the valley of Rougemont, and Zweisimmen. Continuing the first road and taking the hill on the slope, we arrive at the little village of Albeuve, on the way to Gruyère, to Charmey and Bulle.

Now it is pastures that we cross, rich, fat pastures, where we find a few rustic houses with pots of flowers in their windows; and round them, like a double girdle, one varie-

gated and one all green, lie a garden and a vineyard. Splendid cows browse among the succulent herbs swelled with the aromatic juices which perfume the milk of which the celebrated Gruyère cheeses are made. They are known and appreciated throughout the world, but by one of those whimsicalities which it is impossible to explain, the admirable little country which gives name to them is still neglected and almost ignored by the foreigner; and yet where will you find more velvet lawns, more fresh and tranquil woods, paths so shady and sweet, mountains where you can have excursions to your wish, either restful walks or easy ascents not exceeding 8,200 feet?

The triumph of Gruyère is in its wooded hills, with clearings opening on wide horizons of jagged peaks and profound gorges, clothed nevertheless in a unique verdure, where hundreds of herds graze. It is a land of vigour and health, rich in soil, rich in climate, and, above all, rich in streams which water and fertilize it with their rocky deposits. It maintains an unequalled race of oxen, and its valleys have the fertility of the Norman plains and the beauty of the food-producing countries; and, above all, it is the country of devoted hearts, of lofty souls, of open minds.

Gruyère has given birth to a crowd of eminent men who have made themselves illustrious in politics, in literature, in arts and sciences; and it has been the cradle of the liberalism of Fribourg. It is from there that the signal has been given for all the noble revolts; and it was the mountaineers who, with their cudgels, drove the Oligarchal Government of 1830 from Fribourg.

In 1798, the French were welcomed nowhere in the Canton with more enthusiasm than in Gruyère. In every vil-

lage they planted the tricolour. Bands of armed peasants marched, singing, to meet the French battalions.

One is specially struck in mountainous countries with the intimate relations which subsist between man and the soil on which he dwells. These mountaineers, full of the energy of this powerful Nature, are of extraordinary strength, with the muscles of athletes; and they have the joy, the open, robust cheerfulness, of their beautiful mountains, of their mild and smiling valleys; but in the good-nature of the peasant of Gruyère there is a charming vein of mischief, a touch of finely pointed irony.

If it is true that the soul of a people is to be found in its songs, the "*Ranz des Vaches*," the national song of Gruyère, reveals their whole soul to us. It is not only the song of melancholy, of the homesickness in which the expatriated Swiss sees again as in a musical vision the *châlet* in which he was born, the mountains where the herds shake their bells as they graze, it is a satirical song as well, —a delightful picture of their manners, of their keen and quick wit.

Gruyère is planted on the summit of a lofty isolated knoll overlooking the Sarine, the valley of Upper Gruyère, and the long plain of Lower Gruyère. Its castle rises with a look of royal magnificence into the blue sky, with its towers, its pointed roofs, its sparkling tin weather-cocks, its red dormer-windows, its broad white façade, pierced with great bright windows, and a little wood thrown like a velvet carpet at its feet. Its founder must have been not only a warrior, but an artist, for he could not have chosen a finer situation, more conspicuous, more beautifully framed. When you see a drawing, or photograph, of Gruyère, you would say it was a vignette of the Fifteenth Century; the

road, paved with great pebbles, rises with the steepness of a scaling-ladder to a double gate flanked with salient towers like pepper-boxes, with a little round way for the sentry. The houses, in massive stone, constructed with very high dormers, and hanging galleries for observation and defence, are set close together, and form a rampart; the belfry of the Maison de Ville lifts its slender spire, which is seen from every quarter, and higher up, at the extremity of the hill, surrounded by strong walls, intrenched behind a second rampart, we see the red roofs of the castle and its towers.

Here we are climbing like goats the road which leads to the little town. The ascent is rough, the pavement uneven and angular. This cart-track is called the "track of the dead," and after a few steps it is easy to see it has not been made for the living. We pass under an old gateway of romantic effect, and arrive in front of a great wooden cross, on which hangs a bleeding, expiring Christ; we find right before us a little stair, and ascending, we are in the principal street of the town—which has only two—in front of a curious house with its façade ornamented with heads of grinning clowns, rams' heads, armorial bearings, suns. Its gargoyles are like the jaws of serpents; the windows of the first floor are framed in fine, lace-like sculptures, while those of the ground floor are curiously paired, married in assorted couples. The door, with its arch of a carmine red, is all ornamented with old iron-work in strange arabesque designs. This house, of an architecture unique in Switzerland, and constructed by Italian masons in the middle of the Fifteenth Century, is the old house of the Count of Gruyère's fool, Gerard Chalamala. Inside, old frescoes are still to be found on the walls, and fragments of mottoes, which could only have been thought out by a fool,—

"A spotted toad met on the way does not diminish the splendid majesty of the mountains, the beauty of the landscape, the freshness of the springs, the caressing sweetness of the meadows."

"Little souls alone have the secret of little souls."

"The resignation which is acquired with age, and which we take for the fruit of reflection and wisdom, is nothing but the first decay of the mind and of the strength of the soul."

We mount to the castle by a gentle slope, passing under the gate St. Germain and in front of an almshouse, its windows gay with delicious flowers, great bushes of china-asters, red geraniums, and pinks, which hang like draperies of old rose-coloured silk. Near the road a *religieuse* is weeding a garden in which are growing some very green lettuces, carrots, onions and parsley. Some old men, already as dry as mummies, are leaning against the hedge, or sitting half asleep on the trunks of trees.

The castle is open at every hour of the day with a liberality of which only a proprietor as amiable as M. Balland is capable. We come first to a wide esplanade planted with trees, a terrace forming a rampart at the top of a steep escarpment. From the first step we see with what respect for both art and tradition, with what love, this castle has been preserved. None of those ridiculous additions which disclose a *bourgeois* spirit without taste and without pity. No glazed round towers, no Chinese kiosks on this vast fortified terrace, from which the eye can embrace all the magnificence of Lower Gruyère,—that great basket of verdure in the midst of which the red roofs of Bulle look like a heap of apples. The eye reaches as far as the Gibloux Mountains, which stretch away in a diminishing perspective of

woods and meadows. To the right, the Sarine, cold daughter of the Sanetsch glacier, winds its silver links below the chapel of Les Marches,—spoiled by a stupid addition,—and washes with its waves the little cliff on which still stands the empty steeple of the old church of Broc. A little higher is the village of the same name, its white and brown houses on a line with the top of the hills. And still farther in the depths of the blue valley are Charmey, Valsainte, the Black Lake, and the twisted peaks of the valley of Bellegarde, and of the Rio du Motélon,—regions of rugged mountains with battlements of rocks, veritable fortresses in granite, like the Gastlosen, the Inhospitable.

Opposite the Dent de Broc, a harsh peak that seems to rend the sky rises on the left. It is the king of the Fribourg Alps, the Moléson. A whole people of inferior mountains appear as if bending before him; and at his base, on the first slopes of a little hill, we can see a new *châlet* with a sculptured balcony, and with tall poplars beside it, waving like plumes in the wind; it is the Baths of Montbarry, in the solitude and repose of an eclogue.

We enter the castle, crossing a little court, the walls of which are fortified on the side of the esplanade. This double circumvallation made a surprise impossible. A spiral stair leads to the second story,—the most curious from a historical and archæological point of view. A roof in compartments with cranes (*grues*) of silver, a fireplace which bears engraved on its wide front the coats-of-arms of the counts, frescoes representing the principal deeds and the legendary episodes of the history of Gruyère, make this great hall quite a princely place. To begin with, here is Gruerius arriving first in the country and giving to it the name of the bird painted on his banner. Then there is the

founding of a pious abbey, the departure of the Gruyèriens for the Crusade, with the cry, "It is for us to go; come back who can!"[1] Another painting shows a flock of goats, with horns on fire, putting the Bernese soldiers to flight. The women of Gruyère were alone in the town; seeing themselves attacked, they tied torches and lighted tapers to the horns of their goats, and during the night drove them towards the encampment of the enemy. The terrified Bernese, thinking they had to deal with a legion of demons, fled at their quickest. Further, we see a Count of Gruyère, with an enormous white plume, delivering a noble foreign lady as prisoner in the castle of Rue. A very careful composition illustrates the legend of Jehan l'Escloppé, received at the table of the countess, and announcing to her the birth of a son. Last of all there are the two heroes, Clarimboz and Bras-de-Fer, who themselves, with their heavy double-edged swords, kept a whole crowd of Bernese at bay. These frescoes are the work of the former proprietor of the castle, a Genevese artist, M. Daniel Bovy.

The tower of torture has been transformed into a museum of arms. The old tattered banners which hang on the walls have been dyed on glorious battle-fields. One of these flags was taken by the Gruyèriens from the Savoyards at the battle of Morat.

The corridors are encumbered with old carved chests, and other valuable old furniture, and in high glazed cupboards are piled collections of rare objects, precious pottery, curious trinkets, gathered from almost everywhere at great pains and cost. Looking at all this wealth of art and the truly marvellous state of preservation of this castle, we ask ourselves what would have become of it if by chance it had

[1] "S'agit d'aller, reviendra qui pourra!

fallen into other hands. The State was about to sell it to a contractor for building materials, for no one could be found, even among the Fribourg nobility, to save the historical monument from certain destruction, when two Genevese, MM. J. and Daniel Bovy, offered the same sum as the mason, engaging to restore and preserve the castle. Daniel Bovy, a pupil of Ingres, then came and installed himself at Gruyère. The round tower was an abyss, the terrace a potato-field; the roofs were in holes, as if they had sustained a rain of small shot; the rooms, which had served as prisons and guard-rooms for the *gendarmerie*, gave out suffocating odours, and their walls were adorned with sentences which had not been inspired by M. the Curé; the wind howled at night, rushing in at the broken windows; everything was in a state of dilapidation and ruin. The Gothic chests in the count's chamber had served as racks for guns. When once the great repairs were finished and the walls whitened, all Daniel's comrades, all the artists with whom he had studied in Paris, arrived like a valiant army of decorators. And Corot, Français, Leleux, Baron, Menn, executed these admirable panels, and these beautiful medallions which make of one of the halls on the first floor a marvellous Louis XVth salon. Corot painted there a small view of an ideal Gruyère, all golden, with a superb tree in the foreground; he also painted a wood-cutter in a lofty forest,—a spot of red among the green. Baron dressed beautiful ladies in toilets with furbelows and collarettes of aristocratic elegance; Français threw off an admirable landscape; Leleux painted flowers and garlands that seem to wave. This Watteau-like salon in the severe Gothic castle has the effect of a parterre of flowers in the midst of a pine wood.

And to think that there are people so devoid of sentiment of every kind as to deplore that the castle of Gruyère has become the property of a Genevese family! The restoration of this old manor has cost a fortune. It is not only the most beautiful old castle in Switzerland, but it is, besides, a historical and archæological museum which would be the pride of a great State.

THE VALLEY OF CHAMOUNI

JOHANN WOLFGANG VON GOETHE

WE left Salenche behind us in a lovely open valley; during our noonday's rest the sky had become overcast with white fleecy clouds, about which I have here a special remark to make. We had seen them on a bright day rise equally fine, if not still finer, from the glaciers of Berne. Here, too, it again seemed to us as if the sun had first of all attracted the light mists which evaporated from the tops of the glaciers, and then a gentle breeze had, as it were, combed the fine vapours, like a fleece of foam over the atmosphere. I never remember at home, even in the height of summer (when such phenomena do also occur with us), to have seen any so transparent, for here it was a perfect web of light. Before long the ice-covered mountains from which it rose lay before us; the valley began to close in; the Arve was gushing out of the rock; we now began to ascend a mountain, and went up higher and higher, with the snowy summits right before us. Mountains and old pine forests, either in the hollows below or on a level with our track, came out one by one before the eye as we proceeded. On our left were the mountain-peaks, bare and pointed. We felt that we were approaching a mightier and more massive chain of mountains. We passed over a dry and broad bed of stones and gravel, which the water-courses tear down from the sides of the rocks, and in turn flow among and fill up.

CHAMOUNIX, MER DE GLACE

This brought us into an agreeable valley, flat and shut in by a circular ridge of rocks, in which lies the little village of Serves. There the road runs round some very highly variegated rocks and takes again the direction towards the Arve. After crossing the latter, you again ascend; the masses become constantly more imposing, nature seems to have begun here with a light hand, to prepare her enormous creations. The darkness grew deeper and deeper as we approached the Valley of Chamouni, and when at last we entered it, nothing but the larger masses were discernible. The stars came out one by one, and we noticed above the peaks of the summits right before us, a light which we could not account for. Clear, but without brilliancy, like the Milky Way, but closer, something like that of the Pleiades; it rivetted our attention until at last, as our position changed, like a pyramid illuminated by a secret light within, which could best be compared to the gleam of a glow-worm, it towered high above the peaks of all the surrounding mountains, and at last convinced us that it must be the peak of Mont Blanc. The beauty of this view was extraordinary. For while, together with the stars which clustered round it, it glimmered, not indeed with the same twinkling light, but in a broader and more continuous mass, it seemed to belong to a higher sphere, and one had difficulty in thought to fix its roots again in the earth. Before it we saw a line of snowy summits, sparkling as they rested on the ridges covered with the black pines, while between the dark forests vast glaciers sloped down to the valley below.

My descriptions begin to be irregular and forced; in fact, one wants two persons here, one to see and the other to describe.

Here we are in the middle village of the valley called

Le Prieuré, comfortably lodged in a house, which a widow caused to be built here in honour of the many strangers who visited the neighbourhood. We are sitting close to the hearth, relishing our Muscatel wine from the Vallée d' Aost far better than the lenten dishes which were served up for our dinner.

Nov. 5, 1779. (*Evening.*)

To take up one's pen and write, almost requires as great an effort as to take a swim in the cold river. At this moment I have a great mind to put you off, by referring you to the description of the glaciers of Savoy, given by that enthusiastic climber, Bourrit.

Invigorated, however, by a few glasses of excellent wine, and by the thought that these pages will reach you much sooner than either the travellers or Bourrit's book, I will do my best. The Valley of Chamouni, in which we are at present, lies very high among the mountains, and, from six to seven leagues long, runs pretty nearly from south to north. The characteristic features which to my mind distinguish it from all others, are its having scarcely any flat portion, but the whole tract, like a trough, slopes from the Arve gradually up the sides of the mountain. Mont Blanc and the line of mountains which runs off from it, and the masses of ice which fill up the immense ravines, make up the eastern wall of the valley, on which, throughout its entire length, seven glaciers, of which one is considerably larger than the others, run down to the bottom of the valley.

The guides whom we had engaged to show us to the ice-lake came to their time. One was a young active peasant, the other much older, who seemed to think himself a very

shrewd personage, who had held intercourse with all learned foreigners, well-acquainted with the nature of the ice-mountains, and a very clever fellow. He assured us that for eight-and-twenty years—so long had he acted as guide over the mountains—this was the first time that his services had been put in requisition so late in the year—after All Saints' Day, and yet that we might even now see every object quite as well as in June. Provided with wine and food, we began to ascend Mont Anvert, from which we were told the view of the ice-lake would be quite ravishing. Properly I should call it the ice-valley, or the ice-stream; for looking at it from above, the huge masses of ice force themselves out of a deep valley in tolerable smoothness. Right behind it ends a sharp-pointed mountain, from both sides of which waves of ice run frozen into the principal stream. Not the slightest trace of snow was as yet to be seen on the rugged surfaces, and the blue crevices glistened beautifully. The weather by degrees became overcast, and I saw grey, wavy clouds, which seemed to threaten snow, more than it had ever yet done. On the spot where we were standing is a small cabin, built of stones, loosely piled together as a shelter for travellers which in joke has been named "The Castle of Mont Anvert." An Englishman of the name of Blaire, who is residing at Geneva, has caused a more spacious one to be built at a more convenient spot, and a little higher up, where, sitting by a fireside, you catch through the window a view of the whole Ice-Valley. The peaks of the rocks over against you, as also in the valley below, are very pointed and rugged. These jags are called needles, and the Aiguille du Dru is a remarkable peak of this kind, right opposite to Mont Anvert. We now wished to walk upon the Ice Lake itself, and to con-

sider these immense masses close at hand. Accordingly we climbed down the mountain and took nearly a hundred steps round about on the wave-like crystal cliffs. It is certainly a singular sight, when standing on the ice itself, you see before you the masses pressing upwards and divided by strangely shaped clefts. However, we did not like standing on this slippery surface, for we had neither come prepared with ice-shoes, nor with nails in our usual ones; on the contrary, those which we ordinarily wore had become smooth and rounded with our long walk; we, therefore, made our way back to the hut, and after a short rest were ready for returning. We descended the mountain and came to the spot where the ice-stream, step by step, forces its way to the valley below, and we entered the cavern, into which it empties its water. It is broad, deep, and of the most beautiful blue, and in the cave the supply of water is more invariable than further on at the mouth, since great pieces of ice are constantly melting and dissolving in it.

Chamouni, Nov. 6, 1779. (Early.)

Content with seeing all that the early season allows us to see, we are ready to start again, intending to penetrate as far as Valais to-day. A thick mist covers the whole valley and reaches half way up the mountains and we must wait and see what wind and sun will yet do for us. Our guide purposes that we should take the road over the Col de Baume a lofty eminence, which lies on the north side of the valley towards Valais, from the summit of which, if we are lucky, we shall be able to take another survey of the Valley of Chamouni and of all its remarkable objects.

Whilst I am writing, a remarkable phenomenon is pass-

ing along the sky. The mists which are shifting about, and breaking in some places, allow you through their openings as through skylights, to catch a glance of the blue sky, while at the same time the mountain peaks, which rising above our roof of vapour, are illuminated by the sun's rays. Even without the hope it gives of a beautiful day, this sight of itself is a rich treat to the eye.

We have at last obtained a standard for judging the heights of the mountains. It is at a considerable height above the valley that the vapour rests on the mountains. At a still greater height are clouds, which have floated off upwards from the top of the mist, and then far above these clouds you see the summits glittering in the sunshine.

It is time to go. I must bid farewell to this beautiful valley and to you.

Martinac in Valais, Nov. 6, 1779. (Evening.)

We have made the passage across without any mishap, and so this adventure is over. The joy of our good luck will keep my pen going merrily for a good half hour yet.

Having packed our luggage on a mule, we set out early (about 9) from Prieuré. The clouds shifted, so that the peaks were now visible and then were lost again; at one moment the sun's rays came in streaks on the valley, at the next the whole of it was again in shade. We went up the valley, passing the outlet of the ice-stream, then the glacier d' Argentière, which is the highest of the five, the top of it, however, was hidden from our view by the clouds. On the plain we held a counsel, whether we should or not take the route over Col-de-Balme and abandon the road over Valorsine. The prospect was not the most promising; however, as here there was nothing to lose and much per-

haps to gain, we took our way boldly towards the dark region of mists and clouds. As we approached the Glacier du Tour the clouds parted and we saw this glacier also in full light. We sat down a while and drank a flask of wine, and took something to eat. We now mounted towards the sources of the Arve, passing over rugged meadows and patches scantily covered with turf, and came nearer and nearer to the region of mists, until at last we entered right into it. We went on patiently for a while, till at last as we got up higher, it began again to clear above our heads. It lasted for a short time, so we passed right out of the clouds and saw the whole mass of them beneath us spread over the valley, and were able to see the summits of all the mountains on the right and left that enclosed it, with the exception of Mont Blanc, which was covered with clouds. We were able to point them out one by one and to name them. In some we saw the glaciers reaching from their summits to their feet, in others we could only discern their tracks, as the ice was concealed from our view by the rocky sides of the gorges. Beyond the whole of the flat surface of the clouds, except at its southern extremity we could distinctly see the mountains glittering in the sunshine. Why should I enumerate to you the names of summits, peaks, needles, icy and snowy masses, when their mere designations can furnish no idea to your mind, either of the whole scene or of its single objects?

It was quite singular how the spirits of the air seemed to be waging war beneath us. Scarcely had we stood a few minutes enjoying the grand view, when a hostile ferment seemed to arise within the mist, and it suddenly rose upwards and threatened once more to envelop us. We commenced stoutly ascending the height, in the hope of yet

awhile escaping from it, but it outstripped us and enclosed us on all sides. However, perfectly fresh, we continued to mount, and soon there came to our aid a strong wind, blowing from the mountain. Blowing over the saddle which connected two peaks, it drove the mist back again into the valley. This strange conflict was frequently repeated, and at last, to our joy, we reached the Col-de-Balme. The view from it was singular, indeed unique. The sky above the peaks was overcast with clouds; below, through the many openings in the mist, we saw the whole of Chamouni, and between these two layers of cloud the mountain summits were all visible. On the east we were shut in by rugged mountains, on the west we looked down on wild valleys, where, however, on every green patch human dwellings were visible. Before us lay the valley of Valais, where at one glance the eye took in mountains piled in every variety of mass one upon another, and stretching as far as Martinac and even beyond it. Surrounded on all sides by mountains which, further on towards the horizon, seemed continually to multiply and to tower higher and higher, we stood on the confines of Valais and Savoy.

Some contrabandists, who were ascending the mountains with their mules, were alarmed at seeing us, for at this season they did not reckon on meeting with any one at this spot. They fired a shot to intimate that they were armed and one advanced before the rest to reconnoitre. Having recognized our guide and seen what a harmless figure we made, he returned to his party, who now approached us and we passed one another with mutual greetings.

The wind now blew sharp and it began to snow a little as we commenced our descent, which was rough and wild enough, through an ancient forest of pines, which had taken

root on the faces of the gneiss. Torn up by the winds, the trunks and roots lay rotting together and the rocks which were loosened at the same time were lying in rough masses among them.

At last we reached the valley where the river Trent takes its rise from a glacier, and passing the village of Trent, close upon our right, we followed the windings of the valley along a rather inconvenient road, and about six reached Martinac, which lies in the flatter portion of the Valais.

