about as follows: from the Wengern Alp to the Æggischhorn by the Jungfrau-joch, sixteen or seventeen hours, and by the Eiger-joch I took about twenty-two of actual walking. This last might occasionally be shorter. The time from Grindelwald to the Æggischhorn by the Mönch-joch is at least sixteen hours, if the snow is firm; and by the Viescher-joch would, I think, be under favourable circumstances, nearly twenty hours.

Of these four passes I consider the Mönch-joch to be undoubtedly the easiest. On the whole, too, it presents the finest scenery, especially if a short détour could be made to the top of the Eiger-joch—a point of view which I consider to be of almost unapproachable beauty. The Eiger joch itself is a cross-grained and irregular kind of pass, which I can hardly recommend to any but eccentric mountaineers. I hope, however, that some such may be found to give it another trial. The Jungfrau-joch is a very exciting and very noble pass. It would always want first rate guides, and generally (but I think not always) a long ladder. With these it may be undertaken with confidence in success.* Christian Almer, or Christian Michel would be the best man to take. With regard to old Michel, I have one hint to give—make him get up early. This pass has one great recommendation. If made at all, it will be made in one day. It is, however, perhaps the most difficult of all. Finally, the Viescher-joch is very long, and rather monotonous. It has this merit (which it shares with the Mönch-joch alone), that it would be practicable from the Æggischhorn. Taking care to ascend to the col near to the Finsteraarhorn, it would present no great difficulties, and would be a very interesting variation on the Mönch-joch. I strongly recommend a trial of it from that side. Chr. Michel would be the best guide. The first night should be passed either at the Faulberg or at the Rothhorn, where there is a remarkably good sleeping-place. A guide from the Æggischhorn would be able to point this out, as it is not generally known to the Grindelwald guides.

Ascent of Mont Pourri. By Wm. Mathews, Jun., M.A.

THE beautiful peak of the Mont Pourri, whose exquisite form delights the eyes of travellers descending into the Tarentaise from the Col de Bonhomme at the Little St.

* Christian Almer saw this pass on July 29 of this year from the Mönch, and pronounced it impassable, or, at any rate, far more difficult than last year.—Ed.

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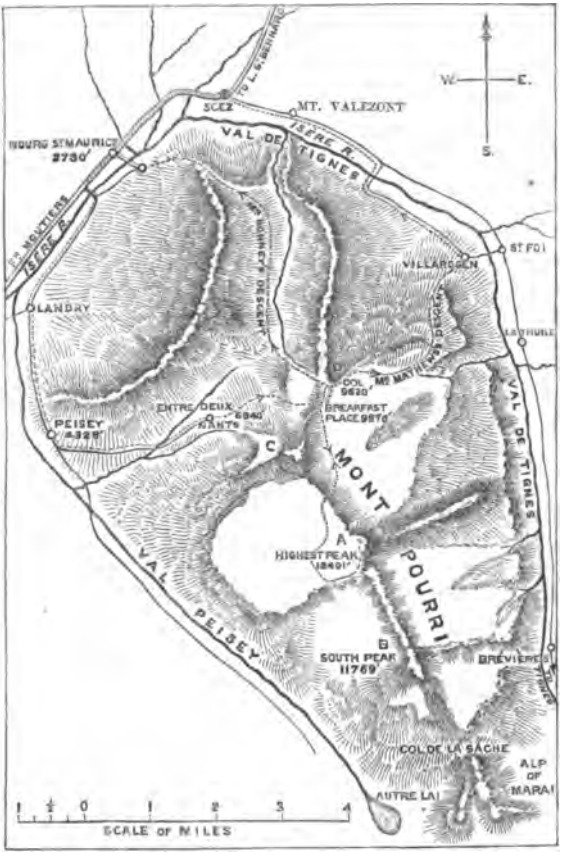
Bernard, is the culminating point of the great ridge which divides the Val de Tignes from the Val Peisey, and has long enjoyed, among the inhabitants of those valleys, the reputation of being the highest mountain in Southern Savoy. Like many other peaks in that district, it possesses a very extensive nomenclature; it figures on continental maps as the *Chaffe Quarre* and the *Mont Thouria*, while the English authors who have described it, even those of the highest reputation, have spoken of it either as the *Mont Iséran* or the *Aiguille de la Vanoise!* In the Tarentaise it is universally known as the *Mont Pourri*, and it is therefore highly desirable that this name alone should be applied to it in future.

