

organised, and the perfect health he maintained amongst his men, keeping them for two years entirely free from serious sickness, from frost-bites of any importance, and from scurvy. This reflected the greatest credit on the care and attention he must have devoted to each individual member of his party. The retreat from Fort Conger to Cape Sabine was conducted with wonderful skill and ability. He also desired to express his admiration at the manner in which the Relief Expedition was carried out by Captain Schley, who took his ships through Melville Bay, and brought them to Cape Sabine almost in the very nick of time. The salvation of the survivors was entirely due to the perseverance, energy, and seamanlike qualities displayed by Captain Schley and his men, and he sincerely hoped that that officer's work would not be forgotten by geographers, when the general results of the expedition were considered.

Major GREELY said that Lieut. Lockwood had only seven dogs, which had 24 oz. of food per day, or half the sledging ration of the Expedition of 1875-76, which was 48 oz. per man. The dogs came back weighing within a fraction of a pound of what they did when they started. No doubt Captain Beaumont would be surprised at the rapidity with which the dog sledge and party reached Cape Bryant. His (Major Greely's) men could not have hauled what Beaumont's men did, but they went with dogs. A man could not haul 150 per cent. of his own weight, but a dog could, and when the farthest point was reached half the dogs could be killed, and the other half could do the return journey. The second year, when he was sent out with ten good dogs, Lockwood made a trip in six days to the Polar Sea, which had previously taken 26 days, and which Beaumont required 30 days to accomplish. That seemed to settle the question of man and dog for sledge work.

The PRESIDENT said he was quite sure the whole audience felt just as proud of Major Greely as if he had started from London instead of from Washington. They were under a deep debt of gratitude to him, as he had to catch the steamer at Liverpool to-morrow morning, and in spite of the shortness of his time he had given them the pleasure of hearing his address.

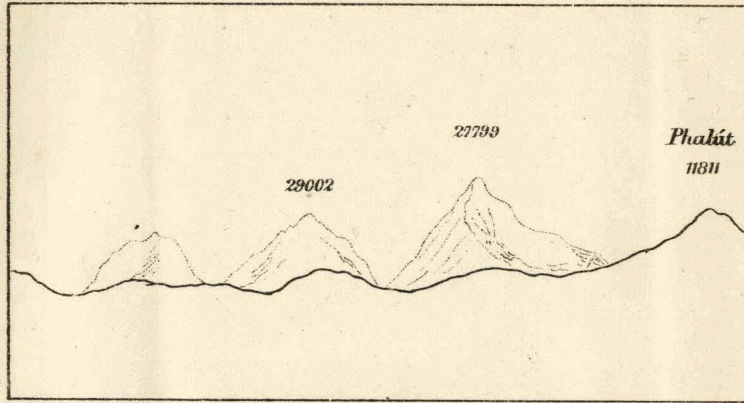
Major GREELY said it was with a grateful heart and kindly feelings to all England, that he turned his face toward the great Republic of their brother Anglo-Saxons beyond the sea.

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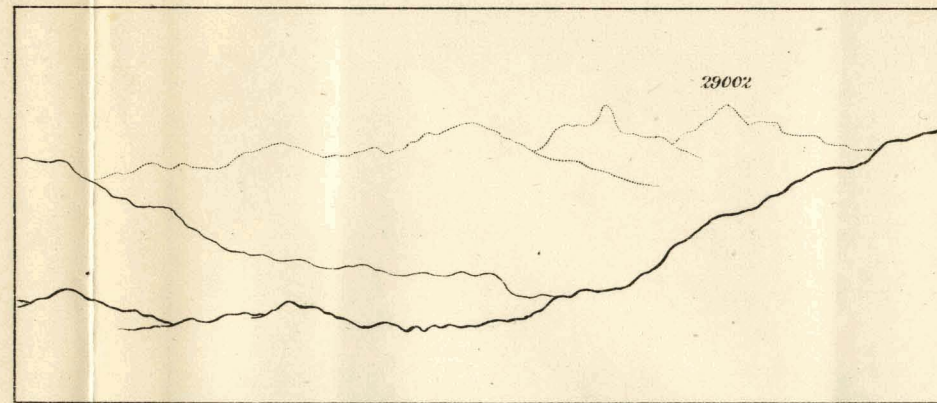
### *Further Notes on "Mont Everest."*

By DOUGLAS W. FRESHFIELD, SEC. R.G.S.