HOSPICE AND PASS OF ST. BERNARD

HUGH MACMILLAN

LEAVING our conveyance at the inn, and taking with us the mule and driver as guide, we set off on foot across the plain, to the entrance of a kind of gorge, called the Defilé de Marengo, which is exceedingly steep and difficult of ascent. A considerable stream, confined within narrow bounds, roars and foams within a few feet of the pathway, so that in wet weather its swollen waters must render the defile impassable. Among the rocks, wherever any particles of soil lodged, rich cushions of moss spread themselves, wild auriculas nestled in the crevices, and large patches of crow-berry and blackberry bushes fringed the pathway up to within a short distance of the Hospice; and nowhere in Scotland have we seen the fruit so plentiful or so large and luxurious. Basketfuls could be gathered in a few minutes without diverging more than a yard or two from our course; and yet it seems never to be touched. The sides of the stream were decked with the large wooly leaves and brown flowers of the Alpine *Tussilago*, which takes the place at this elevation of the common butter-bur, whose enormous umbrella-like leaves form such a picturesque adornment of lowland rivulets. After an hour's stiff ascent, we came to two ruinous looking *châlets*, built of loose stones, one of which served as a place of refuge for cattle, while the other was the old morgue, now used as a shelter place for travellers, where they wait,

if overtaken by storms, till the servants of the monastery come down with a dog to their rescue, which they do every morning when the weather is unusually severe. They bring with them on such occasions wine and provisions to restore the exhausted and half-frozen traveller; and guided by the faithful dogs, who alone know the way,—thirty feet of snow being not unfrequently accumulated in the worst parts of the pass,—they are all brought safely to the hospitable shelter of the convent. From this point the defile receives the ominous name of the Valley of Death; and the track is marked by tall, black poles, and here and there a cross, marking the scene of some tragic event. Within a short distance of the Hospice, an iron cross commemorates the death of one of the monks who perished on that spot by an avalanche in November, 1845. Between these grim memorials of those to whom the place has been indeed the valley of the shadow of death we toiled up the rough and arduous path, panting and perspiring, greatly aided by our alpenstocks. For my own part, I thought the way would never end. I turned corner after corner of the defile, but still no trace of human habitation. My knees were about to give way with fatigue, the rarity of the air was making itself known to me in thirst and headache, my pulse had advanced from sixty beats at Martigny to eighty-three at this elevation, and I would gladly have rested awhile. At last, at the very summit of the pass, I saw the Hospice looming above me, its windows glittering in the setting sun. Fatigue and weariness all forgotten, I eagerly clambered up the remaining part of the ascent, along a paved road overhanging a precipice, and in a few minutes stood beside the open door. At first I could hardly realize the fact that the convent, about which I had read so much, which I had

HOSPICE OF ST. BERNARD

so often seen in pictures and pictured in dreams, was actually before me. It had a very familiar look, appearing exactly as I had imagined. I did not approach it in the orthodox fashion,—exhausted and half-frozen amid the blinding drifts of a snow-storm, and dragged in on a dog's back! On the contrary, the evening was calm and summer-like; the surrounding peaks retained the last crimson blush of the exquisitely beautiful *abend-gluhen*, or after-glow of sunset; the little lake beside the convent mirrored the building on its tranquil bosom; the snow had retreated from the low grounds, and only lingered on the lesser heights in the form of hardened patches wedged in the shady recesses of the rocks. I could not have seen the place under more favourable auspices; and yet nevertheless, the scene was inexpressibly forlorn and melancholy. There was an air of utter solitude and dreariness about it which I have never seen equalled, and which oppressed me with a nameless sadness. There was no colour in the landscape,—no cheerful green, or warm brown, or shining gold, such as relieves even the most sterile moorland scenery in this country. Everything was grey, the rocks were grey, the lake was grey, the vegetation was grey, the sky was grey; and when the evening glow vanished, the lofty peaks around assumed a livid ghastly hue, which even the sparkling of their snowy drapery in the first beams of the moon could not enliven. Not a tree, not a shrub, not even a heather bush, was in sight. It seemed as if Nature, in this remote and elevated region, were dead, and that I was gazing upon its shrouded corpse in a chamber draperied with the garments of woe.

The monastery itself is a remarkably plain building, destitute of all architectural pretentions. It is in fact a huge

barn, built entirely for use and not for elegance. It consists of two parts—one fitted up as a chapel, and the other containing the cells of the monks, and rooms for the accommodation of travellers, divided from each other by whitewashed wooden partitions. It is built in the strongest manner,—the walls being very thick, and the windows numerous, small, and doubly-glazed, so as most effectually to withstand the fearful storms of winter. There is a small separate building on the other side of the path, called the Hôtel de St. Louis, which is used as a granary, and as a sleeping place for beggars and tramps. It also provides a refuge in the case of fire, from which the Hospice has frequently suffered severely, being on two occasions nearly burnt to the ground. Ladies were formerly entertained in this building, as it was deemed out of place to bring them into the monastery. But these scruples have now been overcome, and ladies are freely admitted to all parts of the place, and allowed to sleep in the ordinary rooms.

The St. Bernard Hospice is the highest permanent habitation in Europe, being 8,200 feet above the level of the sea, or twice the height of Ben Nevis. There are, indeed, several *châlets* in the Alps that are still higher, but they are tenanted only during the three summer months, when the people employ themselves in tending goats and manufacturing cheeses from their milk. About the end of September they are deserted, and the shepherds descend to the valleys. The severity of the climate at the Hospice is so great, that the snow never leaves the level ground for nine months in the year. Snow showers are almost always falling, even in the mildest weather; and there are scarcely three successive days in the whole year free from blinding mists and biting sleet. The mean temperature is 30° Fahrenheit, exactly

that of the South Cape of Spitzbergen. In summer it never exceeds 48°, even on the hottest day; and in winter, particularly in February, the thermometer not unfrequently falls below 40° below zero,—a degree of cold of which we in this country can form no conception. What greatly increases the severity of the climate is the fact that the Hospice is situated in a gorge pierced nearly from northeast to southwest, in the general direction of the Alps, and consequently in the course of the prevailing winds; so that, even in the height of July, the least breath of the *bise*, or north wind, sweeping over the lofty snow region, always brings with it a degree of cold extremely uncomfortable. The effect of this bitter Arctic climate upon the monks, as might be expected, is extremely disastrous. The strongest constitution soon gives way under it. Headaches, pains in the chest and liver, are sadly common. Even the dogs themselves, hardy though they are, soon become rheumatic and die. Seven years is the longest span of their life, and the breed is with the utmost difficulty kept up. All the monks are young men, none of them having the grey hair, and long venerable beard, and feeble stooping gait, which are usually associated with the monastic fraternity. In fact, the intensity of the climate prevents any one from reaching old age.

We mounted the stair in front of the door of the Hospice, and entered, preceded by our guide. In the wall of the vestibule we noticed a large black marble tablet, bearing the following inscription in gilt letters: Napoleoni I. Francorum Imperatori, semper augusto Reipublicæ Valesianæ restauratori, semper optimo Ægyptiaco, bis Italico, semper invicto, in Monte Jovis et Sempronii semper Memorando respublica Valesiæ grata, 2 Dec. 1804. At the top of a

short flight of steps, our guide rang a large bell twice, and immediately a door opened and a polite and gentlemanly monk appeared, dressed in a long black coat with white facings, and with a high dark cap, similarly decorated, upon his head. He welcomed us with much politeness, and beckoning us to follow him, conducted us through a long vaulted corridor dimly lighted by a solitary lamp, where the clang of an iron gate shutting behind us, and the sound of our own footsteps on the stone floor, produced a hollow reverberation. He brought us into a narrow room, with one deeply-recessed window at the end, containing three beds simply draped with dark crimson curtains, and all the materials for a comfortable toilet. There are about eighty beds for travellers of better condition in the monastery, and accommodation for between two and three hundred persons of all classes at one time. Speedily removing our travel-stains, we rejoined our host in the corridor, who showed us into the general reception room, where we found lights and a smouldering fire upon the hearth. The walls of the room lined with pine wainscot, were hung with engravings and paintings, the gifts of grateful travellers; while in one corner was a piano, presented by the Prince of Wales shortly after his visit to the Hospice. Two long tables occupied the sides, covered with French newspapers and periodicals. We went instinctively at once to the fire, and had the satisfaction of crouching over the smouldering logs and admiring the beautifully carved marble mantlepiece. One of the monks very considerately came in with an armful of wood and a pair of bellows, and, replenishing the fire, speedily produced a cheerful blaze, which thawed us all into good humour and genial chattiness.

Having arrived too late for supper, which is usually

served at six, the dinner hour being at noon, an impromptu meal was provided for us and the other travellers who were in the same position. Though hastily got up, the cooking of it would have done credit to the best hotel in Martigny. It consisted of excellent soup, roast chamois, and boiled rice and milk, with prunes. A bottle of very superior red wine, which was said to be a present from the King of Sardinia, was put beside each person; and a small dessert of nuts and dried fruits wound up the entertainment.

After an hour or two's chat around the fire, and a very cursory but most interesting inspection of the pile of visitors' books, our host bade us all good-night, and I too was very glad to retire.

About five o'clock in the morning, just as the grey dawn was stealing in, I was thoroughly roused from a dozing, semi-torpid state, into which I had sunk, by the ringing of the convent bell for matins; and shortly afterwards the rich tones of an organ, mellowed by the distance, pealed from the chapel with an indescribably romantic effect. I arose and dressed with chattering teeth, and then went out into the raw air. I walked beside the small, desolate-looking lake beside the Hospice, where never fish leaped up and on which no boat has ever sailed. Being the highest sheet of water in Europe, fed by the melting snows, it is frequently frozen all the summer; and when thawed, it lies "like a spot of ink amid the snow." Passing a pillar at the end of the lake, and a curious heraldic stone beside a spring, I had crossed the boundary between Switzerland and Piedmont, and was now in Italy. Climbing up the bare rocks to a kind of esplanade, near a tall cross inserted in a massive pedestal of chloriteschist, and bearing the inscription, "Deo Optimo Maximo," which guides the trav-

eller from the Italian side of the pass to the convent, I sat down and surveyed the scene. The snowy dome of Mont Velan filled up the western horizon. On my left the gorge was shut in by the rugged range of Mont Mort, Mont Chenaletta, and the Pic de Dronaz. Below me, I could see, through the writhing mist, glimpses of the green corril, called "La Vacherie," where the cattle of the Hospice grazed under the care of a few peasants, whose wretched *châlets* were the only habitations: while beyond, to the southward, rose up a strange Sinai-like group of reddish serrated rocks, entirely destitute of vegetation, with wreaths of dark cloud floating across their faces, or clinging to their ledges, and greatly increasing their savage gloom. An air of utter desolation and loneliness pervaded the whole scene. No sounds broke the stillness, save such as were wonderfully congenial with the spirit of the place, the sighing of the wind as it ruffled the surface of the lake, the occasional tinkle of the cow-bells far below, the deep baying of the St. Bernard dogs, or the murmur of a torrent far off, that came faint and continuous as music heard in ocean shells.

It is impossible to gaze on the St. Bernard pass without feelings of the deepest interest. It stands as a link in the chain that connects ancient and modern history—departed dynasties and systems of religion with modern governments and fresh creeds; and in this part the continuity has never been broken. Bare and bleak as is the spot, it is a palimpsest crowded with relics of different epochs and civilizations, the one covering but not obliterating the other. All the nations of the earth—Druids, Celts, Romans, Saracens, French, Italians—seem to pass in solemn file, a dim and ghostly band, before your fancy's eye. Names that have left an imperishable wake behind them—Cæsar, Charle-

magne, Canute, Francis I., Napoleon—have traversed that pass. Europe, Africa and Asia have poured their wild hordes through that narrow defile. The spot on which the convent is erected was held sacred and oracular from time immemorial. It had a *religio loci* and a consecrated shrine from the remotest antiquity. The weird, wild aspect of the place gave it an air of terror, and naturally associated it with the presence of some mysterious supernatural being. On a little piece of level ground near the lake, called the Place de Jupiter, on which the ruinous foundations of an ancient Roman temple may still be seen, a rude altar, built of rough blocks of stone, was erected 3,000 years ago, and sacrifices offered on it to *Pen*, the god of the mountains, from whom the whole great central chain of Switzerland received the name of Pennine Alps. Who the primitive people were that first erected the rude altar we know not—Celtic tribes, no doubt. For hundreds of years they held their territories undisturbed; but the day came when they were compelled to yield to a foreign invader. Rome sent its conquering legions over the whole of Europe. The stupendous barrier of the Alps offered no obstruction. Through its passes they poured like an irresistible torrent, washing away all traces of the former peoples. They demolished the Druid temple and erected on its site a temple dedicated to Jupiter Penninus. A substantial Roman road, well paved, was constructed over the mountain. It was used for centuries. In the Fifth Century, the Goths under Alaric, the Huns under Attila, and the Vandals under Genseric swept over the pass to subdue Italy and take possession of Rome. From that time, no event of importance, with the exception of the passage of the Lombards in 547, occurred in connexion with this spot, until Benhard, uncle

of Charlemagne, marched a large army over it in 773. Charlemagne himself afterwards recrossed it at the head of his victorious troops, after conquering Didier, the last sovereign of Upper Italy. Then came Bernard de Menthon in 962 and founded the Hospice which has received his name; and erected the first Christian altar. After this period the Saracens ravaged the convent and destroyed its records by fire; and were in turn attacked and repulsed by the Normans. Humbert "the white-handed" led over the pass an army in 1034 to join Conrad in the conquest of Burgundy; and a part of the army of Frederic Barbarossa crossed in 1166 under the command of Berthold de Zähringen. Pilgrims bound to Rome frequented it, travelling in large caravans for mutual protection from the brigands who infested it after the Saracen invasion; and we find King Canute, himself a pilgrim to the tomb of St. Peter's, by his representations to the Pope and the Emperor Adolphus on behalf of his English pilgrim subjects, obtaining the extirpation of those lawless bands, and the free and safe use of the pass. The present building was erected about 1680, its predecessor having been burnt. It is impossible to enumerate all the remarkable historical events which are connected with this place, from A. D. 59, when Cæcina, the Roman general marched over it with the cohorts recalled from Britain, through a snow-storm in February, to the spring of 1800, when Napoleon crossed it with an army of 80,000 men and fifty-eight field-pieces on his way to the famous battle-field of Marengo.

A little way beyond the Hospice, on a slightly rising ground, is a low building of one story, built in the rudest manner, and with the roughest materials. It is covered with a grey-slated roof; and in the wall of the

gable which fronts you there is a narrow iron grating, through which the light shines into the interior. You look in, and never till your dying day will you forget the ghastly spectacle that then meets your eye. It haunted me like a dreadful nightmare long afterwards. This is the famous Morgue, or dead-house, of which all the world has heard, and which every one visiting the convent, whose nerves are sufficiently strong, makes a special point of seeing. It was indeed a Golgotha, forcibly reminding me of Ezekiel's vision of the valley of dry bones. Skulls, ribs, vertebræ, and other fragments of humanity, with the flesh long ago wasted away from them, blanched by sun and frost, lay here and there in heaps on the floor. As my eye got accustomed to the obscurity of the place, I noticed beyond this mass of miscellaneous bones, separated by a low wall which did not obstruct the view, an extraordinary group of figures. These were the bodies found entire of those who had perished in the winter's snow-storms. Some were lying prostrate, others were leaning against the rough wall, the dim, uncertain light imparting to their faces a strange and awful expression of life. Three figures especially attracted and rivetted my attention. In the right-hand corner there was a tall spectre fixed in an upright attitude, with its skeleton arms outstretched, as if supplicating for the aid that never came, and its eyeless sockets glaring as if with a fearful expression. For years it has stood thus without any perceptible change. In another corner there was a figure kneeling upon the floor, muffled in a thick dark cloak, with a blue worsted cuff on the left wrist. No statue of the Laocöon ever told its tale of suffering more eloquently than did that shrivelled corpse. He was an honest and industrious workman, a native of Martigny. He set out early one December morning from

that town, intending to go over into Italy in search of employment. He got safely and comfortably as far as the Cantine de Proz, where he halted for the night. Next morning he set out through the defile leading up to the Hospice. The weather was at first favourable, but he had not proceeded far when dark clouds speedily covered the sky from end to end, and the fearful *guxen*, which always rages most violently in the Alpine passes, broke out in all its fury. He had doubtless fought against it with all his energy, but in vain. He was found, not three hundred yards from the convent door, buried among the deep snow, frozen in the attitude in which he still appeared, with his knees bent, and his head thrown back in hopeless exhaustion and despair. But the saddest of the sad sights of the Morgue is the corpse of a woman lying huddled up at the foot of the last-mentioned figure, dressed in dark rags. In her arms she holds a bundle, which you are told is a baby; and her withered face bends over it with a fond expression which death and decay have not been able to obliterate. The light shines full on her quiet features, which are no more ruffled by earthly pain. You cannot fail to see that she had made every effort to preserve the life of the baby to the last moment, for most of her own scanty clothing is drawn up and wrapt round its tiny form, leaving her own limbs exposed to the blast.

The number of accidents on the St. Bernard pass has greatly diminished of late years; and now the services of the monks in winter are principally required to nurse poor travellers exhausted by the difficulties of the ascent, or who have been frostbitten. Returning from my morning walk, I saw the famous *Marons*, or St. Bernard dogs, playing about the convent door. There were five of them, mass-

ively built creatures, of a brown colour,—very like Newfoundland dogs, only larger and more powerful. The stock is supposed to have come originally from the Pyrenees. The services they have rendered in rescuing travellers are incalculable. A whole book might easily be filled with interesting adventures of which they were the heroes. In the museum at Berne I saw the stuffed body of the well-known dog "Barry," which is said to have saved the lives of no less than forty persons. The huge creatures were fond of being caressed; and one of them ran after my companion, as he was going up the hillside by a wrong path, and pulled him back by the coat-tail.

After a substantial breakfast, we paid a visit to the chapel to deposit our alms in the alms-box; for though the monks make no charge for their hospitality, or even give the least hint of a donation, there is a box placed in the chapel for the benefit of the poor, and to this fund every traveller should contribute, at the very least, what the same accommodation would have cost him at an hotel.

The expenses of the establishment are very heavy, while the funds to meet them have been decreasing. Formerly the convent was the richest in Europe, possessing no less than eighty benefices. But Charles Emmanuel III., of Sardinia, falling into a dispute with the Cantons of Switzerland about the nomination of a provost, sequestrated the possessions of the monks, leaving them only a small estate in the Valais and in the Canton de Vaud. The French and Italian governments give an annual subsidy of a thousand pounds, while another thousand is raised by the gifts of travellers, and by collections made in Switzerland,—Protestants contributing as freely as Roman Catholics. Notwithstanding their comparative poverty, however, the monks

are still as lavish and hospitable as ever, up to their utmost means. As it was the feast of the Assumption of the Virgin, crowds of beggars and tramps from the neighbouring valleys,—masses of human degradation and deformity of the most disgusting character,—were congregated about the kitchen door, clamorous for alms, while the monks were serving them with bread, cold meat, and wine. What they could not eat they carried away in baskets which they had brought for the purpose. Entering the chapel with our little offering, we were greatly struck with its magnificence, as contrasted with the excessive plainness of the outside, and the sterility of the spot. It is considered a very sacred place, for it contains the relics of no less than three famous saints, viz., St. Bernard, St. Hyrenæus, and St. Maurice, of the celebrated Theban legion of Christians. Five massive gilt altars stood in various parts of the chapel, while the walls were adorned with frescoes and several fine paintings and statues. The marble tomb of Desaix, representing him in relief, wounded and sinking from his horse into the arms of his aide, Le Brun, was a conspicuous object. "I will give you the Alps for your monument," said Napoleon, with tears in his eyes, to his dying friend: "you shall rest on their loftiest inhabited point." The body of the general was carefully embalmed at Milan, and afterwards conveyed to the chapel, where it now reposes. A crowd of peasants, men and women, were kneeling, during our visit, in the body of the church, performing their devotions; while three or four monks, dressed in splendid habiliments of crimson and gold, were chanting "the solemn melodies of a Gregorian mass," accompanied by the rich tones of a magnificent organ; and clouds of fragrant incense rose slowly to the roof.

Anxious to see the geographical bearings of the convent, we climbed up, with immense expenditure of breath and perspiration, a lofty precipitous peak close at hand. We had a most glorious view from the top, for the atmosphere was perfectly clear, and the remotest distances plainly visible. In front was "le Mont Blanc," as the inhabitants proudly call it, and at this distance of fifteen miles in a straight line it looked infinitely higher and grander than when seen from the nearer and more commonly visited points of view at Chamouni. Far up, miles seemingly, in the deep blue sky, rose the dazzling whiteness of its summit, completely dwarfing all the other peaks around it. On our left was the enormously vast group of Monte Rosa, its everlasting snows tinged with the most delicate crimson hues of the rising sun; while between them the stupendous obelisk of the Matterhorn, by far the sharpest and sublimest of the peaks of Europe, stormed the sky, with a long grey cloud flying at its summit like a flag of defiance. Around these three giant mountains crowded a bewildering host of other summits, most of them above 13,000 feet high, with enormous glaciers streaming down their sides, and forming the sources of nearly all the great rivers of the Continent. My eye and soul turned away from this awful white realm of death, with relief, to the brown and green mountains of Italy, which just peered timidly, as it were, above that fearful horizon in the far south, with an indescribably soft, warm sky brooding over them, as if in sympathy. That little strip of mellow sky and naturally-coloured earth was the only bond in all the wide view that united me to the cozy, lowly world of my fellow-creatures.

THE EGGISCHHORN AND THE GREAT ALETSCH GLACIER

F. BARHAM ZINCKE

AUGUST 27.—At 9 A. M., started for the ascent of the Eggischhorn. Reader, if you have also made the same start, let us go over the old ground together. If you have not, then let me endeavour to tell you of something you would be the better for seeing. Jean Ott we took with us for our guide. You must call to mind that we are setting out from a height of 7,000 feet above the level we are accustomed to at home. There are no trees above us, or to the right, or left. Our way is all over the flowery Alpine turf, interspersed with rocks. We shall have to climb not quite 2,000 feet more. After a time we shall lose the flowers and the turf; but of that presently. On this morning there had been scuds of rain, but the weather was evidently clearing for a fine day. When we had got about half a mile from the inn where the path takes a curve round a depression in the mountain-side, there came on a heavy shower. A party of Frenchmen were a little ahead of us. They did not like the rain, and returned to the inn. Just, however, at the point where we were, the rocks, which had rolled down in bygone ages from the summits above the depression, had, as you would have expected, lodged in the axis of the depression. At two or three steps from the path they are so piled up as that some project suf-

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ficiently to give shelter from rain. We clambered into one of these chance-formed cavities and remained in it, quite protected, till the rain was over. While there, we observed how the interstices were being filled up by the decay of mosses and lichens. In about twenty minutes the sun was again bright, and there were no more clouds likely to make showers, and so, without any misgivings, we resumed our ascent over the flowery turf, interspersed with rocks. We soon came to a descending rib of the mountain. From this we first saw ice, that of the Viescher glacier. Upon this we turned our backs and went up the mountain rib. The turf and flowers now began to die out. The little bright indigo Gentian became scarce. We then came upon loose rocky *débris* from the heights above, with a ravine between us and the summit of the Eggischhorn filled with this loose naked *débris* and stones. We rounded the top of this ravine by a good path, in places very narrow, and like a rude rock staircase. And now we were close to the summit, which is composed entirely of a pile of clean slabs and blocks of rock, piled up into a steep mountain cone. It did not take us long to climb these clean slabs and blocks. Then we were on the summit—some dozen feet square, surrounded by a rail.