In the course of a ramble among the Graian Alps in the autumn of 1860, I obtained satisfactory evidence that one mountain only was a competitor with the Pourri for the supremacy of the Tarentaise. This is the very important peak north of the Col de la Vanoise, known in that neighbourhood as *La Grande Casse*. The difference in height between the two appeared so slight that it was doubtful which was really entitled to precedence, and in the list of heights in the second series of 'Peaks, Passes, and Glaciers,' the post of honour is given to the Pourri. The top of the Grande Casse being a most inconvenient site for observations, the only way of settling the question was to carry a theodolite to the summit of the Pourri, and consequently the ascent of this mountain, in itself a new and highly fascinating expedition, thenceforth occupied a prominent place in my mountain longings. An abortive attempt made with Mr. Jacomb in 1861, which led us to the summit of a subordinate peak overhanging the Col de la Sache, served only to sharpen the appetite, and a view of the mountain obtained later in the season from the Col de Chavière convinced me that it might probably be climbed from the Val Peisey. I was, however, in no humour again to drag up heavy instruments on a fruitless errand, so I urged Michel Croz to make a preliminary exploration, and endeavour to ascertain the proper route. He did so, and reached the summit alone on the 4th of October, thus winning the undivided honour of the first ascent.

Early in August 1862 I was once more in the Tarentaise, in the company of the Rev. T. G. Bonney. We arrived at Bourg St. Maurice on the 3rd, and took up our quarters at the Hôtel des Voyageurs, an inn affording rough but tolerable accommodation, but which is luxury itself when compared with the horrible dens in the more secluded parts of the Tarentaise. We had decided upon the ascent of the Pourri as our

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first expedition, but the structure of the mountain being rather intricate, I must preface my narrative with a few words of geographical description, which a glance at the annexed woodcut will render intelligible.



The range of the Mont Pourri may be described as an elongated mountain peninsula extending from SE. to NW., bounded by the Val Peisey and the Val de Tignes, and articulating on to the main range of the South Savoy Alps by a narrow isthmus of rock, across which the pass of the Col de la Sache leads from the head of the first-named valley to Brévières in the Val de Tignes. Immediately above the Col, a lofty peak, marked B in the woodcut, rises from the ridge which

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separates the two valleys. This is the peak climbed by Mr. Jacomb and myself in 1861, and ascertained by us to be 11,769′ above the sea. At a considerable distance to the NW. is the highest peak A, and still farther on a third peak C. At A and C subordinate ridges are thrown out at right angles to the main one, and enclose two vast glacier basins; one opening towards the Val de Tignes, the other towards the Val Peisey. The ridge extending from C towards the NE. at first sinks rapidly, and then rises again, into a steep rocky peak marked D. Beyond C the primary ridge is suddenly depressed, and the watershed consists of an upland grassy plain, giving rise to two torrents; one of these flows into the Val Peisey by the châlets of 'Entre deux Nants,' situated, as their name implies, between two valleys, the other joins the Isère opposite Mont Valezont. The upland plain is bounded by a line of ruddy crags, crowning the enormous buttress which forms the NE. termination of the range. The lower slopes of this buttress, rising steeply from the Isère at Bourg St. Maurice, are richly clothed with groves of pine and verdant Alpine meadows, with scattered villages and church spires gleaming here and there among the trees; and when seen from some elevated spot on the opposite side of the valley, with the snowy peak of the Pourri just peering above its crags, it forms one of the most beautiful pictures in this delightful neighbourhood.