In the last part of the ascent we had seen nothing but the place where, at each step, we were to set our foot. Now the last step of the ascent had been taken, and one step more would carry us down 2,000 feet, to the Great Aletsch glacier. All the great mountains and the great ice-field of the Bernese Oberland, are before us. For some moments not a word is spoken. If at that moment we had had anything to say, we should have done as well if we had stayed at home.

Your first glance can only be at the great glacier so far beneath your feet. This, in your previous thoughts, had occupied the chief place in the scene you were coming to look upon, and have now reached. You wish at once to see what it is like and to ascertain your relation to it. It is a mile wide and looks precisely like what it is, a river of ice. All inequalities of surface are, from this height, effaced; and it is, to the eye, as level, though not as glassy, as water. And no river could have such clearly defined banks, for here they are mountains escarped as regularly as if the width and grades of the enormous channel had been cut by human hands working by plans and measurements. This is a conspicuous feature: having observed it, you then raise your eyes to make out the relations of the glacier to the mountains on either side of it and beyond it. If you were to look across it, you would be looking west. But you do not begin by looking across it, because it is itself the great object; and, therefore, you look up it. You see, following it up, that it takes a gentle curve a point or two to the west of north. For about five miles up it continues of about the same width. It then expands like an open fan. The fan-like expansion is a continuation of about five miles more. This expansion is, in reality, the great snow-field that is the chief feeder of the glacier; and which not only feeds it, but also by its own descent compacts and forces forward the glacier. Around the further side of the expanded fan stand, beginning on the left, the Mittaghorn, the Gletscherhorn, the Jungfrau, the Mönch, the Viescherhorn. These are more than ten miles off, but the distance offers much less, the objects being so large, and the atmosphere, at these heights, so clear. You see many black summits amid the snow, and many long, lofty scars; but of course the

snow on the summits that are unpeaked and on the sides that are not precipitous, preponderates in the scene. As these are the most prominent and interesting objects, you take mental photographs of them first. You then think of the Finster-Aarhorn. You soon find him before you, due north: of course, to the right of the great glacier and some little way back from it. By the air line he is seven miles from you. Between you and him is the Walliser Viescherhorn and several subordinate peaks. Between the Walliser Viescherhorn and the Finster-Aarhorn is the great snow-field that feeds the Viescher glacier we had a passing glimpse of as we were coming up. You now look across to the west side of the Great Aletsch. There you have before you the Aletschorn and an archipelago of connected peaks, entirely surrounded and everywhere permeated by snow-fields and glaciers. You see the confluence with the Great Aletsch of two of these subsidiary glaciers, the Mittler Aletsch, exactly opposite to you, and the Ober Aletsch four miles lower down. Of course you see but little of the glacier to the back of this archipelago; that is the Lötschen, the outflow of which passes down the Lötschenthal to join the Rhone at Grampel. Two miles below the junction of the Ober Aletsch, the Great Aletsch itself terminates. You can see almost to its termination.

You have, then, from your lofty observatory, the whole of this marvellous scene spread out before you. No part of it is seen indistinctly. You have a full and clear view of the mountains supporting the snow-fields; the snow-fields feeding the glaciers; the lateral glaciers converging into the main-trunk glacier; the main-trunk glacier flowing by at your feet, a true river. Though the eye does not see the motion, the mind, aided by the eye, does. For you see that

it is streaked with the *moraine* lines, which came in with the lateral glaciers, and which it is, obviously, carrying on; and you see the wave-like marks on its surface, more advanced, down stream, in the centre than on the sides, which tell you that the centre is moving faster than the sides. There is nothing to mar the unity, nothing wanting to the completeness, of this grand display of Alpine nature.

In the Märjelensee there is even something *de luxe*. The north side of the Eggischhorn is as precipitous as the west; in fact the north and west sides form a kind of right-angle; and you are standing up in the air over this angle, at an elevation of 2,000 feet above the glacier, from which the summit takes its last rise—all but a vertical one on these sides. The north side is the south wall of a deep fissure, which connects the channel, the broad valley channel of the Aletsch with that of the Viescher glacier. This fissure is considerably lower than the surface of the Aletsch glacier; but it is not of sufficient depth, or width, to allow any part of the Aletsch to pass into it, which also appears at this point to have its bearing on the opposite side. It, therefore, flows by this depression in cliffs of ice. Just where it passes the depression or fissure is a little lake, occupying the first part of the depression. Its waters, therefore, wash against the ice-cliffs of the Aletsch, which are its western boundary. The water being slightly warmer than the ice has a tendency to undermine it; and as the glacier has here lost its retaining wall of rock, and is somewhat expanded on the outer side of the curve it here makes, it comes to pass that masses of ice frequently detach themselves from the passing ice-cliffs of the glacier and fall into the lake; and then float off in the form of icebergs to the further end of the lake, from which point issues a little stream, the outflow of

the lake, which connects it when full with the Viescher glacier. As looked down into from the top of the Eggischhorn, this little lake, with its green, glass-smooth water and white icebergs,—in part the cliffs from which they have fallen are of a tender blue,—and with the sober-coloured Alpine pasture occupying the rest of the depression and reaching down to the Viescher glacier, and with the black mountain on the north of it, is a sight that must be unique and is as charming and interesting as unique.

But if not one of all the near objects we have just been looking at were visible from the Eggischhorn, still it would be worth climbing for the sake of the many distant objects it has to show you. On the north-east you may see the Tödi, and on the south-west Mont Blanc—neither, of course on account of the distance, and of the intervening heights, very conspicuous. But all between—the many summits of the Zermatt Alps, Monte Leone, overlooking the Simplon, the Galenstock, and the summits of the St. Gothard group, are each grandly distinct; and show—which is what they are—like the nucleus, the ganglion, the structural centre of a Continent.

August 28.—At 9 A. M. we set out for the Bell Alp. Having passed my last night's lodging, we were, a few minutes afterwards, on the crest of the ridge. Once on the top, we were soon in sight of the great glacier. To reach it we had to pass through a somewhat dilapidated wood of ancient pines. This is the Aletschwald. Most of the woods of the Valais are dilapidated; and in accordance with Valaisan practice we found here a flock of goats—of the black-jacketed strain—browsing on the undergrowth, and thus preventing a succession of young trees, to take, in their turn, the place of the old ones. As we were passing

through the flock, I saw one, reaching over from a rock above, bite off the leader of a thrifty young birch. We were not long in descending to the glacier. As there might be some need of help on the ice, and certainly would be in the ascent on the other side, Ott had asked for an assistant porter. In crossing the ice there are no difficulties; the passage took us a short half hour. You see no more of crevasses than just about enough to make you think that you had better not, through carelessness, slip into one of them. But as you look up the glacier, you see that half a mile or so above you it is composed of narrow ridges with crevasses between, so that it would be quite impossible, I suppose, either to ascend it or to cross it thereabouts. On the path we took we saw crossing, at the same time, men, women and children, a flock of goats, a herd of cows, and a horse. It is interesting to observe how unfailingly in travelling over such places, that is, where the way is difficult or dangerous, animals arrange themselves in Indian file.

You see a great deal in passing, of the indescribable clear blue of glacier ice—a tender, ethereal blue. Just as pearly pink, fiery red, fresh green and imperial purple give rise within us to correspondent emotions, almost ideas, so does this glacier blue. You have been admitted to look upon what has in it no smirch, no grossness, no warmth of earth—a purity not of this world. The man who can pass by this blue translucency without emotion, as if he had only looked upon a piece of blue serge, is of a hard heart and of a dull brain. His blood is thick. He is a lumpish Bœotian, a one-eyed Cyclops, a mentally distorted Caliban.

At 11 A. M. we reached the Bell Alp Hotel. It is, I suppose, about 1,500 feet above the glacier, and about a

mile back from it. From the seats on the north-east of the house you look up a long reach of it. But now you see no blue. Of that I have just endeavoured to give my impressions: I must now do the same for the glacier as seen from this point. For all the world it looks like a grand highway in a vast mountain cutting. So regular are its surface and its sides that they appear to have been the engineering, we will not say of man, but of a race of giants that must have once been on the earth. It has, however, the appearance of being still used by their pigmy successors, who never could have constructed it for themselves. They have retained it for their great north road—not the great north road of an island of no very considerable dimensions, but the great north road of a great continent. And it is now winter—for so it appears to be on the road as you are looking upon it—and the great road has been buried for some weeks in snow. And over this snow there has been a great deal of traffic; for it is the mid continental road. And this traffic of a great continent has beaten the snow very hard and much besmudged it. And there had, too, been a previous deep fall of snow, which it had been necessary to heap up in the middle of the road. This heaped up snow shows as a long dirty ridge. This is the great central *moraine*.

After you have seen it at the Eggischhorn, much nearer and much cleaner, and in combination with the snow-fields that feed it, this view, which only gives you a mile or two of the lower part of the glacier, does not much interest you from what is actually before your eyes. It only becomes interesting from what the mind supplies—from the interpretation the mind puts upon the intelligence telegraphed to it through the eye. As to that dirt upon the surface, the

mind sees how it came there and that it is now being carried down before you to aid in forming fruitful valleys. As to the tender ethereal blue below the dirt, that is still visible to the searching mental eye which sees beneath the dirt. The mind asks how far down below the dirt does that blue reach? None can say. There are, however, superficially, twenty miles of it, all of it a mile at least wide, much of it a great deal more, stretching away beyond what the bodily eye is beholding; and all this mass of solid yet ethereal blue was compacted out of little aery-light flakes of snow, and that was constructed out of little globules of floating vapour, and that had been pumped up from the far Atlantic by the sun, acting from a distance of many tens of millions of miles. And as this river of ethereal blue, so solid, so long, so broad, so deep, gravitates from the region of perpetual snow, aided, perhaps, by the irresistible expansion of ever-recurring internal congelation, it will gradually pass into another form and go to fill Lake Leman, and to feed the Rhine, on its way back to the Atlantic, only to go through again the same process. What a drama of nature passes before the mind as you sit on that bench alongside the hotel and look upon that Titan-engineered, deep-sunk, snow-buried, traffic-beaten, dirt-streaked road.

From this point, your seat near the hotel, you may observe that the glacier, as far as you can see it, is bordered on both sides by a perfectly clean margin of loose stones on the foot of either mountain. This margin appears to reach up from the glacier to the wood or turf or lichen-stained rock above, whichever it may be, for a space of two or three hundred feet. Its line is quite unbroken and uniform in height on both sides. It is a very marked feature when observed from this point. Of course all these are *moraine*

stones and rocks, and are now actually on the marginal ice of the glacier, or have been deposited somewhat above its margin, at times when the glacier, having been flowing at a higher level than at present, was again subsiding.

From another seat, in front of the hotel, you look down on Brieg, 5,000 feet beneath you. Beyond Brieg you have a better view than at Rieder Alp of Monte Leone and of the Fletschhorn, with the zigzags of the Simplon in the wooded depression between them. If you turn your eye to the right or south-west you will have before you, some twenty miles off, the Zermatt Alps. This morning, when we first saw them, there was a level sea of unbroken cloud resting on their shoulders, which concealed everything below. The substructure was entirely lost and the snowy summits were floating on the sea of cloud.

THE RHONE GLACIER

T. G. BONNEY

VERY few highways—at any rate in Europe—afford such a view of a glacier as is obtained from the zigzags of the new carriage road over the Furka Pass. It may be said to be unique, in respect both of the great extent of glacier which is visible from it, and for the long time during which it remains in the neighbourhood of the ice. There are only three other views at all of the same kind in the Alps: the Mortaratsch Glacier from the Bernina road; the Ortler Glaciers, from the Stelvio; and the Meije Glaciers from the Lautaret; but in no one of these is the ice-stream so close to the highway or so completely skirted as on the western slope of the Furka Pass. Here, as soon as the traveller arrives at the apex of the second great curve of the new road, on his descent towards the Ober-Valais, the vast basin of the Rhone Glacier is spread before him. Encircled by a coronet of snowy peaks, lie the wide reservoirs of *névé* which feed the ice fall below. Here and there some inequality in the rocky floor fissures this mighty cake of snow; and through a telescope we can even see the layers, bed above bed, like bands of masonry, which successive winters or successive storms have piled up in the course of years. Over these yawning chasms, whose gigantic size we can ill realize at this distance, long fringes of icicles droop, or gracefully curving volutes of snow hang like breaking waves. Below this wide expanse,

THE RHONE GLACIER

and nearer at hand, the glen occupied by the glacier descends more rapidly, the ice-stream is hemmed in between steep rocky walls, and shattered into a wilderness of crags. Rent by a myriad fissures, it becomes a tumbled cascade of icy blocks, carved by the sun's rays into fantastic forms—spires, domes, pinnacled ridges, and a hundred strange shapes. As you stand and watch, now some icy tower comes crashing down, now some huge block of stone slides from its moorings, and with a thundering roar is swallowed up in the blue depths of a neighbouring chasm. Lower down the slope diminishes, the glacier approaches the level floor of the Rhone valley, and the rents disappear as the ice again welds itself together. Here and there, indeed, fresh fissures open, but they scarce disturb the gentle curves which round off in every direction the end of the glacier, till it almost resembles the paw of a gigantic monster protruded from his rocky fastness.

Not seldom this is the first glacier of which a near view is obtained by the novice in Alpine travel; and few, if any, are better fitted for studying all the phenomena of these ice-streams, and testing the various theories which have been advanced. We are, indeed, here on classic ground. Old Dr. Scheuchzer—who crossed the Furka in the year 1705—gives in his book a rude plate of the Rhone Glacier, in which its principal features may be distinguished, though the engraver has obviously not understood the sketch; and also takes it as a text for a general discussion on the history and theories of glaciers, in which queer odds and ends of classic lore, strange fancies and acute observations, are curiously mingled. After him came De Saussure, the father of scientific Alpine travel, who thrice visited the Rhone Glacier (on one occasion with a Lord Palmerston, "*Connu*

par son goût pour les lettres et pour les beaux arts"), and gives a brief description of its appearance, which shows that no important change has taken place since then. Agassiz, Tyndall, and many others have noticed it in more or less detail; although it does not appear ever to have been selected as a locality for continuous study, like the neighbouring glaciers of the Aar, or the Mer de Glace of Chamouni. At this place a brief sketch of the mode of formation of a glacier may be acceptable to the reader. Glacier ice differs from ordinary ice in one important respect, namely, that it exhibits no trace of regular structure. A block of ice from a river or lake shows on examination that it has been formed layer upon layer, in regular order, as film after film of the liquid crystallized on those already deposited. Glacier ice shows no such structure; it is compacted, solidified snow, which has been slowly converted into ice by the pressure of the upper layers upon the lower, the crushing which it undergoes on its passage over and through inequalities in its rocky channel, and the re-freezing of the water, which trickles downwards into the mass when its surface snow is exposed to the sun's rays. A glacier then has its origin in a snowy basin or reservoir high up in some mountain glen. Here many feet of snow are precipitated every winter, and the store is augmented by the avalanches which in the spring pour down from the surrounding slopes. As a rule, for reasons which we will not now discuss, most upland glens have some slight resemblance in shape to a spoon,—a more or less bowl-like head or crown, drained by a more restricted channel. Thus, as the snowy mass moves downwards, it becomes crowded or "jammed" in approaching the gateway which leads from its birth chamber to the passage conducting to the lower world.

Crushed in this great Bramah press of Nature, it loses all trace of its original composition; the bedded frozen snow is converted into solid ice, and generally has a new structure developed in it, consisting of alternate bands of blue and white ice. This, which is in no way related to the original stratification, is believed, like cleavage in rock, to be the result of pressure, and is called the "veined structure." As these two kinds of ice do not melt at the same rate—the blue ice being much more compact than the white—this peculiar banding is often conspicuous from a considerable distance. The rocky declivity down which the glacier now passes is commonly broken here and there by steps; the ice-stream, unable to endure the strain to which it is subjected in passing over these is shattered by great chasms, called *schrunde* in the German and *crevasses* in the French Alps; and the broken fragments, as described above, are carved by the sun's rays into endless forms. Even without these inequalities in its line of descent, a glacier would be somewhat fissured; for it has been discovered that, like a river, its middle moves more rapidly than its sides, and this unequal motion of course exposes the mass to strains, under which it readily yields. At last its descent is accomplished, and the more level and open bed of the valley is reached; the broken fragments pressed together at the foot of the steeper slope, quickly unite in virtue of a property termed regelation, by means of which two pieces of wet ice freeze together when placed in contact. The solid mass moves slowly on, exposed to no strains but those of its own weight, owing to which a number of comparatively small crevasses open about its curved edge, radiating inward like the sticks of a fan. All through its descent it has been slowly melting under the sun's heat, and the water from its

surface is sooner or later engulfed in one of the chasms. The various rills thus produced continue their course, uniting, as they would above ground, while following the line of descent, till one or more sub-glacial torrents are formed, each of which at last issues from beneath the glacier under a magnificent arch of blue ice.

Nothing can be more beautiful than the exquisite tints of the recesses of these caverns; few things more dangerous than their allurements; for large blocks of ice not unfrequently fall from the roof without the slightest warning, and have more than once proved fatal to unwary intruders. These caverns are generally regarded as the sources of the rivers. In the case, however, of the Rhone, the natives refuse to recognize this as its birthplace, because the stream from it shrinks in the winter time to very small dimensions, and point to a spring in a meadow a short distance from the glacier, as the true source of the river, because its flow is uninterrupted summer or winter. The claims of this, which have been elaborately discussed by Scheuchzer and De Saussure (who makes some interesting remarks upon the high temperature of its water), will probably not be admitted by the traveller, who will deem the ice cave a worthier source of one of the greatest European rivers.

For the physical cause of glacier motion—a question as yet by no means quite settled—we must refer the reader to the works of Dr. Tyndall and the late Principal Forbes; to give even a summary of the controversy would occupy far more space than we can spare. One point more we must, however, notice, as it has an especial interest in reference to the Rhone Glacier. From the rocks which border the ice-stream masses are from time to time detached, and fall upon its margin. These are swept along; and when two

glaciers come together the stony fringes unite and form a central stripe, which often runs like an elevated causeway down the glacier. Many of these fragments are engulfed in the crevasses, and are crushed between the ice and its rocky bed; from this other fragments are torn off, and so the base of the glacier acts like a gigantic file upon the rocks beneath, breaking off prominences, wearing down asperities, and producing a peculiar, smoothed, rounded contour; this can be readily recognized, and from its resemblance to the outline of a sheep's back, has obtained for such rocks the name of *roches moutonnées*. The surface of these is sometimes actually polished by the ice rubber; it is always more or less grooved or scratched by the harder and larger fragments. The bigger blocks and such parts of the moraine as are not swallowed up are at last deposited at either the side or the end of the glacier as the ice-stream melts away; and large boulders are sometimes left curiously poised on projecting bosses of rock.

Hence it is evident that, by means of these indications, the path or trail of a glacier may be identified with certainty in places from which it has retreated. Some distance in advance of the present extremity of the Rhone Glacier are three or four crescentiform ridges of broken stones, each marking a pause in the retreat of the glacier. These, however, do but record a comparatively unimportant phase in its history. Grand as we think it, the glacier is now but the dwindled representation of its former self. Time was, long ages before history began, when the glacier of the Rhone extended all down the valley, and, swelled by a hundred tributary streams from the Pennine and Oberland Alps, filled up the basin of the Lake of Geneva, and welled up against the flanks of Jura a thousand yards above

Neuchâtel. All those slopes of alp and forest, all those straths of meadow from the base of the present glacier to Villeneuve, all the vineyards and cornfields of Vaud and Geneva, the sites of hundreds of villages, of towns, of villas and gardens, now gay with oleanders, pomegranates, and magnolias, were then buried deep under gigantic ice-streams, almost rivalling in vastness those which launch their fleets of icebergs into the Arctic and Antarctic Oceans.

SCHAFFHAUSEN, HANDECK, REICHENBACH, AND LAUTERBRUNNEN

SAMUEL MANNING

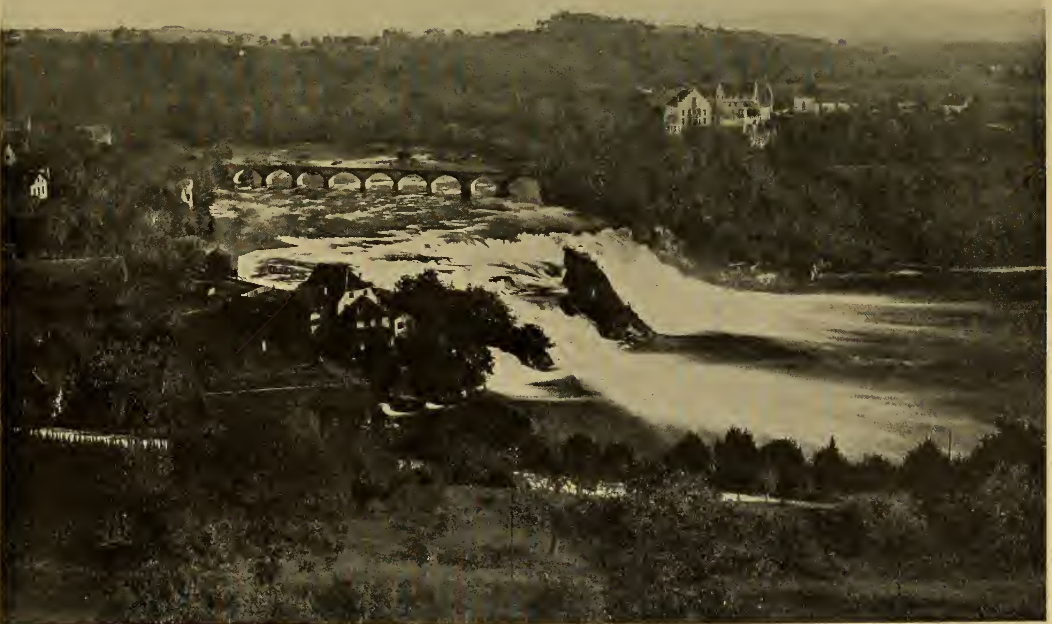
TRAVERSING the Black Forest by the Höllenthal and the Himmelreich, we enter Switzerland at Schaffhausen. The town itself deserves and will repay a visit from the lovers of mediæval architecture. The walls, the gates, the halls of the old Guilds or Zünfte, the projecting gables, carved and painted in the quaintest fashion, compete in point of picturesqueness with those of Belgium or Germany. It is the Falls of the Rhine, however, which form the great attraction of Schaffhausen. The river, which is here about three hundred feet in breadth, plunges over the black rocks with a tremendous and deafening roar. The mass of water is greater than that of any other cataract in Europe. But it lacks height and suddenness. It is a rapid rather than a waterfall.

Is it possible to describe a waterfall? Can words represent that wonderful combination of monotony with intense tumultuous motion which constitutes its charm? If success is possible, Mr. Ruskin has attained it in his description of the Falls of the Rhine.

"Stand for half an hour," he says, "beside the Fall of Schaffhausen, on the north side where the rapids are long and watch how the vault of water first bends, unbroken, in pure polished velocity, over the arching rocks at the brow of the cataract, covering them with a dome of crystal

twenty feet thick, so swift that its motion is unseen except where a foam-globe from above darts over it like a falling star; and how the trees are lighted above it under all their leaves at the instant that it breaks into foam; and how all the hollows of that foam burn with green fire like so much shattering chrysoprase; and how, ever and anon, startling you with its white flash, a jet of spray leaps hissing out of the fall, like a rocket, bursting in the wind and driven away in dust, filling the air with light; and how, through the curdling wreaths of the wrestling crashing abyss below, the blue of the water, paled by the foam in its body, shows purer than the sky through white rain-cloud; while the shuddering iris stoops in tremulous stillness over all, fading and flushing, alternately through the choking spray and shattered sunshine, hiding itself at last amongst the thick golden leaves which toss to and fro in sympathy with the wild water; their dripping masses lifted at intervals, like sheaves of loaded corn, by some stronger gush from the cataract, and bowed again upon the mossy rocks as its roar dies away; the dew gushing from their thick branches through drooping clusters of emerald herbage, and sparkling in white threads along the dark rocks of the shore, feeding the lichens which chase and chequer them with purple and silver."

On the way from the Grimsel to Meyringen, by the Ober Haslithal, traces of bygone glacial action are distinctly visible, proving that at some former period the glaciers of Switzerland must have been far more extensive and numerous than at present. At one place the path passed over granite rocks polished smooth by the grinding motion of the ice and cut into long deep grooves by the masses of stone which have been carried down by it.



FALLS OF THE RHINE

At Handeck, about five miles from the hospice, the falls of the Aar are passed. The river, after struggling through a narrow channel cut out of the solid rock, suddenly plunges over a rocky ledge into a dark chasm 200 feet deep. Another torrent, the Arlenbach, comes down from the opposite side of the ravine and makes it spring so that their waters meet in mid career. The din and fury of the falling torrents, the savage sublimity of the surrounding scenery, the gusts of wind that sweep up the narrow gorge, driving before them clouds of spray, and the rainbow spanning the falls, combine to make the scene one of rare grandeur.

From the Grimsel to Handeck the scenery, though very grand, is somewhat monotonous in its utter sterility. All is bleak and desolate. Vegetation seems annihilated, except in the form of rhododendrons, mosses and lichens. Crags scarred with tempests, peaks riven as by thunderbolts, torrents raging over their rocky beds, glaciers creeping down the mountain-sides, fill the scene. But from Handeck downwards, the Ober Haslithal is transcendently beautiful. The river, rushing along swiftly and rejoicingly, makes music to the ear. The pine forests yield their grateful shade. Through frequent glades and openings the grand mountain-forms of the Bernese Oberland may be descried. Alpine flowers bloom in richest profusion. The combination of soft tender beauty with stern savage grandeur is most pleasing. There are few more agreeable memories of a tour in Switzerland than that of a fine day between Meyringen and the Grimsel.

The Reichenbach Falls form the chief attraction at Meyringen. I know no spot where the tourist can better study the arrowy character of a waterfall. The stream here

is considerable, and it takes a fine buoyant header off a shelf of rock upon the hard stone floor of the chasm below. Of course it bursts and splashes off all round with much noise, and flings so much spray up the sides of the basin into which it leaps as to supply material for a number of baby falls, which run back like young ones to their parent. But its arrowy character is its most striking feature. It is like a sheaf of water-rockets rushing downwards. The moment the stream leaps clear off the rock, it begins to form these barbed shoots.

The scenery all along the road from Meyringen to Grindelwald is magnificent. The peaks of the Oberland are in view the whole day. The Englehorn, the Well-horn, the Shreckhorn, the Eigher replace one another as the road winds along. Approaching Grindelwald the huge masses of the Wetterhorn seem absolutely to overhang the path. The glaciers which stream down through the dark pine woods to the bright green pastures of the valley complete a scene of surpassing loveliness and grandeur.

Continuing our journey across the Wengern, the road gradually loses the barrenness and sterility which characterize the Grindelwald side, and plunges downwards through pine woods and luxuriant pastures and well-kept farms into the valley of Lauterbrunnen. The numerous *châlets* which stud the mountain-side add greatly to the picturesqueness of the scenery. The pine-wood of which they are constructed acquires a rich, brown colour from smoke and exposure to the atmosphere. They contrast finally with the bright emerald green of the pastures, or the savage rocks and black gloomy forests overhead. But, like many other things in this world, they are more pleasing at a distance than close at hand.

The name of the valley into which we descend, Lauterbrunnen, means *Nothing but fountains!* Few names could be more appropriate and descriptive. Innumerable streamlets, after careering for some time out of sight on the higher Alps, spring over the abrupt cliffs and buttresses of the rock, or leap down the smooth grassy slopes which enclose this delicious valley, reaching the bottom in showers of spray. When mists rest upon the surrounding mountains, as is often the case, the effect is very curious; the cascades seem to dangle from the clouds, hanging like long skeins of silver thread over the perpendicular cliffs. The supreme beauty of these falls is only seen in the forenoon of a bright day, when the waving spray of each is changed into a shower of rainbows.

The principal cascade in the valley is the Staubbach, that is *The dust fall.* It takes its name from the fact that in the course of its descent the whole mass of water is beaten into spray, and falls to the ground like a shower of diamond dust. It is the loftiest fall in Europe, springing over the perpendicular face of the cliff at a height of 900 feet from the ground. A German writer has compared the Reichenbach to a wild irregular ode, the Giesbach to an epic, the fall at Handeck to a sublime hymn and the Staubbach to a fairy tale. Wordsworth calls it

"This bold, this pure, this sky-born waterfall."

Byron writes:

> "The sunbow's rays still arch
> The torrent, with the many hues of heaven,
> And roll the sheeted silver's waving column
> O'er the crag's headlong perpendicular,

And fling its lines of foaming light along,
And to-and-fro, like the pale courser's tail
The giant steed, to be bestrode by Death,
As told in the Apocalypse."

Murray compares it to a beautiful lace veil, suspended from the cliffs above, waving over the face of the mountain. Cheever says of it: "It is the most exquisitely beautiful of waterfalls, though there are miniatures of it in the Valley of the Arve almost as beautiful. You have no conception of the volume of water, nor of the grandeur of the fall until you come near it, almost beneath it; but its extreme beauty is better seen and felt at a little distance; indeed we thought it looked more beautiful than ever when we saw it, about ten o'clock, from the mountain ridge on the opposite side of the valley. It is nearly 900 feet in height, over the perpendicular precipice, so that the eye traces its course so long, and its movement is so checked by the resistance of the air and the roughness of the mountain, that it seems rather to float than to fall, and before it reaches the bottom, dances down in ten thousand little jets of white foam, which all alight together, as softly as a white-winged albatross on the bosom of the ocean. It is as if a million of rockets were shot off in one shaft into the air, and then descended together, some of them breaking at every point in the descent, and all streaming down in a combination of meteors. So the streams in this fall, where it springs into the air, separate and hold their own as long as possible, and then burst into rockets of foam, dropping down at first heavily, as if determined to reach the ground unbroken, and then dissolving into showers of mist, so gracefully, so beautifully, like snow-dust on the bosom of

the air, that it seems like a spiritual creation, rather than a thing inert, material."

There is no doubt that the beauty of the fall varies at various times. In a wet season, or after a copious rainfall, it is a very striking object. But when a long drought has yet further diminished the small quantity of water which ordinarily comes over the mountain-side the effect is disappointing. It is said that in winter, when the torrent is nearly arrested by frost, colossal icicles are formed, many hundred feet in length, some hanging down from above, others rising up, like enormous stalagmites from beneath.

A delightful walk of about three hours along the banks of the Lutschine brings the tourist to Interlaken. The valley of Lauterbrunnen should, however, be traversed in the opposite direction. In ascending from Interlaken the scenery increases in grandeur and the snowy peaks of the Jungfrau are continually in view, advantages which are lost in descending the Wengern Alp.

ST. GOTHARD

WILLIAM HEPWORTH DIXON

THE sun is sinking on a cloud of summits as we pace the road which winding up the Siedeln alp and vaulting over by the Furka, weds the two great valleys of the Rhone and Reuss, and brings the Simplon pass into connexion with the Gothard pass.

A mist is rising in our front from horn and glacier, from the Grimsel ridges, from the Gelmer snow-fields, from the Handeck falls, a mist which swells the solar disk and turns the flame to fire. Athwart this thickening haze the light is flashing into lengths and streams and the white clouds above these lengths of light are rolling into curves and crowns. The colours melt and deepen as we gaze. A moment since the tints were amber, rose and blue; but while we speak that amber burns to gold, that pink grows crimson, and that blue is purple, brown and black. Afar off, in the Bernese Oberland, two pyramids of earth—the Shreckhorn and the Finster Aar-horn—part these ever widening waves; two dark and mighty cones, which tower above the highest wreaths of cloud.

Our right is bounded by the Rhone glacier; a scarf of frozen ice; here rough with shales of slate, there dark with drifts of dust. So near us lies this shining fall that we can peer into the rents and watch the play of green and rosy light within them. Down below, the surface of the glacier has been smoothed and rounded by the noon-day heat;

ST. GOTHARD

along our level it is jagged and broken by the midnight chill. A ravine passes to our left—a sombre ravine, which ascends the ridge on which the Muttbach feeds; and over this dark parting of the ridges rise the Mutt-horn, Schafberg, Tell Alp, Saas-horn; while beyond these peaks, and partly hidden from our sight, extend those granite walls which press the summer back upon Italian lakes. Below these masses, in the groove between the Mutt-horn and the Grimsel, flow the waters of the Rhone—here lost to sight among the rocks, there flooding out among the trees and fields—past Oberwald and Obergestelen, then through long green reaches, lit with roof and spire—sweet notes of life and home in the stern desert of an Alpine night. Up north and west, above the Grimsel, spread the crests and gulfs to which no spring, no autumn, ever comes; a realm where it is always either frost or fire; where chain is laid on chain, and peak is piled on peak; with domes and falls of ice, with sweeps and drifts of snow and pinnacles of rock too sharp for either flying mist or driving rain to clutch. Beyond the Grimsel stretch the Gauli glacier, the lesser and the greater Grindelwald glaciers, the Kander glacier, the two Aar glaciers, the Lötschen glacier, the Münster glacier, and the Aletsch glaciers, hanging on the sides and dripping at the feet of the secondary alps; while high above these seas of ice roll up vast fields of granulous snow, too high for sun to melt; and over these white fields, the humps and teeth of Jungfrau, Wetter-horn and Mönsch, with yon twin pyramids of earth, the Schreck-horn and the Finster Aar-horn, which divide the flashing lines of light—as though they stood in arms, two mountain kings, to guard their brides and captives from a bold, crusading sun.

Yet nobler than such wintry masses and to larger use and purpose, swells the group of heights on which we stand—the crown of the St. Gothard chain, the central range of Europe, where her valleys run to meet each other whence her rivers rise and flow to east and west, and over which the Frank and Teuton pass to Lombardy, while the Italian climbs towards Germany and France.

This central group of the St. Gothard chain, like other mountain systems, has her trough, her platform and her cardinal peak.

Her trough is Urseren—the Uri valley—once an Alpine lake, like that of Wallenstadt in form and size, but lying in a loftier bed. The lowest hamlet in this hollow stands four thousand and six hundred feet above the sea. A green but treeless basin, into which the snow comes down with the September chills, and nestles in the clefts and gullies till the latest day in June, this trough is watered by the Reuss, a stream which, rising near the Furka, brawls past Re Alp, Hospenthal, and Andermatt, until it issues from the trough near Teufelstein. Some firs creep meekly up St. Ann's—an alp round which the last few flights of the St. Gothard road wind up—but they are dwarfed in size and thinned in mass by the exceeding cold. Some herdsmen, guides and muleteers, who live by aiding people on their way, have built in Urseren the thorpes in which a passenger finds food and fire.

Her platform is not so sharply marked by nature; for the ridges flow into each other, and the ravines break these ridges here and there—as at St. Gothard, Six Madun, the Devil's Bridge and Längis Grat; but still, an oval, somewhat roughly drawn, with Re Alp for a central point, would sweep the edges of this platform. Draw a line from

Rhone-stock by the Gersten-horn, across the valley of the Rhone to Saas-horn and Lucendro, round the Lago Sella to Six Madun, and thence to Toma, Aldez, Süisen, Teufelstein, and by the Batzberg and the Spitzberg, through the Winter glacier to the Rhone-stock. In this oval, seven miles wide and fourteen long, are crowded peak and source and pass. The Rhone wells out below the Galen-stock; the Rhine flows downwards from the Toma lake; the Reuss goes rattling past the Siedeln Alp; the Toccia starts beneath the Saas-horn; the Ticino drops from Lago Sella. All the greater lakes are fed from this one crown of earth; Lake Constanz from the Six Madun; Lake Leman from the Galen-stock; Lago Maggiore from the Sasso di Gottardo. Three drops of rain delivered from one drifting cloud, might fall into the Rhone, the Toccia and the Rhine, and, after filtering through Lake Leman, Lago Maggiore and Lake Constanz, might run forward on their several ways into the sea, past Avignon, Cremona and Cologne.

Her cardinal peak is Galen-stock—the peak now towering on our right—a fount of light and beauty in this sombre realm, which ancient shepherds, coming up the valleys of the Rhone and Reuss in search of fortune, called the Pillar of the Sun. He is the Saul of the St. Gothard group—above the tallest of his brethren: Gerstenhorn, Lucendro, Mutt-horn, Spitzberg, Six Madun—though all these mountains are of Anak breed. Three glaciers hang about his hoary neck and shiver down his sturdy sides; the Tiefen glacier on his northern flank, the Siedeln glacier on his southern flank, and the Rhone glacier (which has many feeders) on his western flank. These glaciers drip by different ravines and descend to different seas. Above his summit floats a canopy of cloud, from under which at times

leap fire and wind and hail, those rival demons of this upper air, which shake and daze the earth in their plutonic and magnetic strife. About his feet, low down among the ruts and wrecks of ice, lie caves of wondrous beauty and uncounted wealth. In 1869 a cave was entered by this Tiefen glacier, when the noblest crystals in the world were found. The rock was topaz. Fragments lay about in heaps, each broken piece a hundred pounds, or two hundred pounds in weight. Some fifteen tons of topaz were removed from this great hiding-place of nature in a single year. What sage can count the marvels yet in lurking near this Pillar of the Sun?

There—spent at last—the fiery orb is gone! Dark domes of cloud are rising round his couch. A faint green tinge still charms the upper sky, and specks of silver touch the highest peaks; but all the ravines at our feet are veiled, and all the secondary alps are lost to sight. At such a time one feels how poets in the guise of shepherds, with an eye on straying goat and heifer, learned to call this central point of their converging tracks the Pillar of the Sun. This peak is still a coronet of fire.

Far down, in either of the valleys in our front and rear, as far as Biel in front, as far as Andermatt in rear, the herdsmen raise their eyes at sunset and at sunrise towards this signal in the clouds, the first to catch and last to hold, that radiance which is life and light to man. At Biel you see the villagers come out, long after sunset in their narrow trench, to watch the glowing tints die off this point, and augur from the depth of gold the fortunes of another day. At Andermatt the rustics turn to it at dawn, while yet the roadway up the Ober Alp, the ruined tower of Hospenthal, the fringe of forest on St. Ann's, are buried in

profoundest gloom. Above Re Alp and Bülenstock there is a flash, a star, a comet, which expands and colours to a pinnacle of flame. It is the Pillar of the Sun, the central peak of the St. Gothard group.

THE ENGADINE—SUMMER AND WINTER

J. KIDD

THE "Engadine" sounds a very remote country to most people in England, yet it is only thirty-six hours' journey from London, or rather less than the journey to Zermatt, and only four hours more than to Chamouni or Interlaken. It has a climate and scenery very distinct from ordinary Switzerland. It lies to the east and south, and thus possesses a climate drier and clearer than the Oberland, Chamouni, or Lucerne. Being within a few miles of Italy, it enjoys the dry warm air of Italy, cooled by the perpetual snow of the glaciers. Thus it is in summer cool, clear, dry, and invigorating.

Coming into the Engadine by the Julier Pass the view of the lakes is most striking. The diligence comes down rapidly by a zigzag of four or five miles to Silvaplana, a bright sunny spot, with a glorious view of the glaciers and lakes. There is a good hotel here; the experienced visitor coming to St. Moritz or Pontresina in July or August is glad to secure a bed for the first night at Silvaplana, and goes over in the early morning to search out quarters at Pontresina or St. Moritz.

The Engadine is like a kingdom in itself, with many and varied centres. The most attractive in summer is Pontresina, which is close to all the most interesting excursions to the higher mountains. It is well situated, with a dry soil and sunny aspect, nearly six thousand feet above

ST. MORITZ

the sea-level. It is an upland valley, surrounded by high mountains eight to twelve thousand feet high. For a summer holiday it contains many attractions. To the adventurous mountaineer, a great variety of excursions upon the glaciers and high mountains. To the invalid, many pleasant walks, and not a few lovely drives; some of the most beautiful excursions can be made in the *chaise-à-porteurs*.

The inhabitants of the Engadine are a peculiar race, half Italian and half German, with a language of their own—"Romansch," a mixture of Italian and German. The people rather despise agriculture, and let out their pasturages in summer to shepherds from Bergamo in Italy, who drive up their long-haired sheep and cattle in May, and return to Italy at the end of September. The natives are said to go all over Europe to "seek their fortunes," and get employment chiefly as cooks and confectioners, returning after many years to settle down in their beloved Engadine.

The climate of the Engadine in summer is most exhilarating—clear, dry, and bracing. To the fagged brain and exhausted nerves of many it acts like a charm, renovates and freshens up mind and body. To such it becomes the annual rest and restorative. To a few, and only a few, the climate has the opposite effect: depresses the mind and body, hinders sleep, and begets apathy and breathlessness.

The glaciers of the Engadine are not so magnificent as those near Zermatt, but they have a most attractive beauty of their own, as the *habitués* of Pontresina seem never to weary of visiting them again and again during their stay. The district is rich in flowers, especially in the early season, June and July.

At Pontresina the hotels are very good—the food much

improved on the old style of twenty years ago, when the English tourists accustomed to Lucerne and Chamouni were horrified to find that there was no food to be had except at the regular *table d'hôte* dinner at one, and supper at seven. No possibility then of getting chops or steaks at the late hours on returning from the distant excursions. Now all this is changed, and in the *restaurant* rooms of the chief hotels there is a plentiful supply of good food at all hours.

The visitors to Pontresina are quite different to the tourists in the other parts of Switzerland—most friendly and genial, grouping themselves naturally. At the Krone, all intent on the high Alps, full of plans and arrangements with guides over-night, and out before daybreak on the "grand excursions"; dancing in the evening to ease their tired legs. At the Roseg, a more quiet set, satisfied with the mild excursions, making collections of flowers and plants. The Roseg being outside of it is quite removed from all the bad smells of the crowded village, in the very centre of which the Krone is situated. At Saratz, a select party, "the notabilities," enjoying a fair and easy life—a faint reflex of the London season—the greatest event of the day an Italian *vetturino* driving in with four horses and a "milord's" family.

Visitors to Pontresina go out for a "settling down" of three or four weeks, not rushing from place to place. In this respect the advantages for a health holiday are infinite. Most of the visitors after their three or four weeks' resting in the Engadine find the easiest way home is through the Italian lakes—a lovely ending to the holiday trip.

St. Moritz is crowded during the short season, from the middle of June to the end of August. During those ten

weeks it is often extremely difficult to get accommodation, even when engaged beforehand. A crowd of visitors frequent the Paracelse spring every morning, drinking the chalybeate water cold or warmed, according to taste. Flat vessels of hot water are provided, into which the visitor can plunge his glass to take the chill off. The baths are much frequented, although it is a bad country for baths, too cold and chilly. The description by the natives of the climate is too exact: "Nine months of winter, and three months of cold weather." Yet it seems to suit the vast crowd of English, German and Italian visitors who rush there to escape the heat of the summer.

Even during the best season, in August and early September, the Engadine is liable to heavy falls of snow. Two or three seasons out of twelve I experienced this heavy snow-storm in the second week of September. It is a most lovely sight; as the storm passes off after two or three days, the bright clear sunshine comes out, the snow melts rapidly, and the landscape becomes most beautiful as the dark green foliage bursts out through the covering of snow. The snow-storm quickly empties the hotels, a regular flight occurring to the Italian lakes. The experienced visitors look on and wait for a few days, to be richly rewarded by the burst of bright, clear, sunny weather, fresh and invigorating, when the climate of the Italian lakes is close, hot, and damp.

The Maloia hotel is a great building on the swampy shores of the lake of that name, with a lovely background of mountains and many pleasant excursions near. The situation of the hotel is exposed to mists and gusts of wind, but the accommodation is so good that it is crowded for the ten weeks of the season, with three or four hundred visitors.

In winter the vast building is abandoned to thirty or forty, who cling to it, through mist and wind, because of the good food, and airy, well-warmed rooms.

Campfer attracts many English visitors who love a quiet resting-place a little aside from the great crowd of St. Moritz or Pontresina. It is situated in the centre of the lake district, with many easy excursions, and endless opportunities for botanizing, fishing and sauntering in the beautiful woods around it. The Hotel Julier is like a little English family party—most of them old *habitués* of the Engadine.

For the artist and lover of the picturesque, the most perfect haven is Sils Maria. There may be found quiet beauty amongst the lower hills and the lakes, with enchanting views of the snow peaks in the distance.

Tarasp, in the Lower Engadine, attracts a crowd of Swiss and Germans for the use of the mineral waters, which resemble Vichy and Carlsbad in their chemical constituents. A few English people go there, especially those with whom the air of the High Engadine disagrees. Tarasp is in a deep hole at the bottom of a deep valley, a most uninviting spot. The English visitors generally leave it and go to Schulz, a village about a mile down the valley, in a good situation, and possessing a good hotel; from thence walking to the mineral waters and baths once or twice a day.

Winter in the Engadine is a most chequered season, a source of much anxiety to many invalids. Most of the hotel proprietors and doctors advise intending visitors to come there in November, so as to get settled before the actual winter commences. This advice is extremely bad and misleading, as it exposes delicate invalids in the early winter to frequent changes of snow and rain, alternating

with moist Sirocco winds—the dreaded "Fohn" wind—which enervates and depresses, causing frequent catarrhs and feverish colds. The roads in the early winter are apt to be slushy, obliging invalids to keep much indoors. The public rooms, ili-ventilated and heated by stoves, become hot and close. Without occupation, and unable to take outdoor exercise, the invalids become discouraged and depressed before the real winter comes, in the middle or end of December. Then the experienced visitors arrive, when there is a good prospect of dry, clear, wintry weather; two months of the most lovely, clear, blue skies, warm sunshine, still air so transparent and bright that no description can give an idea of it. But even in this late winter there is an occasional week or two of fresh snow, blocking up the roads and stopping the skating. The hardy visitors will get out of doors even in this bad weather, but most of the delicate invalids are kept indoors, and lose ground as rapidly as they gained it in the clear cold of settled winter.