At 11.30 on the 4th of August, Bonney and I, with our two guides, started along the main road to Moutiers, and, crossing the Isère by a foot-bridge about half a mile from Bourg, followed a mule track on the left bank of the river as far as Landry, a considerable village at the entrance of the Val Peisey. Thence ascending the latter valley, we reached Peisey itself at 2.20, but we walked very slowly, with frequent halts, in consequence of the excessive heat. There is an inn in this village, with the sign '*A la Réunion des bons Amis*,' which affords bread, cheese, and wine, but not meat, which it is necessary to carry from Bourg. It belongs to a blind man, named Jean Baudin, who also owns a châlet on the alp, where he was then living, having left his wife in charge of the auberge. Having purchased from Madame Baudin all the articles necessary for the completion of our commissariat, we gladly availed ourselves of her offer to take them up to her châlet on a mule, and, leaving Peisey at 4.20, we followed the main valley for a short distance, and then turning into a lateral glen on the left, arrived in two and a half hours of easy walking at the châlets of '*Entre deux Nants*.' From this pleasant Alpine settlement we looked down upon the workmen's huts at the silver mines of Peisey,

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and across to the snowy range which divided us from the Val Champagny. As night drew on, the crags and glaciers of the latter were bathed in the softest moonlight, and projected against a cloudless starlit sky, and we entertained the most confident hope of perfect weather and a successful expedition on the morrow.

At 3.30 on the 5th we quitted the châlets and continued the ascent of the valley, until we arrived at the upland plain, which is dotted with a number of small lakes, and commands so noble a view of the chain of Mont Blanc, that it is alone worth an independent excursion from Bourg. Here, turning southwards, we had before us a small glacier, flanked on our left by the rocky peak D (see woodcut), and on our right by steep slopes of débris. Mounting up the latter, we reached the crest of the ridge C D, covered with fragments of rock, and we looked down upon the wide glacier-filled valley which opens out into the Val de Tignes, opposite La Thuile. We gained the ridge at 6.10, some distance above the actual col, which is just under the peak D, and which forms the most direct communication from Peisey to St. Foi. Here we halted for breakfast, and enjoyed the view of the great world of mountains, now, for the first time this season, displayed before our eyes. Our position commanded all the Graian peaks, from the Ruitor to the Grivola. Beyond them were the Pennines, Monte Rosa and the Grand Combin being particularly conspicuous; while, considerably more to the left, Mont Blanc towered upwards in unclouded grandeur.

After staying an hour and ten minutes at this pleasant halting-place, we resumed our march. A descent of a few paces brought us on to the glacier, and we then mounted steadily up the névé in the southerly direction, towards the lowest point of the ridge B C. This was gained without further incident than the passage of a rather difficult crevasse and the ascent of a steep wall of snow. On setting foot upon the ridge, we looked down upon a vast amphitheatre of névé, which has an exit into the Val Peisey, and obtained our first near view of the highest peak of the mountain. It is supported on the south-west by a great spur or buttress, which, rising from the Val Peisey in nearly vertical precipices, is then flattened into a level shoulder, and finally leads by a moderately inclined snow-slope to the summit of the peak itself. In every other direction it appeared quite impracticable; but happily the shoulder was easily accessible. Descending from the ridge, we circled round the great snow-basin, reached the shoulder without difficulty, mounted the slopes beyond, and climbed the final pyramid of

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snow upon its northern face. At eleven o'clock precisely we were standing on the summit.

Nearly every one of the peaks of the Graians is an admirable point of view; but the Pourri has a great advantage over its neighbours, in its more complete projection from the central chain. In addition to the panorama we had enjoyed from our breakfast-place, parts of which were now obscured by clouds, our range of vision included the numerous summits that enclose the Maurienne, with the Grandes Rousses and the long chain of the Pelvoux in the more distant horizon. Thanks to the labours of Mr. Tuckett, the form of the latter was now familiar to us, and we at once recognised the Pic des Écrins, towering above the remainder of the chain. Mont Blanc was of course the most marvellous feature in the panorama; its south-western extremity was completely commanded by our standing-point, and could be studied in its minutest details. In all the views of this range obtained from the Tarentaise, a great aiguille, which appears to rise above Mottet, is remarkably prominent. It may be the Aiguille de Trélatête or the Aiguille du Glacier; and as a height considerably greater than that of the Aiguille Verte is ascribed by Malten to the first-named peak, I wish to bring this circumstance to the notice of the members of the Club, who appear to have strangely neglected this portion of the chain. When dazzled by the glittering snows by which we were surrounded, we rested our eyes on the noble forests and verdant meadows in the valley of the Isère, which rolled its waters 7,000 feet below, and we could see the churches and almost count the houses in Tignes and in St. Foi.