Davos, although outside the Engadine, deserves especial mention as the first of the winter resorts of the high Alps. It is nearly 1,000 feet lower than St. Moritz, yet well above the line of the clouds which cover the lower Swiss Alps with a cold dull grey, when Davos is basking in the bright sunshine with a clear blue sky, and dry snow upon the ground. Davos is essentially the place for delicate invalids. It is more sheltered than St. Moritz. It has, however, very few walks or drives, and no lakes like St. Moritz. It has a skating-rink in a meadow, which is flooded in winter and soon freezes; but this is a very tame affair compared to the exquisite beauty of the snow mountains surrounding the frozen lakes in the Engadine. It is a part of the hygiene at St. Moritz for all the young men to

go out for two or three hours' hard work sweeping the snow off the ice so as to keep it fit for skating. During the continuance of the clear frosty weather, the life of the visitors is the most healthful that can be conceived. From ten to four, there is constant occupation out of doors, skating, walking, sledging, tobogganing. Even the most delicate can sit out of doors for hours basking in the brilliant sunshine; the appetite increases with renewed health and strength. The dry rarefied air acts most beneficially on the lung tissue. Many and severe cases of lung disease become perfectly cured as long as they remain in the Engadine. Many of the residents of Davos came there for the cure of lung disease, and subsequently settled as shopkeepers, or waiters, or hotel-keepers, or doctors. If possible, even the residents leave Davos in April and May, but many are unable to afford the change, and stay on from year to year. Davos has more sunshine in winter than St. Moritz, and is less exposed to wind and mist. It gets quite as much, or even more, of the "Fohn." As it reaches Davos the snow melts, a close steamy air fills the narrow valley and brings cold and depression of spirits, the roads become slushy and unfit for open-air exercise, all people indoors so become a study for "the blues." A few fall back upon regular study or drawing, but most of the invalids find it impossible to settle down to healthy occupation indoors. Davos owes much to the skill and care of the doctors. All modern improvements in health management are ably carried out. Even during deep frost, the doctor will frequently go about the bedrooms at night to see that windows are open. In that still air, with thirty degrees of frost out of doors, the open windows at night are safe and most beneficial. At Davos, the word for every one is "out of doors all day."

For those so weak as not to be able to walk, there is the open balcony with a south aspect, to sit in the sunshine and rest without fatigue. All the doctors urge the invalids to drink milk abundantly, early in the morning and late at night, and at odd times during the day. Red Valteline wine is also freely taken at lunch and dinner. The food at Davos is very much better than at St. Moritz. Much more care is taken to keep up a good supply of the best fresh meat, and all other things in proportion. The hotels are most excellent.

A patient who spent four winter months at St. Moritz and a fortnight at the Maloia, thus describes his experience: November and December changeable, some fine days, not a few bad ones, and many half-and-half sort of days when the sun is partly clouded and a slight breeze blows; one might be hot one moment, and cold another. January and February all that could be desired. Sharp frost at night, and bright sunshine all day, with a dry crisp air so clear and blue as to be impossible to describe. March most trying, as the thaw set in during the days with snow, so that the clothes got wet on going out. Occasionally a strong wind blowing, so that few could venture out, as the wind seemed to cut through the warmest clothing. During March most people had colds.

The same patient left St. Moritz, and went in March to the Maloia. There he found food most excellent, and the ventilation and sanitary arrangements most perfect.

The journey to the Engadine in summer is very easy and most enjoyable. Leaving London at 11 A. M., the corresponding train from Calais reaches Basle at six in the morning, and Coire soon after midday. From thence it is a long day's journey of marvellous beauty and interest to Pontre-

sina or St. Moritz. In winter, the diligence runs regularly. When the snow is deep, the passengers are put into little open sledges—a most agreeable mode of travelling. For invalids, a covered sledge is used, but it is not safe in bad weather, being easily upset. Fur coats are the grand protective on the journey.

LAKE LUGANO AND LAKE COMO

F. B. ZINCKE

THE road to Lugano begins on a rich and well cultivated level. The broad, highly varnished leaf of the maize, and the more sober green of the vine, are side by side everywhere. Some country houses are passed. After five miles of this cultivation, grass becoming more common, and country houses less so, at Cadenazzo, you leave the valley, and begin the ascent of the Monte Cenere, by which you cross the range that separates the valley of the Ticino from the basin of Lugano. We had been for some time slowly toiling up the zigzags; and I was at the moment noting the heath in flower, and the stunted russet brake (for there had been a long spell of dry weather) with rock everywhere protruding; and all beneath the old gnarled chestnuts; when, on coming to a masonry-supported angle of the road, projected on the mountain-side, almost as if for a lookout, there burst on my sight, beyond and below, at perhaps a distance of two miles, the head of Lago Maggiore, and the town, on its margin, of Locarno. I was not expecting anything of the kind; and was indeed, at the moment, intent on the heath and brake, when they abruptly vanished, and this glorious prospect took their place.

At my feet, for the foreground, was the broad, richly cultivated valley, partitioned into innumerable bright green prairies, and grain fields yellow for harvest; all full of fruit

trees. Beyond were mountains of very varied outline and colour, scarred with rocky ravines of varying size, which the melting snow, and the storm torrents of ages, had cut from their naked summits down along their forest-clad sides. Snow still, here and there, spotted their summits, in consequence of the cold late spring of this year. Along the margin of the glass-smooth, green-blue lake were the white houses of the long straggling town. Above the town, scattered in woods, at wider intervals up the mountain, and for some distance from the town along the margin of the lake, were innumerable white villas. It being early morning the bright sun was full on the town, and mountains, bringing out clearly every white wall, every dark roof, every green field, every patch of wood, almost every individual tree, and every dark grey rock. It was a scene of surprising variety, interest, and beauty, that had come suddenly before me without any preparation.

As you pass on to Lugano, though you are still on high ground, there is something that tells you that you are on the south side of the mountains. It may be hard to say precisely what this something is, but it is in the vegetation, in the people, in the air. There is more of the chestnut, and less of the fir tribe. The oak is more spreading. The undergrowth in the copses, and the plants by the roadside, are more varied. The people are gayer, and more light-hearted. The air is more stimulative of life. At Lugano, as might be expected from its contiguity to the lake, the aspect of things is very different from what it is at Bellinzona. Many appear to be in easy circumstances, and at ease in their minds. This they show by the care they bestow on the exterior of their houses, and on the ground around them.

LAKE LUGANO

As to the lake. As far as I saw of it, its distinguishing feature appears to be the abruptness with which the environing mountains descend into the water. In many places they dip into it without any preparation at all, with no final *talus*. The deep water breaks on the clean upright rock. Still the mountains are pretty well clothed with wood. The trees, however, are much detached, and very scrubby, as if on these dry, sunburnt, rocky mountain-sides, they needed a century, as probably they do, to grow into scrub. Still wherever on the margin of the lake, and a little higher up, soil could be collected for a few vines, or for a little garden, there you will see the few vines or the little garden. One is astonished at the number of small towns on the margin. They are very conspicuous from the walls of all the houses being white. I suppose they are built of rough stone, which is then plastered, and lime-washed. An American on board the steamer, and who was acquainted only with the large way in which things are done in his own country, and with the large rewards of industry there, told me he had been fairly beaten by the puzzle, how the people in these towns could live. There was no land to cultivate. There were no factories to work in. No business. Nothing to trade with. Nothing to get a living out of.

Somewhere between Lugano and the eastern extremity of the lake, we were boarded by a custom house officer, and entered the kingdom of Italy. At the eastern extremity—the place is called Porlezza—we took the diligence for Menaggio, on the Lake of Como. The road lies along a depression in the ridge that separates the two lakes. From its being much lower than the ground which separates the head of Lago Maggiore from Lugano, it presents a much more advanced stage of the idea of Italy, and of the sense

of being in Italy. There is cultivation all the way. Maize, mulberries, vines everywhere. *La petite culture* only. In a little more than an hour we were down the zigzags to Menaggio. The long expanse of Como was at our feet, backed by lofty mountains, on which snow still lingered. Everywhere on the terraced slopes, in which not a square foot of ground was anywhere lost, were not only maize, and mulberries, and vines, but also fig, almonds, and olives; and oleanders, myrtles, and magnolias. Another world with a richer life was around us; a brighter sun and a bluer vault were above us—a glorious bit of quick-pulsed Italy! It is good for a man that his mind can be moved in response to such a scene.

At Menaggio I took a boat to cross the lake to Bellaggio—the fac-simile of the boat in which I had gone from Sacheln to Sarnen. It was propelled also in the same fashion by two men, who stood up to their work. Of course, they demanded at first twice as much for their services as they were glad to accept eventually. As we got afloat the sun was shining brightly, as it had been since we left Bellinzona in the early morning; and there was just enough air to be pleasantly perceptible. At the head of the lake, however, far away to the north, we saw that a storm was raging. There all was black, and distant thunder was at times heard. When we had got about half-way across the lake, the surface being still unruffled where we were, we descried a line of broken water reaching across the lake, rapidly advancing upon us from the north. Our boatmen made all the haste they could, and succeeded not quite, but almost, in escaping the squall; for it struck us when we were but little more than 200 yards from the beach.

We had to wait at Bellaggio about an hour for, as it was to go to Como, I suppose I must say, the up steamer. If I had remained at Menaggio I should have gone on by the same boat, but I was glad that I had not done so, not merely because crossing in the boat was an additional small incident in the day's work, but also because it enabled me to see the finest, I may say perhaps the grandest, display of flowers I have ever looked upon. In going down to the new pier, to the left of the road, or rather of the street, for it was still in the town, there is a long wall about ten or twelve feet high; evidently the boundary of the grounds of a house situated somewhere behind it. I infer from the lay of the land that the grounds, immediately behind the wall, must be six or seven feet higher than the roadway. Over the top of this wall, rising several feet above it, and bending down four or five feet from the top, was one thick, bushy, unbroken line of oleanders, every spray of which ended in a large truss of freshly expanded rose-red blossoms. I paced the wall, and, if I remember rightly, its length was sixty-two yards. The stems of the plants were invisible, being behind the wall. Crowning then this lofty grey stone wall, and hanging down over its side was a long, broad, even, unbroken line of bright blazing colour. The eye fed upon it, and was more than satisfied with the feast.

The streets of Bellaggio were sheltered from the squall. In crossing the lake to Cadenabbia it was on our starboard beam. The little wet it made on deck was sufficient to drive pretty nearly all the natives below. A little further down, on rounding the point, which opens the long reach, at the bottom of which stands Como, there was more wind; either the interposing mountain acted as a screen to keep it off, or, as is common in mountain lakes and valleys, it was

a local affair along a single reach. As we neared Como, at about 6 P. M., we saw that a heavy storm was gathering at the end of the lake, and just as we were leaving the boat for the pier, the rain came down in earnest, and lasted for two hours, accompanied with much thunder and lightning.

THE TUNNELS OF THE ALPS

H. S. ARCHER

THE Simplon road was the first great Alpine route after the Brenner, and constructed by order of Napoleon in 1800–1806. The wild and gloomy pass, however, is said to have been used as an international thoroughfare as early as A. D. 206, under Septimus Severus, and to have been provided with numerous stations and relays for a primitive posting service; but this is very doubtful, for only one place, in the Vedro Valley below the village of Simplon, was impracticable in quite recent times, and a great amount of blasting must have been performed in making the high road. There can be no doubt that it was extensively used from the Fifteenth Century, when the Swiss were trying to annex the Val D'Ossola. In the middle of the Seventeenth Century an enterprising Swiss merchant, Kaspar Stockalper, dominated the trade over it, ensuring the safety of transit by a guard of seventy men, whom he raised and equipped himself. Relics of Kaspar Stockalper's enterprise exist to-day in the picturesque Château Stockalper at Brigue, which is still the largest inhabited building in Switzerland, the old Hospice near the summit; and the tall, square tower on the Italian side at Gondo—all which he built from the proceeds of the tolls, to afford shelter to travellers.

The construction of the splendid road over the Simplon, which, when completed, was the wonder of the day, and

still deserves to rank as one of the great engineering achievements of the world, was decided upon by Napoleon immediately after the battle of Marengo, while the recollections of his own difficult passage of the Alps by the Great St. Bernard was fresh in his memory. The work was commenced on the Italian side in 1800, and on the Swiss in 1801. For five summers five thousand men were employed on it, and by the autumn of 1805, Napoleon was able to receive a satisfactory answer to what had been his constant query since the commencement of the colossal undertaking; "*Le cannon quand pourra-t-il passer le Simplon?*" The breadth of the road is from twenty-five to thirty feet, and its length between Brigue and Domo D'Ossola amounts to forty-one miles. The slope nowhere exceeds one in thirteen, and the maintenance of its comparatively gentle gradients necessitated the construction of terraces of massive masonry miles in length. Between Brigue and Sesto the bridges number sixty-one, and there are also no less than ten galleries of solid masonry or tunnels perforating the rock, with a total length of 1,723 feet, the longest being the Gallery of Gondo, 722 feet in length.

The ascent begins immediately on leaving the town of Brigue, and the most dangerous part of the pass lies fifteen miles away, half way between which is the summit of the road, 6,590 feet above sea-level. Looking back from the Kulm, or summit, where an excellent hotel is located, a magnificent panorama of the Bernese Alps is obtained—the most prominent features being the glittering white peaks of the Aletschhorn and Nesthorn, and that wonderful sea of ice, the great Aletsch Glacier, the largest glacier in Switzerland. Right above one overhangs the snow-covered *Massif* of Monte Leone, its flanks fitted with the treacher-

ST. GOTHARD RAILWAY

ous Kaltwasser Glacier. To protect the road at this point from the roaring cataracts and winter avalanches descending from this mountain, there are three galleries, known as the Glacier, partly excavated, partly built up of masonry. Over one of these, the Weser Gallery, skims the principal torrent from the Kaltwasser Glacier, confined within a broad masonry trough, from the outlet of which the great volume of water hurls itself clear of the grotto in a majestic fall, with a drop of fifty feet. A window in the gallery permits the unique spectacle of a waterfall viewed from behind; and when the sun is on the water the effect is that of a quivering curtain composed of diamond facets, coruscating with all the colours of the rainbow. In winter the avalanches slide over the roofs of all three tunnels, which until early summer bear traces of the annual conflict between nature and human labour in the shape of accumulated masses of snow and ice.

About half a mile beyond the Kulm stands the New Hospice, founded by Napoleon for the reception of travellers, but not completed until 1825, when it became the property of the Hospice of the Great St. Bernard. The interior is not specially interesting, though there are some well executed portraits of the Emperor and deceased Fathers Superior. A branch kennel of the famous St. Bernard breed has been established, but there is not much work for the dogs. A little farther on, in a broad, open valley resembling a dried-up lake, stands the old Hospice, a high, square building, with a tower. It is now occupied by herdsmen.

Exactly half-way is the village of Simplon, from which the pass takes its name. This hamlet is beautifully situated amid fertile upland pastures, and at the base of the Fletsch-

horn. After this the descent really commences, the road passing through a plethora of wild and majestic scenes. Passing mention must be made of the Ravine of Gondo, one of the grandest and wildest gorges in the Alps, flanked on either side by overhanging precipices of mica slate, 2,000 feet in height. On the southern exit from the tortuous Gallery of Gondo the road crosses a slender bridge, spanning a lofty cleft, down which like "a downward smoke" thunders the Diveria until within a few feet of the buttress, its spray sweeping over the track itself, and lashing the faces of passing travellers. Gondo, twenty-nine miles from Brigue, is the Swiss Douane, and a little farther on a granite column marks the Italian frontier. The first Italian town is Iselle, soon after which the pass widens out, though the road continues along a terrace overhanging a boiling, foaming Diveria. Here a new world of verdure and cultivation greets the eye, in striking contrast to the kingdom of sparkling glacier, fractured rock, and roaring cataract, through which one has been passing. Finally the road crosses the Diveria for the last time by the noble Pont de Crevola, and decends steeply to the balmy plains of Lombardy, a land of trellised vines and luxuriant vegetation, bounded by an amphitheatre of wooded hills, studded with white church towers and innumerable villages.

The importance of the Simplon Pass greatly revived when the new road was made, but it has diminished since the construction of the Mont Cenis and St. Gothard tunnels. During the summer months, two diligences per day traverse the pass in either direction, starting from Brigue and Domo D'Ossola at 7 A. M., and midday; in the spring and autumn there is but one service each way; while in the depth of winter the post alone is covered by sleighs. The

journey by these lumbering mail coaches averages ten hours. The project of a railway tunnel under the Simplon first occupied the attention of engineers nearly fifty years ago. It was, indeed, the first route projected for an Alpine tunnel; but since the machine-drill was not perfected until 1861, the scheme, after due consideration, was voted impracticable. In 1857 the first Alpine tunnel, under the Mont Cenis, was commenced, and when completed in 1870, at a cost of £2,600,000, the Simplon scheme was revived. However, the latter was again shelved, owing to the preference given to the St. Gothard route, where the second Alpine tunnel was commenced in 1872, and finished in 1881, at a cost of £2,270,000. In 1880 the third Alpine tunnel—the Alberg, to connect the province of Vorarlberg with the rest of the Austrian Tyrol, and to make a more direct outlet for Austro-Hungarian products to Switzerland and France—was commenced and opened in 1884, the cost being less than £1,400,000.

The length of these tunnels is as follows: Mont Cenis, seven and one-fourth miles; St. Gothard, nine and one-fourth miles; Arlberg, six and one-third miles. Each accommodates a double track.

Upon the successful termination of the Arlberg, the projectors of a Simplon tunnel petitioned the Swiss and Italian Governments. Ten years elapsed, however, before the scheme crystallized, and thirteen before the Convention between Italy and Switzerland was signed at Berne on November 25th, 1896, and the necessary subventions were guaranteed on both sides. Italy undertook to make the approach lines from Domo D'Ossola to Iselle, eleven and one-half miles in length, but did not stipulate to grant any subvention, except an annuity of 3,000 francs per kilometre

for ninety-nine years, for the portion of the line in Italian territory. Switzerland, on the other hand, was to provide a subvention of 15,000,000 francs, of which 4,500,000 francs was to be found by the Confederation.

The route selected keeps to the northeast of the Pass road, and is practically in a straight line running due north and south between Brigue and Iselle. This means a tunnel 21,550 yards, or twelve and one-half miles in length, which is three miles longer than the St. Gothard and, therefore, the longest in the world. The authors of the project favoured the perforation at a low altitude in preference to a shorter tunnel at a higher altitude. A tunnel at a high altitude involves steep approaches, and the cost of the haulage of trains up steep gradients nullifies the initial saving effected by making the perforation as short as possible. The Mont Cenis, the St. Gothard, and the Arlberg tunnels attain great heights, and their approaches are notorious for their severe gradients.

The plan of the Simplon Tunnel, however, provided that the track should not be taken to a greater altitude than 2,310 feet above sea level; the Swiss entrance at Brigue being 2,250 feet, and the Italian one at Iselle 2,076 feet above sea level.

Commencing at the Brigue entrance, the tunnel ascends for a distance of 10,004 yards to the summit of 2,310 feet, the ruling gradient being in consequence the extremely gentle one of one in 500. The track is then level for a distance of 546 yards, after which it descends for 11,030 yards to the Italian exit; therefore, on the latter section the ruling gradient is one in 141. Now, the altitude of the Swiss entrance is exactly the same as that of the rail-level at Brigue station, the present terminus of the Jura-Sim-

plon system, distant ninety and three-fourth miles from Lausanne; hence, on this side of the Alps the extension of the line for a distance of two miles, unimpeded by hill or river, is an easy matter. On the Italian side, however, the difference in altitude between the entrance at Iselle and the present terminus of the Mediterranean Railway at Domo D'Ossola, eleven and one-half miles distant, amounts to 1,266 feet; and for two-thirds of the distance the new line has to follow the steep and narrow bed of the Diveria, and finally, when the valley becomes too steep for the grade, plunge into a short series of helical tunnels in order to fulfil the engineer's ideal that no gradient on the approaches must exceed one in 140. Therefore, on the Italian frontier the works outside are of a far more difficult and expensive character than they are on the Swiss.

In boring the tunnel itself a serious difficulty had to be taken into consideration: namely, the very high temperature—reckoned at 104° Fahrenheit—that might be expected in that part of the route which lies deepest under the mountain. How could such excessive temperature be reduced? and, again, how, when completed, could such a long tunnel be efficiently ventilated? To solve the two problems the authors of the project determined to adopt a new system of piercing. Instead of a double-track tunnel it was decided to construct twin single-track tunnels, the axis of each being fifty-six feet apart, connected one with another by transverse galleries at intervals of 220 yards. Each tunnel would therefore act as a ventilating shaft for the other. The twin perforations were to advance side by side; but to commence with, only one, that on the eastern side, was to be hewn out to its full dimensions for the accommodation of a single track; while until the traffic demanded a second

track, tunnel two was to be merely a ventilating gallery, but, at the same time, large enough to take a narrow-gauge track for transporting material.

In conclusion, a few lines must be devoted to explaining the advantages likely to accrue from the construction of the fourth Alpine tunnel. First, as an international through route it will effect a considerable reduction of distance between Calais and Milan. The idea is to supplement the tunnel with the construction of a new line of railway from the Lake of Thun through the heart of the Bernese Oberland, which would furnish the last link in the straight chain—Calais, Tergnier, Chalons, Chaumont, Belfort, Basle, Berne, Brigue, Domo D'Ossola, Novara, Milan, Piacenza, Parma, Bologna, Ancona, Brindisi,—between the straits of Dover and the Adriatic.

Secondly, since the conditions of level are much more favourable than in the Mont Cenis and the St. Gothard, there is every reason to expect that it will divert much of the international goods traffic from its rivals, and thus greatly benefit the Jura-Simplon system, the Company which have staked most on its construction, at the expense of the Paris-Lyons-Mediterranée and St. Gothard associations. The Paris-Lyons-Mediterranée system and the port of Marseilles will suffer most. Hitherto Marseilles has held almost a monopoly as regards cereals imported into Switzerland; by the construction of the Simplon tunnel Genoa will become a serious rival in this and other respects, and Genoa will be brought seventy-five miles nearer Lausanne than is Marseilles.

MANNERS AND CUSTOMS

J. SOWERBY

THE spirit of modern progress has produced many changes in Switzerland in external things. Along with the change from aristocratic to democratic forms of government, with the equalization of rights in town and country, with increased trade and improved communications, with the influx of strangers, many of the old ways have disappeared. In nothing has the change been more remarkable than in the matter of dress. Whereas formerly almost every class in town and country wore a distinctive dress, now fashion is everywhere triumphant, and has almost entirely effaced the old distinguishing marks. Now and then in the old towns a woman may be seen in an astonishing cap, a bridal couple, or a servant fresh from the country may be conspicuous for peculiar dress. Cantonal or local costumes are more frequently to be seen in the Hill Cantons, where the spirit of conservatism is strong, and a love of old customs is still retained. In the Forest Cantons the women wore their hair either woven round a silver pin, often in the shape of a double spoon, or rolled in a knot in the same way as Tacitus describes the headdress of the Allemanni. No hat, the neck without a collar, either bare or covered with a handkerchief. The body and skirt of the dress were separate, the latter reaching to the ankle. The shape of the silver pin varied in

married women and girls, as also the mode of dressing the hair and covering it, but these distinctions have almost gone out of use. The men universally wore short hair, which now is seen only occasionally in old men and the clergy; the waistcoat, generally scarlet, with silver or silvergilt buttons.

In old times the men of Schwyz wore long trousers, coats (or waistcoats) with sleeves, open down the front, and very short, reaching only to the hips. They wore whiskers, but not beards, and the hair was cut short. A cap or hat of thick cloth, with a plate on which stood a tuft of feathers, covered the head. The women wore a short coat, the lower part of which was set with ribbons, a narrow apron with broad stripes. The coat was close-fitting and fastened in front with buttons; the sleeves were close-fitting down to the wrist, but cut and puffed at the elbows and shoulders. Unmarried women wore their hair with only a wreath or a ribbon. Married women wore a linen cap ornamented with lace, which stood up in front. They wore red woollen stockings, and shoes with high heels. Men of wealth wore ruffs and girdles ornamented with silver, the women chains of silver (sometimes of gold) and necklaces. After a time the mode of dress changed in the same way as in the neighbouring Cantons. Short hose came into fashion probably towards the end of last century, and the long trousers were regarded as a distinguishing mark of traitors, almost as much so as the tricolour cockade. At this time no doubt the Lands were strongly prejudiced against the new-fangled Constitutions introduced by the French, and were irritated by the loss of their subject lands.

In 1798, the Landsgemeinde of Schwyz issued a decree forbidding the use of French fashions, and the use of the

toupée and high heeled shoes by the women. The short hose were made of leather, generally calf skin, but sometimes of chamois or buckskin. The men's dress was completed by a scarlet waistcoat and a blue jacket (formerly brown). This last reached to the knees, and was open in front so as to show the scarlet waistcoat. This fashion has again changed. The short hose and the scarlet waistcoat have disappeared, and long trousers of twill or wool, and short jackets, are worn in their stead. The women's dress has also changed, even in the remotest valleys. The magazines of fashion have reached the most outlying houses. The distinguishing headdress of women and girls has alone remained. This for the girls is a small black cap, for married women a black cap. These were formerly different in shape, but now only vary slightly from each other. There are in each two strips of lace standing upright, which come from behind over the head, and meet on the forehead, giving the whole the appearance of a butterfly with wings half spread. Between these the girls' hair is puffed up and held together by a silver (or silvergilt) pin, often called "*rosennadel*" from its head resembling a half-opened rose. In married women the hair is similarly puffed up, but is covered with a piece of richly embroidered silk, sometimes (though rarely) adorned with artificial flowers. Sometimes a cap of extraordinary shape (*schawbenhaube*) is worn, resembling the outspread tail of a turkey cock, so large that the woman wearing it can neither look out of the window, nor rest her head sideways. When such were worn in church, neither choir nor priest could be seen by those behind. In the outer districts of Schwyz, the March and the *Höfe* (on the Lake of Zurich) there has been but little peculiarity in dress. A remarkable cap, called "*hof-*

nerhaube," was worn by old women and poor people, but has now quite died out.

The members of the council of the Canton formerly wore scarlet mantles, and in the Eighteenth Century wigs. Latterly scarlet is worn by beadles, messengers, and sacristans. The cantonal messengers, on great occasions, such as the meeting of the Landsgemeinde, wore coat, waistcoat, and breeches of scarlet. The coat was open in front, and was made to fall in thick folds. It had four sleeves, two of which hung unused, supposed to be an imitation of the dress of the Roman lictors. The official dress in court or council chamber is not much different from that of ordinary citizens—a black suit, with the addition of a black mantle. The beadle, however, of the council is always dressed in the cantonal colours. The inhabitants of Goldau (overwhelmed in 1806) were reputed to be the most simple in dress of all the Canton Schwyz. Rich and poor alike wore dresses of the same cut and of the same material. Two daughters of one of the most wealthy inhabitants are said to have had only one best dress, which was worn by them alternately. When one went to mass at Arth on a festival, the other waited at home for her sister's return, to put on the dress and go to Arth in her turn.

In Canton Unterwalden the men of Obwald formerly wore short hose, a waistcoat of black twill, and a jacket reaching to the knees, with a broad leather girdle. The hair was parted in front, turned back behind the ears, and cut off in a round at the back, similar to the men of Nidwald, and also of Entlebuch. Now the dress is more conformable to the ordinary style. The dress of the women has in it but little peculiarity. It is sober, and the colours are seldom gay. The hair is woven in plaits, and fastened

by the girls with a spoon-shaped pin, and by the married women covered with something between the old cap and the modern hat, with a kind of comb of lace at the top.

In Nidwald the men formerly wore close-fitting breeches of blue stuff, hardly reaching above the hips (like the men of Appenzell), over which the stockings were drawn, and fastened to the breeches by ribbons, whilst the breeches were secured to the waistbelt by sky-blue strings; a red body or waistcoat, under which was a leathern girdle with date; the arms were in wide sleeves. A yellow hat, with peacock's feathers and bows of ribbon, covered the head.

The women formerly wore red coats and stockings. The front of the bodice was made stiff, like a board, adorned with flowers and silver ornaments, and compressed the breast in an unseemly way. They had silver chains round the neck, and on the head a cap with large open-work, a three cornered hat, and a long pipe in the mouth.

The women in the towns were distinguished from the peasant women by wearing corsets, and having their hair interwoven with white strings instead of red.

French fashions now prevail in Nidwald, especially in Stans, but not in Obwald. In both most peculiarities have disappeared, except the way of dressing the hair.

The herdsmen of Obwald and Nidwald, as also in Uri, when on the Alps, wear a long garment resembling a smock-frock, reaching to the calf, called in Uri "*futtenhemd*," and in Unterwalden "*hirtenhemd*." In Obwald also the herdsmen not unfrequently use a jacket made of the skin of a goat, with the hair outside, which affords an excellent protection against cold or storm.

In Canton Uri, the old modes of dress were very similar to those of the other Lands. Now all that is peculiar has

disappeared, except the different ways in which married women and girls wear their hair. The women of Isenthal and Seelisberg follow the fashions of the adjoining Nidwald. Those of Urseren and the Upper Reussthal follow more the fashion of Italy, wrapping the head in a handkerchief like a veil. In the Lower Reussthal and in the Schächenthal the men wear short jackets and trousers, or short hose of grey cloth of their own making.

The peasant women of Uri, when haymaking, wear an original but practical costume—thick woollen short hose, half stockings (without feet), a long jacket, and a red cloth round the head, which makes them look like Esquimaux.

Throughout the Forest Cantons the herdsmen wear commonly sandals of maple wood, fastened to the feet, which are bare, by leathern straps. In the mountain districts beards are not often worn, whilst in other parts they are more common.

In Canton Lucerne there were different costumes in different parts. In the town of Lucerne, and in the plain part of the Canton, the men formerly wore wide trousers, a waistcoat, a woollen coat without buttons, and a conical hat. In the country a long red shirt was worn sometimes, and a straw hat. In the town changes took place much faster, and both men and women began to dress after the French fashion.

The different way of dressing the hair by girls and married women remained longest, but even that has long since disappeared.

Up to the end of last century the peasants in the plain part of the Canton wore a red (or bright blue) coat, a red waistcoat, worn wide open, but with strings to draw it together, blue breeches reaching to the hips, and white stock-

ings up to the knees, and fastened with a black leather strap over the breeches, a loose black necktie, a broad felt hat with a round top, and shoes with red laces. In Weggis, at the base of the Rigi, at present both men and women dress much like those in the town.

The houses in the Forest Cantons were in former times alike in town and country. Originally they were built entirely of wood, with small rooms and narrow windows set with little round panes. In the town of Lucerne the danger of fires, and the serious losses incurred by them, led to the substitution of stone houses.

In the country, on the other hand, they still remain, but in a different form. Instead of being built entirely of wood, the foundation and the walls (at least in front of the house), to a height of six or eight feet, are of masonry. Upon this the upper stories of wood are raised. In the lower part are cellars; above these, in front, are the living and bedrooms; behind, the kitchen, storerooms, threshing-floor, and stables. On the upper floor there is an outer gallery. In Entlebuch this runs all round the house. The roof generally projects widely in front, but only slightly at the back and ends of the house. In the older houses the roof is covered with large pine shingles, kept in their places by heavy stones, in the case of newer houses with tiles. The cantonal regulation insists on this in the lower communes, and in those lying higher up strongly recommend it, and the insurance societies of Lucerne stipulate for tiled or slated roofs, and in the case of buildings in remote situations only allow roofs of thatch or shingle when the local authorities have given permission. They insist also on the kitchen having a stone chimney, which must rise two to four feet above the roof, and the old-fashioned wooden

smoke catchers are quite forbidden. The farmhouses in the Forest Cantons are mostly of the same type. They are perhaps seen to most advantage in the Canton Unterwalden, and especially in the Half-canton Obwalden. Seldom are houses to be seen handsomer, cleaner, or more commodious than here. The front of the houses generally looks to the south-east. The first floor contains the principal living-room, and a smaller one; the largest bedroom reserved for the use of the elders; and the kitchen. The smaller living-room is generally the favourite apartment, in which the prettiest and most valued household objects are collected, to which they repair to discuss family secrets, or in times of trouble to open their hearts in prayer before the image of their crucified Saviour. The upper story contains the other bedrooms. Above these, under the roof, is a storeroom for dried provisions, and other objects. The living apartments are often handsomely panelled, and the walls adorned with pictures of saints, or of favourite clergy. A clock (from the Black Forest) is generally to be found, and the holy-water vase by the door is never wanting. The garden by the house is planted with old-fashioned, but favourite flowers, and on the front of the house a pear tree, and in the warmer districts sometimes a vine is trained up to the roof. Between the windows is not unfrequently seen a fresco, which in Obwald is generally that of the sainted Nicholas von der Flue. Sometimes, especially in Canton Uri, the windows are so close together as to occupy almost the whole side of the house. The shutters are then made to slide into an opening in the woodwork below. Above each row of windows, at the ends of the house, run small separate roofs, as a protection in stormy weather.

The houses in Unterwalden are distinguished for clean-

LAUSANNE AND THE SAVOY MOUNTAINS

liness above the other Cantons. In this respect Canton Uri ranks the lowest, the houses in the Reussthal and Urseren being often smoke-blackened and dirty, though they are cleaner in the communes which are on the Lake of Lucerne.

In the hill part of Canton Lucerne are often found houses which are protected from the weather on the exposed sides by rows of small shingles, rounded at the end, and overlapping each other.

In Canton Uri there is often attached to the ceiling of the living-room, above the table, a movable wooden rod, or a wooden chain, from which the lamp is suspended; and in the middle room, depending by a string from the ceiling, is a rude figure of a dove, representing the third person of the Trinity.

In a country like Switzerland, where the breeding of cattle is so extensively carried on, it might be expected that meat would be extensively and commonly used. But it is not so, except in the towns. While many use but little meat, for want of means, many well-to-do families, especially the farmers refrain from it from old habits, and from motives of economy. On festive occasions, visits of friends, however, it is lavishly exhibited and roast pork is offered even with the morning's coffee.

The principal articles of food are potatoes,—which are extensively grown; dried fruits—apples and pears—which are generally divided into four and dried. But, above all, milk and its products—butter, cheese, etc.,—are consumed, especially in the hill districts. The value of these products which are consumed in Switzerland is estimated at £4,000,000. Bread is, of course, largely used; but in many cases it is replaced by dried fruit, or by the products of milk, such as curds. Buttermilk, with bread or potatoes,

often forms the midday meal; and at all meals cheese is exhibited.

From cream many delicate dishes are produced, which the herdsmen on the Alps prepare for their friends, of which the dwellers in town have no idea. For instance, in Uri, sweet cheesecurds, stewed in cream, and then baked with fresh butter.

Before the introduction of coffee, soup was the regular morning meal. Now the use of coffee is universal, and coffee not unfrequently appears at all meals. The coffee which is offered on an alp by the senner to an honoured guest is such as the best hotel could not produce, the finest coffee being put direct into the boiling cream.

The most marked feature in the character of the inhabitants of the Forest Cantons is the sense of independence. Occupied as they are almost entirely with cattle breeding and pastoral pursuits, they are seldom inclined, even if they have spare time, to follow any other occupation. They regard the artisan as being in a position of dependence, and prefer to produce their own food to obtaining it by working for others. They are, however, extremely desirous of obtaining offices in the Canton, which, however poorly paid, are positions of influence. Also, when once in office, they afterwards retain the title, Rathsher (member of council) Landamman, which gives them dignity and importance.

The inhabitants of Uri, above the others, are grave and conscientious, insomuch that Uri has been called the conscience of Switzerland. Though their amusements are often noisy, they seldom terminate in strife. The hard life of this pastoral people, and their struggle with nature on the alps, gives them confidence and self-reliance.

Though the feeling of family responsibility is not perhaps so strong in the Forest Cantons as in some parts of Switzerland, yet great importance is attached to it. As in the Highlands of Scotland, so a native of Schwyz would be asked, not what his name, but what his clan was. These clans were so extended that a law was passed forbidding more than one member of a clan (*geschlecht*) to sit in court or council. The clan meetings were all powerful in forwarding the interests of its members; but they were also the cause of much scandal. In them conspiracies might be hatched; and, if strongly reactionary, all useful reforms might be opposed. These clans or families are still to be found, as in Schwyz those of Reding and Schorno, in Unterwalden, Moss and Deschwänden, in Lucerne, Pfyffer and Balthasar.

The sense of the responsibility attached to the heads of families has in a way affected marriages in Switzerland. More consideration is given to the means of supporting a household, and consequently there are not so many early marriages, and not so many love matches. As the communes have to maintain their own poor, the local authorities used to do their best to prevent poor families growing up amongst them. The rules of many Cantons required newly-married couples to contribute a certain sum to the poor box. The communes used also to refuse consent to marriages if the parties have (1) received relief from the rates without repaying such relief; (2) if there is a likelihood of their coming on the rates; (3) if they have no fortune and no occupation to enable them to maintain a family; (4) if they were persons of proved irregular habits. These restrictions hindered the marriage of the lower and poorer classes without stemming the tide of immorality.

In Canton Lucerne there were fewer marriages and more children born out of wedlock in proportion to population than in any other Canton. These restrictions have been removed by the new Constitution of 1874. Though Switzerland compares favourably with other states of Continental Europe, this is largely owing to the fact of many marriages taking place shortly before the birth of the child, which is thereby legitimatized. This state of things is owing to the old custom which extensively prevails, especially in Entlebuch and Obwalden, of the "*Kiltgang*," the visits by night (allowed by the parents) of a lover to the girl he is courting. In many villages the younger portion of the male inhabitants form a kind of vigilance committee, to prevent the well-to-do girls from being carried off by outsiders, in which class even the inhabitants of the nearest village are reckoned. All the youths, as soon as they reach the proper age, are affiliated to this society, generally by paying for a certain quantity of wine. The lovers in the village who belong to this society have the password, pay their visits, and climb to the windows of their fair ones unmolested. But the stranger who comes courting must either make his way unobserved by a devious and possibly dangerous route, or has to fight his way through.

Closely connected with the "*Kiltgang*" is the "*Maienstecken*." In Canton Lucerne the lover, anxious to do honour to his mistress, plants before her home on the first day of May a small pine-tree richly adorned with ribbons. This is regarded as a great proof of devotion, and the girl and her parents entertain him bountifully.

Other less acceptable attentions are paid by the "*Nachtbuden*" to girls who hold their heads too high, or to parents who look for higher matches than the village

circle affords. A strawpuppet is suspended before the girl's window, or the farmer's best wagon is found upside down on the village green.

Dancing was once an universal Sunday amusement, but is now limited by law to a few days in the year. Mostly these are the days of the annual market, of the rifle shooting, of the dedication of a church, or of a marriage. In Obwald dancing is forbidden from the Whitsun Emberweek to that in September, on all Sundays and festivals of Mary (days dedicated to the Virgin Mary), in Advent and Lent, as well as during storms. In Canton Lucerne dancing is never allowed on a Friday, Saturday, or Sunday. These rules are relaxed in Cantons Schwyz and Lucerne, so that the visitors at hotels or bathing establishments can have a ball or dancing *soirée* whenever they wish. A peculiar dance called "*gäuerlen*" still prevails in Canton Schwyz, in which the exertions of the dancers are so violent that a dance rarely lasts more than three minutes.

In this Canton are only five public days in the year when dancing is allowed—three during the carnival, one on the annual church festival, and one on the day of the last rifle match.

THE SWISS PEASANT

WILLIAM HARBUTT DAWSON

SWITZERLAND has well been called the "playground of Europe"; but play is the very last word which one would associate with the life of its hardy sons and daughters who inhabit the mountain districts. It is just to couple the sexes in such a connection as this; for it is a striking characteristic of the rural economy of Switzerland, that the women—the wives, the sisters, the daughters,—take upon themselves at least a fair share of the toil which brings to their household food, and clothing, and shelter.

To see the Swiss peasant at his bravest and best, you must follow him where life exerts upon his faculties the strongest pressure, where the struggle for existence is no mere polemical phrase, but a grim and terrible reality, the vividness, rigour, and relentlessness of which never change from year to year, or from generation to generation. For this purpose it is necessary to leave the beaten track of the conventional tourist, and to seek the regions in which Nature is for the most part met with in wild and unchastened moods. Highland and lowland are indefinite terms in Switzerland, where altitudes which would rank as mountainous in the adjacent countries of France and Germany provoke little or no remark. Thus, to speak of life in Swiss valleys would convey erroneous ideas to the uninitiated mind, unless the warning were given that many of the most

SWISS CHÂLETS

populated valleys of the country lie at an elevation of four, five, and six thousand feet above the sea level, an elevation at which communal life would be barely conceivable in more northerly latitudes. And yet—such is the tenacity of the national character—however near to the external snows his lot may be cast, the Swiss peasant accepts his fate without a murmur, and from the most unpropitious conditions and surroundings he wrests life and health by dint of strenuous toil, dauntless perseverance, and unfailing courage.

Hence it is that to Switzerland falls the curious distinction of cultivating grain at the highest known elevation in Europe. This is the valley of the Vorder-Rhein, running from the Oberalp Pass (6,443 feet high), above Andermatt to Reicheneau and Chur (1,935 feet). It is around the mean little village of Tschamut, 5,460 feet above the sea level, that this feat in husbandry is performed. It is, however, only homely rye which is raised—staple food of the peasants of the vale—and at best the savings of the grain is an arduous task. The climate is so inclement for the greater part of the year, and the growing season is so short and precarious, that there is no possibility of ripening the crop in the usual way. For that the sun is too fickle of his favours, and the wind and the rain are too masterful. So the peasants have erected in their fields a novel drying apparatus, which admirably makes up for Nature's insufficiency. At a distance apart of some eighteen feet are placed two stout larch trunks, stripped of their bark, and rising fourteen or sixteen feet high. From these posts lighter poles stretch horizontally from the ground upwards at intervals of eighteen inches; and to them the corn is fastened in wisps, thus exposing it to the free action of the sun and wind, of which there is generally more of the lat-

ter than the former. As one lot is ripened another takes its place, until the whole of the scanty crop is cleared away, none too soon for the brief autumn of bleak Tschamut.

But valleys like that of the Vorder-Rhein are as Eden itsèlf in fertility, productiveness, and amenity of life, compared with many of the highland regions in which large communities live, and, as a prior condition of so doing, assert control and sway over the forward forces of Nature. Follow the peasants to the alps which lie far beyond the reach of either railway or diligence, and a far more vivid idea will be obtained of the stern battle of life which they have perpetually to wage.

A concrete example will bring the facts home to the reader better than any amount of generalization. And first as to the technical meaning of the word "alp." The idea which it most commonly conveys to the mind is that of a peak, more or less inaccessible, whose farthest summits are shrouded in eternal snow; and the idea is right so far as it goes. But to the Swiss peasant the word suggests other and pleasanter associations. His "alps" are the patches of grassland high in the mountains, upon which he can pasture his cattle in summer. These "alps" are scattered all over the mountain ranges, and play a very important part in the agricultural life of the country. For the greater part of the year they are covered with snow, and often these tracts of fresh verdure lie amongst glacier and *Firn*, which are proof against the hottest rays of the August sun, so that, during several months of the year, winter and summer exist side by side.

Typical "alps" are those lying at the head of the Goeschenen Valley (*Goeschener Thal*), a valley which runs west from the well-known village of Goeschenen, where the St.

Gotthard tunnel begins, and through which flows the turbulent River Reuss, fresh from its rise at the foot of the Kehle Glacier, on the way to the Lake of Lucerne. Goeschenen itself is 3,640 feet high ; and, by the time you reach the head of the valley—a three hours' march by a rough footway—you are well over 6,000 feet above sea level. For your pains you are then rewarded by half a mile of plain walking, for, before the valley loses itself in the mountains, it takes the form of a wide plateau, in the centre of which lies the Goeschenen Alp village, a handful of huts of the ordinary Swiss type, clustering round a rude little chapel. Lofty heights soar on every hand, their summits shrouded in ice and snow; and imposing glaciers, not too difficult of access, attest the sternness of the climate. What a life it is which these peasants lead! They have a saying at Maloja that the year is divided in that part of the Engadine into nine months of winter and three months of cold weather; and certain it is that from six to ten feet of snow are no uncommon feature of the landscape there on May Day, while the visitors' season is over long before the fall of the leaf. In the Goeschenen Valley, Nature is even more hospitable. The summer is far advanced before the snow beats retreat into the hills, and leaves the pastures cold, dead, and water-logged. Yet snow falls quite commonly in June ; and if you penetrate the valley in that month you may be sure that the way will carry you through huge snow drifts cut in twain from a height of twelve or sixteen feet, or across miniature avalanches which conveniently bridge for you the foaming river beneath. The husbandry of the valley is of the most restricted kind. The cultivation of corn of any kind is impossible; and even the few roods of potatoes grown are never ripened without difficulty, and sometimes

not at all. Gardens are superfluous, for little or nothing would grow in them. A head of lettuce or a miniature onion may be enticed from the niggardly ground by the end of July, but that is all. Grass is grown for the winter fodder; but though rich and sweet, thanks to the Alpine flora, which redeems the landscape from desolation—for there are no trees save a single hardy stone-pine (The *Arve*) it is short and stubby, and is housed in penuriously light crops. Only stern, steely endurance and invincible pertinacity, combined with a spirit of resignation, which expects little from life the brave toilers of the valley to win a large livelihood from Nature elsewhere so bountiful in her blessings. No wonder that, though the peasants are nominally the owners of the land, these are heavily mortgaged; so that it is as the most resolute of them can do to keep the household together, and at the same time pay the interest on loans contracted long ago by their fathers. There is taxation to bear, but it is light—though on the other hand the service which the state and the cantonal authorities render to this isolated population is limited enough—yet even a little tells upon resources which entirely lack elasticity. The peasants pay dues upon their stock; five francs upon grown cattle, two francs upon young animals, and seventy-five centimes upon goats. Sheep they do not keep, as being unserviceable where the herbage has to be sought amongst the rocks.