A few feet below the summit, on the southern side, are the highest rocks, where Michel had built a stone man on his previous visit in 1861. While he and his brother were engaged in enlarging and strengthening this erection, we set up the theodolite and barometer, and I commenced taking the azimuths and zenith distances of the principal peaks in view. My first care was to turn the telescope towards the Grande Casse, and to intersect the summit by the cross wires. It proved to be elevated 10′ above the horizon, thus conclusively establishing the fact that it is the highest mountain in the Tarentaise. The observations of the other peaks in the same district showed that the Pourri stands second on the list.

Exactly at noon we observed the barometer; the readings were as under:—

Barometer reduced and corrected	484·89 mill.	19·104 in.
Air temperature	3·4 cent.	Moist bulb 1·0 cent.

If I had been a wise man, I should have immediately put back

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the instrument in the case, but being a foolish one I left it standing on the snow, and returned to the theodolite. A shriek from Bonney recalled my attention to it. It had been blown over by a gust of wind, and was sliding headforemost down the face of the peak with the mercury running out at the top. I seized it in an instant, but of course it was of no further use, and we had to console ourselves by thinking how much worse it would have been if we had broken the barometer before taking the observation. When our guides had completed the cairn, we nailed an Alpine spirit minimum (No. 382) to a piece of wood, placed it in a hollow on the top, and covered it with a flat stone. At the time of its deposit it registered 13·0 C.

Our proceedings on the summit occupied so much time that it was not until 1.25 that we commenced the descent. Retracing our steps to the breakfast-place, which we reached at 3.20, we followed the ridge to the col, for the purpose of taking its altitude with an aneroid belonging to Bonney. We had all along intended not to return by Entre deux Nants and Peisey, but we were now uncertain whether to descend to St. Foi on the eastern side of D, or to pass on the opposite side of that peak, and follow the valley which appeared to lead more directly to Bourg. After some discussion, we thought it a pity not to make our exploration as complete as possible, so we agreed to divide our forces, Jean and I taking the former route, Bonney and Michel the latter. After quitting the col I scrambled down a ravine by the side of the glacier séracs, descended by shingle-covered ice on to a sloping alp, and thence, bearing well to the left, reached the bottom of the Val de Tignes at the village of Villaroger. Following for some distance a path on the left bank of the Isère, I crossed the river into the road from St. Foi to Scez, about halfway between those places, and finally regained Bourg at 8.30 P.M. Bonney had arrived only a few minutes previously: the valley by which he descended ends at the brink of a lofty precipice, down which the stream falls in a fine cascade; but before reaching this point he followed a path on the left, which conducted him down the face of the great buttress immediately upon Bourg. The ascent of the mountain may therefore be made by either of these routes, but it would probably be necessary to camp out upon the col.

The whole excursion from the time of our leaving Entre deux Nants to our return to Bourg thus cost us seventeen hours, 12h. 40m. of walking and 4h. 20m. of rest. Our route to the summit was extremely circuitous, and obliged us to pass twice across the main ridge of the mountain, where, how-

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ever, the descents on to the glaciers below were only very trifling. If the great snow-basin on the E. of that peak could be reached directly from the Val Peisey, the time required for the ascent would probably be much reduced; but the solution of this problem I must leave to future explorers.