One might expect that the inhabitants of a wild region like this would easily become victims of the modern mania for migration,—that for them the most imposing prospect would be that of the rough footway which leads down into the more fertile lowlands. Such however, is not the fact. I questioned a peasant on the subject. "Why don't you

young folk go to the towns?" I asked in sheer curiosity. With a wave of the hand, and a look to the hills, he quickly replied: "*Heimath ist am allerbesten!*" ("Home is best of all.") It was the true Swiss spirit which spoke here,—the characteristic attachment to the beloved place of birth and upbringing which, in the hardy mountaineer, amounts to a sacred passion. For "*Heimath*" to him means, not the confederation, not even the Canton or the commune to which he happens to belong, but the far-away nook amongst the mountains in which he and his fathers before him first saw the light.

Shut up in their sequestered valley, the peasants have little communication with the outside world; and many of them never go a mile away from year's beginning to year's end. When a death occurs, which is not often, a rude coffin is nailed together by homely yet tender hands, for there is no carpenter or artificer of any kind in the valley, and is carried shoulder high all the long way to Goeschenen, since there is no burial ground nearer. Should such an event happen, however, in winter, when the pass is snowed up, the coffin has to be dispensed with, and the body, covered by a shroud, is placed upon a carrier's "back-saddle" (*Traggabel*), and upon the backs of half a dozen strong men, each taking his turn, the weird burden is carried to its last resting place. Nor is medical aid available in the extremities of sickness.

The religious needs of the peasantry are ministered to by a priest of middle age, a man of the people who is able to speak to his simple flock in the uncouth *patois* of their valley, and to think with them in the thoughts of their stunted and unimaginative minds. He lives alone in a little house near the chapel, a wooden erection like the

rest, with nothing in its exterior to denote that it is the abode of reverence. Calling upon him there, you find him, a genial entertainer, ready to converse freely upon the life and character of his humble parishioners, of whose industry, manly fight with poverty, excellent morality, quiet demeanour, and, above all, contentment and happiness, even in the hard lot which is theirs from childhood to age, he cannot speak too highly. "Happiness!" I echoed, as the words left his lips; for the suggestion seemed so incongruous. "Yes, happiness," was the emphatic rejoinder; "for they are poor, they live healthy and independent lives, and, at the worst, they are better off than the poor of the towns." He is a sort of man of-all work, this honest and faithful priest. He christens, he marries, he buries; he admonishes and confesses; he counsels in difficulties and cheers in adversity; he directs the common conscience of the valley, so far as it is troubled by that awkward institution. He is also the schoolmaster; he "rears the tender thought" and "teaches the young idea how to shoot." The curriculum is not elaborate, though the priest saw no reason to apologize for this. "Reading, writing and summing, with a little geography of Switzerland—that is all we do, but the children need no more."

On the remote Frutt Alp, high above the Melchthal, six hours and six thousand feet by steep track from the south bank of the Lake of Lucerne, the quaint custom of the "Alpine benediction" is still observed. Every evening after dusk, the patriarch of the valley chants a prayer to the heirarchy of heaven, entreating blessing and protection for the peasantry and their homes and chattels.

Decidedly the summer months are for the Swiss peasant

the most tolerable part of the year, especially for such of them as migrate with their herds of cattle and goats to the higher "alps" in search of grass. This annual "alp going" is quite an event in the quiet annals of rural Switzerland. The date at which the exodus from the valleys takes place naturally varies according to the elevation of the country. It falls in June in some parts, in others it may be late in July. Several "*Sennen*" may "trek" to the same "alps"; but, arrived there, a common life is lived. They share the same huts, they sit at the same humble board, their herds graze together, the milk is brought morning and evening to the same dairymen, by them to be promptly scalded and so turned into cheese. The whole business is done on a coöperative basis. Periodical tests of the productivity of the various cattle are made, and, according to the result, are the proceeds divided when the cheese has been sold to the factor at the end of the season. Every few days one of the "*Senneu*" descends to the valley from his highland home with the produce, which is kept in a warehouse or "luger" to ripen, a process to the perfection of which constant and unremitting attention is necessary. For three or four months, according to the favourableness of the season, these "*Sennen*" live a nomadic life. Directly the sparse grass has been cleared from one "alp," a move is made still higher or further afield; and here they settle again, until Nature's supplies are once more exhausted, on which fresh herbage is sought elsewhere.

Meanwhile, there is no idleness in the valley below. The summer is short, and into a few weeks have to be crowded a host of duties, the timely and scrupulous performance of which is imperative, if the peasant's household

is to meet the inclement weather with stout hearts. From dawn to dark all hands are afield—husband, wife, children. Gaunt men and hollow-breasted women take their turn at the scythe and rake, as, later, at the box-like barrow upon which the dried grass is carried from field to byre. There are gaps to make good in the sod-built fences which divides one holding from another. There is draining to be done, and very primitive it is. There is peat to cut and stack. There are holes to patch in wall and roof of the wooden dwelling. All these things and many others occupy such time as can be spared from the daily routine of the farm. The boys and girls have their own work to do. Day by day you may see upon the mountain-side their small stunted figures, as they bear upon their backs huge loads of small scrub and bilberry roots, which they have torn out of the ground by the help of small three-pronged forks. It is fuel for the coming winter, to be used when the peat runs low. Wood, let me say, is as often as not a great luxury, for it has to be fetched some miles' distance; and that means, not merely man's labour, which is plentiful enough, but money, which is pitifully rare.

A cloud as of some hidden sorrow rests upon these mountain maidens, to whom life brings so little romance, so much wearing, wearying, depressing actuality. Watch that bare-headed lassie, over whose head sixteen or seventeen dull summers have passed, as she struggles along with her load. It must weigh at least half a hundred weight; and how she slings the filled pannier upon her back is a mystery. But she does it, and then, with naked feet, picks her way slowly, but surely, along the hillside. Reaching her father's hut, the fuel is added to a pile at which she has been working since day-break. But there is no rest: the

empty pannier is shouldered again as at military signal, and she returns to the spot where mother and brothers are tearing up the scrub. Not a bright outlook for girlhood, perhaps, but such is the life of the peasant here! It is work, work, work—for the idle there is no place. Brave little soul, some day a swarthy, sinewy son of the valley will find her beautiful; she will marry and bear children; and so this race of toil and poverty is perpetuated from generation to generation.

But the struggle with Nature takes forms and aspects still more trying to nerve and courage. The peasant has not only to contend with inhospitable seasons, with long drawn-out winters, and fickle and uncertain summers; in his unequal struggle he is surrounded by forces against which, not merely human foresight and skill, but human life itself count as nothing. For, situated as his home is beneath the snow-capped heights, he is ever menaced by the avalanche, which, falling perhaps without the slightest warning, is devastating in its effects, undoing in a moment the toil of years or of generations, and bringing desolation and sorrow to homes which, though humble, have been none the less instinct with the spirit of domestic peace and affection.

Hence you will see, scattered about the plains and valleys, and even affixed to the dwelling-houses, of Roman Catholic Switzerland, quaint images of saints and especially of St. Matthew, the protecting saint of all glacial districts, whose aid is thus invoked against the subtle dangers by which life and limb are beset in the regions of ice and snow.

As time passes, however, the Swiss are ceasing to rely solely on the benevolent disposition of their tutelary saints. It has been found that protection against the avalanche may often be secured without putting faith unnecessarily to the

test, and, so to speak, tempting Providence. In many places, as at the foot of the Furka Pass, near Realp, stone and earth-works have been built with a view to staying the course of a falling avalanche, or at least of diverting its course into indifferent channels; while elsewhere, forests have been planted on a large scale for the same purpose.

IN CHÂLET LAND

THERE is probably no better change for tired dwellers in cities; and no such rest to overstrained nerves —those of these wild nineteenth-century days— than may be obtained from a temporary residence in one of the mountain valleys of Switzerland. But the valley should be far enough from the trammels of civilization to allow of perfect freedom, and the stay should, if possible, be a long one, for the charms of the mountain life do not reveal themselves all at once. The first thing apt loudly to assert itself is the absence of those "comforts" to which we poor creatures of habit are so accustomed, but which, in a few days, we find to be quite unnecessary. Given good air, a glorious mountain view on every side, perfect cleanliness, sufficient eatable food, and good beds (always to be found in the simplest Swiss home), it is astonishing how little else is really required.

Last year, in a mountain walk in the Canton of Vaud, twenty-five miles from the railway line, I passed, on the outskirts of a large mountain village, what seemed to me a perfect example of the "*Châlet Suisse.*" To my sorrow it was let to a French family, upon whom we stole a march the following spring by securing it for ourselves at an early date.

These *châlets* are built of plain white wood (there are, by the way, a few stone houses, but they look glaring and awkward, as if conscious they had no right to be there),

and are capable of being washed, inside and out, with honest soap and water.

The poorer sort have their staircase on the outside, which adds much to their picturesque appearance; all have sombre overhanging eaves, from three to nine feet in depth. These are a wonderful protection both from the winter snow and summer sun. We have been surprised to find a room of south aspect perfectly cool in the dog days, for the sun, being high in the heavens, does not penetrate below the spreading eaves. This seems to show ingenuity on the part of the builder, for the same room in winter, wnen the sun is low, will catch every ray of warmth. Much taste is shown in the decoration of the exterior, where the skill of the native artist asserts itself in telling bits of coloured carving—red, blue, green, and violet, set off sometimes by a white background. There are, of course, the unfailing green shutters (the pastor's house is marked always by green and white shutters), and the large, roomy, square balcony, well protected from wind and rain, affording accommodation for the whole family, and serving often both as dining and sitting-room. How one longs to see this friendly adjunct shared by houses of our English poor! Our much-maligned climate would not prevent the enjoyment of a balcony, which is a real promoter both of health and pleasure. Yet, as a rule, it is the rich who enjoy this simple luxury, which, with a little enlarging of the mind (or shall we say the heart?) of the architect, might so easily be accorded also to the poor. Invariably there is a projecting shelf with a carefully tended row of flowers, and much effect is gained by this one row of brilliant colour.

In course of years the outside of the house is dyed by the sun, first yellow, then a golden brown, and finally it

becomes almost black. A few are entirely grey. The latter shade, the peasants say, is the work of the setting sun, but I confess to finding this theory difficult to credit. The blending of the many shades on the undulating green of the mountain slope makes a most harmonious whole.

Each *châlet* has its store of wood for fuel, neatly stacked on the outside—for theft is unknown in this honest valley—and each bears a record, burnt or painted on the front, of the name of the builders, followed usually by the date of building and a touching prayer or invocation for the blessing of God on the house and its inmates, with sometimes an exhortation to lead pious lives to those who come after.

This brings me to the religion of these mountain people. The stern Calvinism of Protestant Switzerland, so hard and unattractive in the plains, is here much tempered and modified; and the simple villager, who has no outside distractions, lives so near to God and heaven that one is constantly reminded of the extraordinary faith and devotion of the Roman Catholic peasantry of Tyrol and Bavaria. In this connection a saying attributed to John Bright often occurs to me, "All good people are of the same religion." But the peasant of Tyrol—from a long residence in his sunlit land, I am much attached to him—will lie and steal, for all his devotion. Be merciful, kind reader. It is his special temptation (I know it is not *yours*). My sympathy is with *him*, but with sorrow I own that my Protestant of to-day is more upright both in word and deed. The most scrupulous truth and honesty prevail. A low, unvarying market price, a just weight, a fair wage. If a stranger try to bargain, he is looked at with contempt, not to say distrust, and a quiet "*on n'a pas l'habitude de surfaire*,

Monsieur," teaches him, we hope, his mistake. It is edifying to see the whole village turn out for church at nine o'clock on Sunday morning, climbing cheerfully a very steep hill—for, as usual, the ancient church is built on the highest available natural eminence, from which it picturesquely dominates the whole village—but the ascent is hard work for the sick and aged, who seem not to have been considered in the days of its construction. The children assemble in the afternoon for a "*Catéchisme*," or children's service, which is obligatory till the age of sixteen. The holy communion is celebrated four times a year, on two consecutive Sundays, when every soul in the district who has been confirmed attends, all attired in black, so that the effect is that of a funeral. The sexes are divided—men on one side and women on the other—and when the time for communion arrives the men file one behind the other in long procession to the "table" at which they reverently stand with bowed head. The women follow, and the whole time the Bible is read aloud from the pulpit by the schoolmaster. The effect on a stranger is impressive and devotional. One may well be shocked by the bare ugliness of the interior of the church, and especially by the huge black pipe of the stove, which passes, without any ceremony, clean through the east window. But the good Calvinist mind requires evidently no external aid to devotion, just as the Calvinist body is satisfied with the hardest of deal seats, which often have no backs at all. In the churchyard we found one English grave, quite overgrown with nettles. It is that of a young orphan girl, who died here seventy years ago, at the age of twenty-one. This poor little grave seems always to appeal to us, and we carefully tend it and plant it with flowers, and ask ourselves

LAKE CONSTANCE

what was the sad history of "Rose Hopkins," and what brought her to die so far from her English home.

Agriculture is naturally the chief industry of these mountain folk. Neither the vine, corn, nor any edible grain will grow at this altitude—thirty-seven hundred feet—and apples, pears, currants, gooseberries, and wild strawberries and raspberries are the only fruit, but the crops of hay are superabundant. The process of hay making, is, owing to the dryness of the climate, much shorter than with us. The whole family turn out with the first ray of light to mow, the women also using the scythe, and there is little hired help. The next process is to "*fener*" (throw the hay high into the air with a fork), and by the next day, with the help of a broiling sun, it is ready to be put into cock, and carried at once to the barn.

A large net, called a "*filard*," is spread on the ground, and an enormous amount of hay put into it. This is securely tied by the ropes of the net; then hoisted on to the shoulders of the head of the family. Like a tottering hay-cock he struggles to the barn—often a considerable distance—and then reappears for another load.

The production of cream, butter, and cheese is very abundant. One pities the poor cows, who, once or twice a year, are taken higher in the mountains or into the field to graze, but who spend the rest of their lives in cramped little cowsheds, with no air save the opening of a window, which is considered amply sufficient for the supply of ozone. As the cow, however, is of a gigantic build and gives excellent milk, I presume no harm is done by this life of seclusion.

Cream and eggs are usually the only refreshment to be obtained by weary travellers, who, after hours of climbing,

come upon a chance mountain *châlet*. A huge bowl of cream is produced, and to each of the party is given a quaint wooden spoon, with which they all dip into the same dish. These spoons are well carved, and are often heirlooms in the family. As often as not payment is altogether refused, which drives one to the conclusion that, allowing for a large-hearted generosity, these "*montagnards*" are not as poor as they look. Milk is carried to be sold at the village *laiterie* in a sort of flat tin case, called a "*boille*," strapped to the back of the seller. The large flat cheeses he carries on his head in a quaint tray, with arms and legs, called "*un oiseau*." I use the *patois* of the country, which does not, we hope, aspire to be French. The elder women, besides the privilege of knitting socks and stockings for the entire family, have an industry all their own. They receive willingly the oldest dresses, petticoats, old linen rags—in fact every kind of "*chiffon*"—with which they weave an admirable sort of washing carpet, which is very durable. The colours are well blended, and even at home this carpet would not be despised for what Maple & Co. call "secondary bedrooms." It is sold for about two francs a yard. I have not yet tried, but I am sure I should have much satisfaction in thus treading under foot my discarded town garments. Here one's dress is of the very simplest, and it is a question whether, in course of time, one might not, in that respect, become quite a peasant. Walking skirts and washing blouses are the staple dress for a summer visit, with something very warm and very woollen for the few days of excessive cold and wet which will occasionally drive us shivering indoors even in midsummer. We certainly cannot pretend to an equable climate.

The native refinement of the peasantry is wonderful,

though of what we understand by the degraded term "gentlepeople" there is absolutely none. Of Nature's gentlefolk there are indeed many. I wish I could introduce my reader to our friendly old landlord, who, with his worthy wife, lives in the lower part of our *châlet*. I took him at first for a gardener—a tall, spare old man, working in his shirt-sleeves, who received me with a gentle dignity and courtesy which would not disgrace an arch-bishop. He and his wife have no servants; they do their own work, and gather their own crops with but little help. Yet there is no more important person in the whole neighbourhood than "Monsieur Durienpère." He owns a fair amount of land, is president of the village, treasurer of the infirmary, head of the workhouse, and general relieving officer, so to speak. All these unpaid responsibilities call him much away, and are looked upon by his wife with mingled pride and sorrow. She is much alone in consequence, and yet there is the consolation "*Mais oui, mon mari est indispensable au village*." Then there is the portly young banker—married to the richest heiress of the place—who milks his own cow and makes his own hay. The business of banking does not pay, apparently, and it is amusing to see him, three times a day, patiently going, "*vers sa vache*," attending to the immured and solitary beast, who gives forth excellent milk, quite worthy of a lengthy inscription under which she lives. The banker's quiverful of sturdy little boys are an excellent testimony to the quality of the milk; and their manners, like those of every little urchin in the place, are delightful. Their interest in "*ces dames*" is sincere and keen, and they never fail to take off their hats with the hearty "*adieu*," which is the common salutation both for meeting and parting. Their bearing generally well conveys their

own idea of a friendly equality not devoid of respect. Very upsetting to English ideas are the number of commissions given to our driver whenever we hire a carriage for a distant drive. We set out, of course, with a feeble notion that a carriage and driver, hired and paid for by ourselves, was, for the time being, all our own. But no! An ineradicable principle of mountain Switzerland is "thrift." If *our* driver can execute the commission it will save certainly a stamp, and perhaps the expense of a special messenger. So it was no uncommon thing for a woman to stop our coachman: "My sister lives in the last house in such-and-such a village. Will you please give her my best love, and tell her, etc., etc.?" or some errand of a like nature. A boy pursued the carriage some distance one day with a watch to be given to his brother in some place which was on our way. Our leave is never asked, but we are expected to wait (and let us admit that we do wait) in the village street till the errand is satisfactorily executed. On the whole it does us no harm to have our insular notions upset, and we hope to return to England two wiser and less exacting women.

Not to give too *couleur de rose* an account, I will frankly own that one must go through a good deal to set up even the semblance of a comfortable English home under the circumstances. Our *châlet*, standing with a quaint little dignity in its little plot of white-railed garden, where peas, cabbages, lettuces, and old fashioned garden flowers smile away in queer little rows in front of our sitting-room windows, our creeper-covered balcony, and inside the dainty spotlessness of our wooden walls, *looks* most inviting; but there is more to do, we find, than simply to lie down in our soft white beds. In twenty-four hours we discover

that our two Swiss maidens think "civilization" the English for "*bêtise*." They know how to scrub and clean—in fact, the everlasting cleaning necessitated a strike on our part; for we could stand it no longer. But, in everything concerning the niceties of life, one comes to a blank wall of ignorance very hard to break down. The laying of the table and waiting thereat are a mystery, which even now, after twelve weeks' trial, is scarcely fathomed. A friend, who laid her own table with some care, told me it was considered so mysterious a work of art that she used to hear her maid bringing in various friends and relations to wonder and admire.

We took our cook "Cêleste" entirely on the score of her "devotion to our person," to borrow a royal expression; but in a few days we felt anything but royal, her ideas of cooking being most eccentric. She would put the potatoes on soon after breakfast, and let them boil a little, cool a little, and then boil a second and third time. Finally, they sat on the kitchen table and degenerated into a tepid, sodden mass whose sole virtue was economy, for we could not eat them at all.

In self-defence I one day made a cake, and left Cêleste to bake it. She let the fire out at least three times during the baking, and brought the cake twice to me on the balcony remarking that we should be fortunate if it were done to-morrow. As I had forgotten the butter, it is perhaps well to draw a modest veil over the result.

Our parlourmaid "Rosine," who does not sleep in the house, comes regularly, with broad, smiling face, to shake hands and say "Good-night" before she goes home. Swiss maids have no idea of tidying themselves and "presenting arms" in the afternoon, as their English sisters would do.

We invited friends to tea, and insisted on clean caps and aprons. No one *could* have looked more fresh and dainty; but just as we expected our tea-party, Cêleste, with a laudable desire not to waste time, encamps outside the front door, and proceeds to polish, with many doubtful looking rags, a whole array of brass candlesticks. To our horror, we find our plate is also cleaned in this prominent position, for Rosine has never heard of a thief. Our boots, I regret to say, after some needful repairs, lived outside for half a day, in full view of the highroad. Perhaps Cêleste's most trying performance was when I confided to her my dress, from which she begged to clean a single grease spot. To my dismay, that afternoon I descried in the public washing-trough a black mass, a shapeless, melancholy pulp, which proved on investigation to be my decent black gown. I fear I was not much consoled by Cêleste's remark, "*Du moins, c'est propre*," but I thanked her humbly, for she is soft-hearted and meant well.

After all, these are the smallest of minor evils when compared with all the rest, refreshment, and novelty we have enjoyed in our mountain retreat, and it will be a sad day when we must turn our backs upon our *châlet* home, to take up—cheerfully, we hope, and willingly—the responsibilities of our more burdensome English life.

SCHOOL

WILLIAM HEPWORTH DIXON

IN Switzerland, the primary business of the state is keeping school.

A School is one of the first things present to the eyes of a Swiss child, and one of the last things present to the mind of a Swiss man. It comes to him in his cradle and attends him to his grave. He could not cast it from him if he would; he would not cast it from him if he could.

A Swiss child dreams of school as urchins in an English city dream of work. He knows it is his fate in life. He sees his brother and his sister go to school; he sees them bring their lessons home; he sees them rise at dawn to learn their tasks. If he is stout of limb and clear of sight, his turn will come, and he must also troop to school. On coming to a certain age—in some, the age of six, in some of seven—his right to stay at home, to play at top and make mud-pies, will cease. He is a member of his Commune and the Commune will not suffer him to live and die a pig. The school will seize him, hold him fast for years, and rear him into what he is to be: a banker, goatherd, student, tinker, what not; but in any case it will not lose its grasp until he grows into a man. But then an infant Swiss dreams pleasantly of school, while urchins in our country dream unpleasantly of work. If school is fate to

a Swiss child, the vision comes to him in likeness of a fairy, not a hag.