When we quitted England we had the pleasure of travelling in company with my accomplished friend Mr. E. Walton, whose drawings, uniting great technical skill with strict geographical accuracy, have a charm for all lovers of the High Alps, which the works of few other artists are able to afford. I am indebted to him for a series of sketches taken in the vicinity of Bourg St. Maurice, including several beautiful views of the Pourri, which illustrate very completely the structure of the mountain.

A few remarks upon the hypsometry of the Pourri and the Grande Casse may not be without interest.

Comparing the readings of our instruments on the Pourri with simultaneous observations at Geneva, St. Bernard, Aosta, and Turin, making the calculations independently in French and English measures, by the tables of Delcros and Guyot, and taking the means, we have the following results:—

		Metres
August 5, noon, Mont Pourri,	Geneva	3,800
	St. Bernard	3,790
	Aosta	3,808
	Turin	3,830
	Mean	3,807=12,491 English feet.

The summit of the Grande Casse was elevated 10′ above that of the Pourri. The horizontal distance between the two peaks, measured on the six-sheet Sardinian map, is 14,500 metres. Of course, only very small reliance can be placed upon the accuracy of this base; but assuming it to be correct, and making the necessary allowances for curvature and refraction, we have 56 metres as the difference in height, and adding this to the previously ascertained altitude of the Pourri, we get

Grande Casse, 3,863 metres.

Now this mountain was measured trigonometrically by Col. Corabœuf in 1803–4. It is described by him as the *Aiguille de la Vanoise*, but the latitude and longitude which he gives for it indicate a peak occupying the precise position of the Grande Casse. The altitude which he obtained is 3,863 metres, and the absolute identity of the two results is not a little curious.

The confusion in the nomenclature of the Tarentaise Alps is something astounding. Here we have two names denoting the same mountain. The words *Pointe des Grands Couloirs*, which appear on sheet 37 of the large Sardinian map, may possibly be

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also intended to apply to it. M. Gottlieb Studer, who was one of the very first travellers to penetrate into the recesses of the Graian Alps, and to whose kindness I am indebted for a copy of a memoir upon this district, contributed by him to the 'Mittheilungen der Naturforschenden in Bern' (No. 480–484), supplies us with two more, *Mont Prémou* and *La Grande Maurienne.*

The following additional heights were determined by us in our two days' excursion:—

			English feet
August 4, 8 A.M.	Bourg St. Maurice, Church	(mercurial) . . .	2,730
„ 4 P.M.	Peisey, Auberge . .	(aneroid, corrected)	4,328
„ 7·45 P.M.	Entre deux Nants . .	(mercurial) . . .	6,840
„ 5, 6·10 A.M. „ 3·20 P.M.	Breakfast-place . . .	(aneroid, corrected)	9,870
„ 4·15 P.M.	Col	(do. do.)	9,620

WM. MATHEWS, Jun.

THE ASCENT OF GLÄRNISCH. By THOMAS HOWELLS.

'HE looks a preciously awkward customer from this side!' 'Oh! utterly impossible; but from the south he is more accessible.'

The speakers, on a glorious day in July 1862, were seated at the edge of a little lake, called the Klön-see, in the Klön Thal, in Canton Glarus, and were gazing up in thoughtful mood at a very promising mountain, which rises abruptly from the southern side of the aforesaid lake. Kennedy, myself, and Thomas Cox, Kennedy's servant, had come from England with the fixed purpose of what in English vernacular is termed 'having a shy' at Glärnisch. Hitherto we had progressed favourably, and, as we wound our way up the valley, we only wished for another fine day and an early start. About four o'clock in the afternoon we reached the little inn at Vor Auen, at the head of the Klön Thal, but not before the landlord, Herr Webber, had caught sight of Kennedy, and had come tearing along over stone walls and ditches to cross the fields to greet him. We had dinner; then came the business of the ascent. Herr Webber suggested guides as indispensable: he knew two or three first-rate men, chamois-hunters, in fact, who had been up no end of times; he would send for them in a minute. We declined the kind assistance. Hereupon our landlord talked much of the danger of the ascent—the old, old story, in short, told by all innkeepers, when mountains are the

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