Among the many quaint old fountains in these streets of Berne—with heroes, knights and ladies on the shafts—there is a fountain in the cornmarket, with an ogre known to the Bernese little folks as *Kindli-fresser*—children-catcher—looking up the street. This ogre has a tooth for boys and girls, and clutches them as they go by. A child is disappearing down the monster's throat; three children flutter in the monster's wallet; and a bunch of children twist and wriggle in the monster's belt. That monster will devour them one and all. Grown men dispute about the legend of this ogre in the streets of Berne. One holds him to be a feudal lord, another as an emblem of the church. A pastor tells me that the ogre who devours his offspring is the Revolution; and a sharp young student from the neighbouring college whispers he is only Time. But neither man nor boy in Bern imagines that this ogre represents the School. A noble lady, sweet of face and firm of purpose, with her arms about the children's necks, would be to man and boy alike the type of School.

The fairest edifice a Swiss can see when he goes out to walk is his village school, his city school, his Cantonal school, according as he happens to reside in country or in town. A jail, a work-house, nay, a town-hall, may nestle in some corner where a curious eye might miss it; but a school, a college, an academy, is sure to be in sight, the pride of every village slope and every city square. In Zürich and Lausanne, the intellectual capitals of Switzerland—Teutonic capital and Latin capital—the noblest buildings are public schools. If we except the Federal Hall at Berne, the Polytechnic in Zürich is the finest edifice

in this country; fine alike in site, proportion, fitness and display. "Our children," says to me a sage professor, "are so much accustomed to regard the school-house as the foremost building in a city, that they fall into the drollest errors when they go abroad." He tells me, as an illustration of such errors, that some years ago he took his daughter, then a child of ten, to France, and, being at Versailles, he heard her clap her hands and cry with glee: "Look here, papa; here is the school-house! Look!" It was the garden front of that huge pile.

It is the same—or very near the same—when you are out of town. You walk into some deep and sombre gorge, with jagged heights and foaming torrents, where the pines can hardly cling, a *châlet* here and there, high up, on what appears an inaccessible ledge of rock, and near you not a sound, except the crash of falling trees just breaking the oppressive monotone of rushing floods. "No school in such a gorge," you haply say, when, lo! a square white building rises in your front. In England such a thing would be a shooting-box, and here it is a village school. In less secluded nooks these buildings are on a larger scale. Take that of Sarnen. Smiling on the bright, green water, stands the finest edifice in the Canton, and, of course, it is a public school. Wander round St. Gallen; that St. Gallen which was once a seat of Benedictine learning and is now the seat of a new trade in lace. One side of the fine public park is occupied by the Cantonal school,—a noble edifice even in this land of noble schools. Even at Einsiedeln the great basilica is fronted by a handsome Communal school.

The larger number of these schools belong to the Communes; for in every hamlet where there may be twenty

boys and girls, the mayor and council must provide a school and hire a master. Next to the Communal schools in number stand the burgher schools, which are supported by the towns; and after these the Cantonal schools, which are supported by the state. The Canton is the state. As yet there is but one Federal school in Switzerland, the Polytechnic in Zürich, which has now become for all the world a model school of practical life. A great desire is felt in Zürich, Berne, Geneva and Lausanne to found a Federal university of the highest class—to challenge Bonn and Heidelberg, if not Berlin. The Federal Constitution gives the power to found it; but as yet the project has been chilled by local jealousies, the fruit of those diversities of race, of creed, of speech, which make us wonder that a Switzerland exists at all. But several of the Cantons have their universities on a smaller scale and with their faculties more or less complete. Basle has a university. Zürich, Neufchâtel, Geneva have their own universities. Vaud, Luzern, St. Gallen and Ticino, each of these Cantons has a separate university. No people in the world can boast of so many seats of learning in proportion to their number as the Switzers can.

The festivals and holidays of a Switzer are connected with his life at school. Each change is made the pretext for a feast. On going to school there is a feast; on leaving school, there is a feast; at every stage of his advance there is a feast. There is vacation feast, assembling feast; when a new teacher comes there is a feast, and when a teacher leaves there is a feast. The school is made to him by public and by private acts a centre of all happy thoughts and times. It shares the joys of home and the rewards of church. At school a Swiss boy finds his mates with whom

ST. GALLEN

he learns to sing and play, to drill and shoot. The teacher is to him a father. With this teacher he will grow into a man, assisted on his way with care and love, unmixed with either foolish fondness or paternal pride. With him, and with his mates, the lad will take his country strolls, collecting rocks and plants; will push his boat across the lake, and dive into the secrets of the ancient water-folk; will pass by train into some neighbouring Commune where the arts are other than he sees at home. All bright and pleasant things are grouped about him; and in after-time, when farm and counter occupy his cares, these class-room days will seem to him the merriest of his life.

The school, the pupil and the teacher are forever in the public eye. The scholars promenade the streets with music, flags and songs. All men make room for them—salute them—glory in them, as the highest product of their state.

THE RANZ DES VACHES

ESTHER SINGLETON

THE Swiss are not a musical race. With the exception of a few love-songs, bridal-songs and cradle-songs, there is little to attract the attention of musician, or folk-lorist. In one particular, however, Switzerland is singular—the peculiar call of the cows known as the *Ranz des Vaches* in the French and the *Kühreihen*, or *Kühreigen* in the German Cantons, meaning literally the rank or arrangement of the cows.

Rousseau tells us that this air was so beloved by the Swiss that it was forbidden on pain of death to play it in the army because on hearing it the troops melted into tears, deserted, or committed suicide, for it created such an ardent desire to return to their adored country. Rousseau, however, attributes this peculiar influence to association, for he, himself a Switzer, cannot find any individual beauty or charm in the airs capable of producing this effect. The airs, he thinks, recall a thousand and one memories and associations of country, home and loved ones to the exile and excite bitter grief at having lost, or being temporarily deprived, of all that makes life dear to him.

Although the words and music of the *Ranz des Vaches* differ in the various Cantons, the general characteristics of the music are the same—long cadences with abrupt changes of time and ending with a protracted and melancholy note.

An old traveller writes:

GRINDELWALD

"As a termination to his *Kühreihe*, the performer usually selects this plaintive and peculiar note, on which he dwells with long and expressive emphasis, and its effect on the hearers is indescribably singular and impressive, more especially when heard from afar, as it breaks upon the silence of the evening and is reverberated in softened and varied tones from the surrounding hills. Towards sunset, in the summer months, these *Kühreihen* may be heard, sounding from different points of the higher lands on which the *châlets*, or extensive sheds for the shelter of cattle at night, are situated; and it is not a little curious to observe the sagacity with which the leaders, or *Dreichalkühe*, of the various herds, which during the day have been indiscriminately scattered over the pasturages of the lower plain, recognize and obey this signal of recall; each particular herd dividing from the rest, and slowly filing off in the direction of its own herdsman, the sound of whose horn, or perhaps his particular method of instrumentation, they appear to be capable of distinguishing."

The words differ as we have said in the different Cantons. One says:

> "Those with the bells
> Take the lead;
> The entirely black
> Come the last.
> Liauba, liauba!"

Another goes:

> "The cowherds of Colombette
> Arise at an early hour.
> Ha, ha! Ha, ha!
> Liauba! Liauba in order to milk.
> Come all of you:

Black and white,
Red and mottled,
Young and old.
Beneath this oak I am about to milk you;
Beneath this poplar I am about to press.
Liauba! Liauba!
In order to milk."

Ebel and Bridel in the *Conservateur Suisse* (vol. 1) suppose the various *Ranz des Vaches* to have been originally nothing more than a succession of joyous cries, and that the words were added or adopted long afterwards; that singular transition from the open or chest notes to the guttural sounds and to the falsetto, of which the inhabitants of the Swiss Alps are remarkable (and their surprising facility in the emission of which, were it not for the more natural solution of long habit and predilection, one might be tempted to imagine they owed to some peculiarity of organization) is perhaps adopted in imitation of the sounds produced by the *Alp-horn* or *haut-bois*, on which, according to Bridel the *Ranz des Vaches* or *Kühreihe* airs were originally played. Of the various *Ranz des Vaches* airs, that of the Ormonds appears to be the greatest favourite out of Switzerland; that of the Appenzellers, however, has many passages of great simplicity and beauty. It was the favourite air of Queen Anne, at whose request it was transmitted to England at the beginning of the last century, and was frequently performed by her own private band. Viotti, the celebrated violinist, published a *Ranz des Vaches*, very similar to that of the Ormonds, which he had noted down on the spot, having heard it one evening during his rambles amongst the Swiss Alps performed at a distance on the Alpen-horn with the accompaniment of a female voice.

The curious instrument on which these melancholy calls are played has thus been described by a writer in 1840:

"The *Alp-horn* or *Alpenhorn* called in the French Cantons *haut-bois* (high-forest) *trompe* and *cor-des-alpes*, on which the various *Ranz des Vaches* airs are by the Swiss peasants occasionally performed amongst the Alpine pastures with such singular effect, is a long wooden trumpet, of the rudest construction, and usually covered with the rough bark of the forest pine. The instrument is pierced throughout its whole length and terminates in a mouth or *trombe*, similar to the speaking-trumpet, to which use, indeed, it would appear that it was applied, in the Fourteenth Century, by the inhabitants of the Entlebuch and Unterwalden, to announce from one mountain to another, and from a great distance, the approach of the enemy. It is now, unfortunately, from whatever cause, becoming rare, but may still occasionally be heard in some of the Alpine districts, where its effect on a calm summer's evening is grand in the extreme. When heard at a great distance its tones (which from its rude construction are, when close at hand, somewhat harsh and discordant) are mellowed and deepened to an extent, of which those who have not witnessed its performance can scarcely conceive any idea. It is sometimes played in concert with a second Alp-horn at any great distance, but the mountain echoes are of themselves always a sufficient accompaniment.

"The instrument, usually formed of the curved root of the *forest pine* or *Alpine fir tree*, is usually from four to five feet long, but at its further extremity, which is split in the direction of its length, the interior scooped out, and then joined again to the trunk or tube (which is generally hollowed out by means of a hot iron), the whole surrounded

with a strong casing or covering of bark, and luted with wax at the joints in order to render it air-tight. In former times, it would appear that the length of these singular instruments was far more considerable; for an ancient writer, Conrad Gessner, in his description of the Mont Pilate, published in 1555, speaks of an Alp-horn eleven feet long. The mouth, or bell-shaped extremity, is generally about three inches in diameter, whilst the mouthpiece of the instrument seldom exceeds from half to three quarters of an inch. Its sound resembles that of a muffled trumpet; but it is much more powerful, rude, and penetrating, especially in the higher notes of its scale, which scale in an Alp-horn of five feet would be nearly that of the B-flat trumpet; and of ten feet that of the common French horn in B-flat basso; the upper F of both the trumpet and French-horn being rather sharper than the fourth of the scale should be; but the F of the Alp-horn is even more imperfect, being, in fact, almost an F sharp. It is, indeed, to this very imperfection in the formation of the natural and sharp notes that the very peculiar and highly-characteristic effect of the instrument (when heard under its appropriate circumstance of time and place) is in great measure attributable."

In his *Glance at some of the Beauties and Sublimities of Switzerland* (London, 1829), John Murray gives another idea of the use of the Alpine horn. He says:

"There was a wild romance in its notes, which was characteristic in a very high degree of all around. This instrument is about eight feet long and its farther extremity rests on the ground. It is used among these mountains not merely for the herdsmen's call, but as an invocation for the solemnities of religion. As soon as the sun has shed his

last ray on the snowy summit of the loftiest range, the Alpine shepherd from some elevated point, trumpets forth 'Praise God the Lord,' while the echoes in the caves of the everlasting hills, roused from their slumbers at the sacred name of God, repeat 'Praise God the Lord.' Distant horns on lower plains now catch the watch-word, and distant mountains ring again with the solemn sound 'Praise God the Lord,' and other echoes bounding from other rocks, reply 'God the Lord.' A solemn pause succeeds; with uncovered head and on bended knee, the shepherd's prayer ascends on high. At the close of this evening sacrifice, offered in the temple not made with hands, the Alpine horn sounds long and loud and shrill, 'good night,' repeated by other horns; while a thousand 'good nights' are reverberated around, and the curtain of Heaven closes on the shepherds and their flocks."

These airs seem to have been first printed in Georg Rhaw's *Bicinia* (Wittemberg, 1545) and they were also published in 1710 in a curious dissertation on Nostalgia, entitled *Fasciculus Disputat Medic.* The author was the learned professor of Basle, Theodore Zwinger, who veiled himself here under the name of Jean Hoffer.

The *Ranz des Vaches* has always interested musicians. Meyerbeer arranged it for two voices with both French and German text (Berlin, 1828); Liszt wrote variations upon it; and Grétry and Rossini both used it in the overtures to their operas of *William Tell.* Rossini has it played as a solo on the English horn.

The curious will find much of interest in two rare publications: Tarenne's *Sammlung von Schweizer Kühreihen und Volksliedern* (1818); and J. R. Wyss's *Texte zu der Sammlung von Schweizer Kühreihen und Volksliedern* (Berne, 1826).

SWISS ARCHITECTURE

R. MOBBS

THOSE who, in spite of the ever-growing cosmopolitanism of our age, still cherish a taste for what is national and native to the soil, cannot contemplate, without a certain bitterness of soul, the way in which some of the fairest and most characteristic landscapes in Europe are being spoilt to meet the exigencies of mere material interests.

Much is being said and written just now about the devastations of war, and rightly so, but what of those other devastations which are being wrought in a state of peace? War, terrible in its destructive force, sweeps over a land, but soon the wounds of Nature heal and flowers spring and bloom on the battle-field. But when a landscape falls into the possession of those to whom it represents nothing more than prospective money bags, its fate is sealed. The fact is that nothing can stand before man's rapacity. A country is invaded by people who do not care a fig for its history, customs, tradition, architecture, whose ruling passion is the love of gain, people with long purses and inartistic souls. With the glitter of gold they corrupt the natives, and then the ugly work of deformation begins. The best minds in the country protest, but they are in the minority, and their voice is like that of John the Baptist crying in the wilderness. Take the case of Switzerland. Here in the very centre of Europe we have a country incomparable for its

CATHEDRAL, BASLE

varied natural beauty, a country which more than any other seems fashioned by Nature to minister to the sense of the sublime and beautiful in the soul of man. And what do we see? Not long ago that well-known Swiss artist, Mr. Eugène Burnand, wrote a letter which is included in a book by Mr. Guillaume Fatio, entitled *Ouvrons les Yeux*, a book which cannot be too strongly recommended to all who are interested in the past, present and future of Swiss architecture. Mr. Burnand begins his letter with the significant sentences: "*Notre pays s'enlaidit avec une rapidité stupéfiante. L'affreuse batisse envahit la campagne comme un champignon vénéreux. Et il y a des gens qui trouvent cela beau et qui s'en enorgueillissent.*"

An excursion through Switzerland is enough to convince us of the truth of this. While old Swiss castles or fragments of them still remain gathering a kind of "pathetic power and historical majesty" from the past, while Swiss *châlets* and cottages still stand "in the pine shadow on their ancestral turf," and the simple *mazot* clings like a nest to the mountain ridge, a host of alien constructions have sprung up side by side with them in this Alpine world, many devoid of all architectural value, others built in a style or styles altogether out of keeping with the landscape and its history, having no associations either in the soul of the people, or the soil of the country. Protests have been made by the intellectual *élite* of the land, and in some quarters the people are waking up and beginning to open their eyes. But, what is more interesting, a movement that argues well for the future has, for some time past, been setting in from another quarter. If the evil wrought by caprice and mere commercial enterprise cannot be remedied, a good is growing up which is destined to counteract its influence. And

this has its rise amongst the best Swiss architects. Their aim is resolutely to break with the cosmopolitan style *à la mode* in Europe, and under the influence of which Italian and Moresque villas have sprung up, even in the mountains, side by side with the Swiss *châlet*, that native of the soil. Their watchword is Swiss houses for Switzerland. They are seeking to revive the models left to them by their ancestors, and to adapt them to modern exigencies. Amongst these architects one of the most promising is Mr. Edmond Fatio, of Geneva. His brother, in the book to which we have referred, has rendered signal and timely service to his fellow countrymen by calling to their attention just now the significance of Swiss architecture in relation to the land, its history, climate, customs and requirements.

Mr. Edmond Fatio, like other Swiss architects of the same mind, is endeavouring in his work to show how the best traditions of the past are capable of present-day application; in a word, to resuscitate a national art that has fallen into desuetude.

In his admirable articles on Swiss *châlets* in *The Architectural Record*, Mr. Jean Schopfer says:—"The art of building in wood has flourished in Switzerland to a special extent since the Sixteenth Century. The finest specimens of wooden edifices belong to the Seventeenth and Eighteenth Centuries. The *châlets* of those periods are those which have the best ornamentation and present the most perfect styles. The farmers' *châlets* of our own day are not so rich, nor in such impeccable taste. It is for the edifices of the upper classes to continue the sound traditions of the Eighteenth Century. All the elements exist and architects have the opportunity to make a close study of the most perfect models."

The character of Swiss architecture varies according to climate, altitude and the conditions of the life of the people. Yet there is an unmistakable homogeneity between its varied types. In the mountains we have the *châlet* constructed entirely with wood, its large roof steeply inclined to facilitate the quick draining off of water, or, as in higher and colder altitudes, flattened for the purpose of retaining the snow. This roof, invariably very spacious and protectingly overhanging the balconies and other projecting parts of the *façades*, is generally covered in with tiles, sometimes with big slabs of slate, or even wood-shingles—these last, however, are less employed than formerly.

By their harmonious frame-work, the ingenious combinations of wood, the artistic carving, the picturesque windows "double and triple united in a single frame," these *châlets*, in spite of the sobriety of their style, present a richness of appearance. This, however, they lose if the architect, as is too much the fashion now, forgetful of healthy tradition, encumbers the *façades* with lacelike wood-carving.

The principles which obtain in the construction of the wooden *châlet* should serve as guides in the erection of the stone house. This, too, should have a large roof (which is the main characteristic of the Swiss house). Its decoration will also be simple, its *façades*, sometimes whitewashed, or showing the wood-work or partly covered with wood-shingle. In certain cases the tints of the window-frame work are ornamental enough. The balconies, like those in the *châlets*, will always be sheltered by the roof or protected by small projecting roofs which may supply a picturesque *motif*. The wooden house has to be erected on a stone base of at least three feet to protect it from the dampness

of the soil and to preserve the superstructure. The balconies of the old Swiss *châlet* are always high up under the roof, and never on the ground floor as in some modern imitations.

STATISTICS

E. S.

THE legislative power of Switzerland, a Confederation of nineteen Cantons and six Half-cantons, united since 1848, is vested in a Parliament, or Federal Assembly, consisting of two Chambers—a National Council of 147 members and a Council of States of forty-four members. The members of the National Council are elected for three years. The executive power is confided to a Federal Council of seven members, presided over by the President of the Confederation, and these members are elected for three years. Each year the Federal Assembly elects from this Council the President and the Vice-President: they are elected for one year and the five other members for three years. Not more that one of the same Canton may be elected member of the Federal Council. The Council sits at Berne.

The Federal Government can alone contract treaties, or declare war. It controls the army, postal system, finance and customs; but the principles of the Referendum and Initiative are in force, the latter signifying the right of any of the 50,000 citizens to demand a direct popular vote on any constitutional question. The neutrality of the country is guaranteed by the Treaty of Vienna (1815).

A general census of the population of Switzerland was

taken on December 1, 1900, when the resident population was estimated at 3,315,443. In the middle of 1905 the population of the principal towns was as follows: Zürich, 180,843; Basle, 127,987; Geneva, 114,547; Berne, 71,748; Lausanne, 53,209; St. Gall, 51,766; Chaux-de-Fonds, 40,450; Lucerne, 33,630; Bienne, 26,198; Winterthur, 25,704; and Neuchâtel, 22,693.

The population is formed of three nationalities: German, seventy-one per cent.; French, twenty-one per cent.; Italian, six per cent.; and Romonsch (in the Grisons), one and one-half per cent. The German language is spoken in eighteen Cantons; the French in five; Italian in one (Tessin or Ticino); and Romonsch in one (the Grisons).

According to the Constitution of 1874, there is complete and absolute liberty of conscience and of creed. No bishoprics can be created on Swiss territory without the approbation of the Confederation. The order of Jesuits and its affiliated societies cannot be received in any part of Switzerland, and the foundation of new convents and religious orders is forbidden. About fifty-nine per cent. of the population are Protestants and forty per cent. Roman Catholics: Zürich, Berne, Vaud, Neuchâtel and Basle are chiefly Protestant, while Lucerne, Fribourg, Ticino and Valais are Roman Catholic. The government of the Protestant Church is Calvinistic in doctrine and Presbyterian in form and is under the supervision of the magistrates of the various Cantons. The Roman Catholic priests (about 6,000 in all), are under five bishops,—of Basle, Chur, St. Gall, Lausanne and Sion, and an Apostolic administrator in the Canton of Tessin. According to the

ST. MAURICE

census of 1900, there were 1,916,157 Protestants; 1,379,664 Roman Catholics; and 12,264 Jews.

Education is free, but compulsory; and admirably organized from the primary schools to the Universities, of which there are six. The University of Basle, founded in 1460, is the oldest. The others are in Berne, Zürich, Geneva, Fribourg and Lausanne. Zürich also has a Polytechnic School maintained by the Federal Government.

Agriculture is the chief industry and is carried on by nearly 300,000 peasant proprietors.

The principal exports are silk goods, textiles, clocks, watches, musical-boxes and food produce.

The administration of the Swiss army is partly in the hands of the Cantonal authorities, who make appointments. The Federal forces are practically a national militia founded on the German model. Service is compulsory and universal: the liability is thirteen years in the *Auszug* or *Élite*; twelve in the *Landwehr*; and six in the *Landsturm*. The total military strength is as follows: *Auszug* (twenty to thirty-two years of age), ninety-six battalions of Infantry; eight battalions of Rifles; twenty-four squadrons of Dragoons; forty-eight field batteries of six guns; two mountain batteries; ten position batteries; and twelve companies of Light Horse. The *Landwehr* (thirty-two to forty-four years of age), ninety-six battalions of Infantry; eight battalions of Rifles; twenty-four squadrons of Dragoons; eight field batteries and fifteen position batteries. The *Landsturm* has an armed strength of 500,000, including those who have passed through the *Auszug* and *Landwehr*, and those fit to bear arms, but who have not been trained. Switzerland is able to mobilize upwards of 220,000 men, irrespective of

the armed *Landsturm* who may amount to another 45,000 or 50,000 men.

There are fortifications on the south frontier for the defence of the Gothard, and others at St. Maurice and Martigny.

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