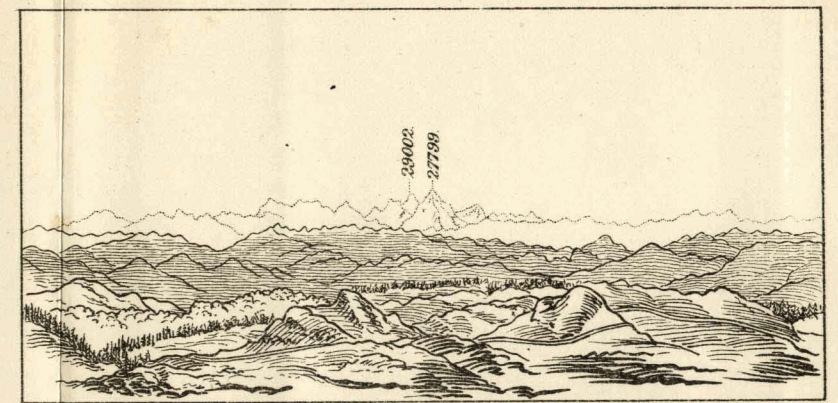
In the present note I propose, in continuation of General Walker's interesting contribution to the last number of the 'Proceedings,' to complete by the addition of further details the story of the invention of that curious hybrid, *Mont Everest*. I shall next endeavour to show what remarkable and embarrassing results may be obtained by a further and rigid application of General Walker's geometrical test to the panoramas published in the atlas to the Schlagintweits' 'India and High Asia.' This inquiry may suggest doubts whether the test in question can properly be accepted as destructive, not only of the scientific exactitude, but also of any pictorial and topographical value in the panoramas in question, and further, whether the failings in the panoramas are sufficient in themselves to do away with all claims



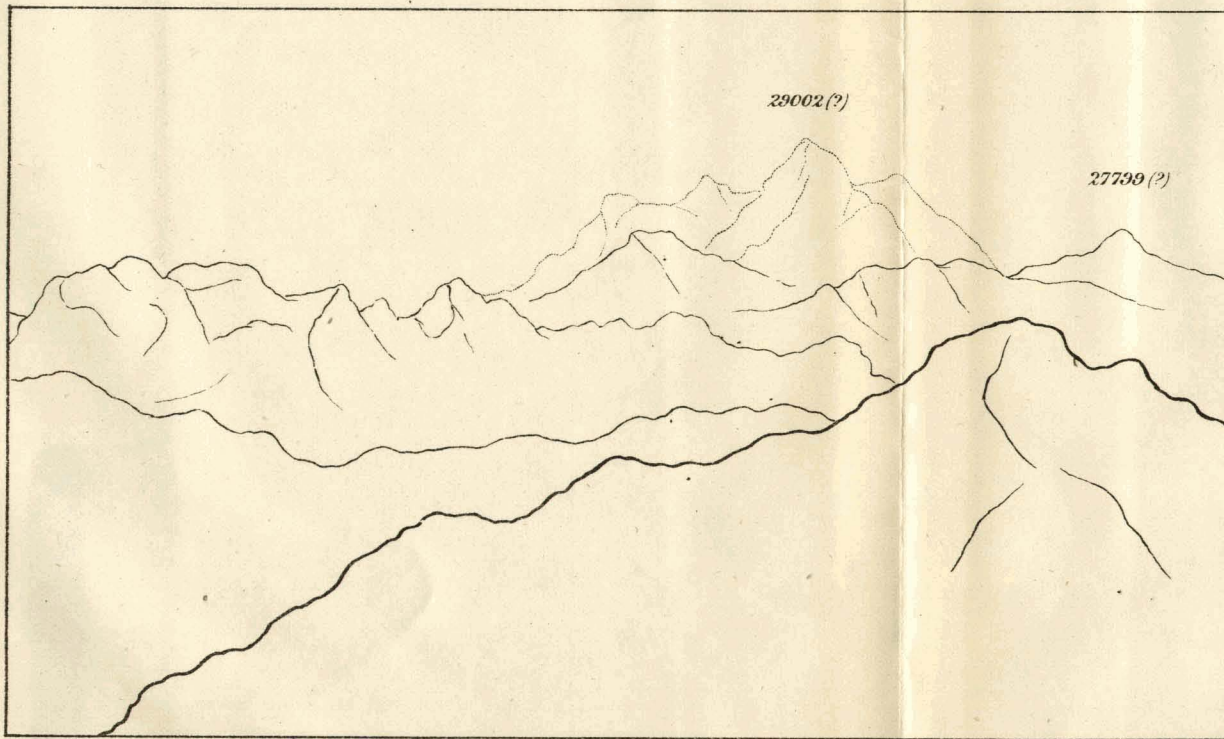
*Profile of Nepal Peaks from Tiger Hill Station, published by Survey Department 1882.*



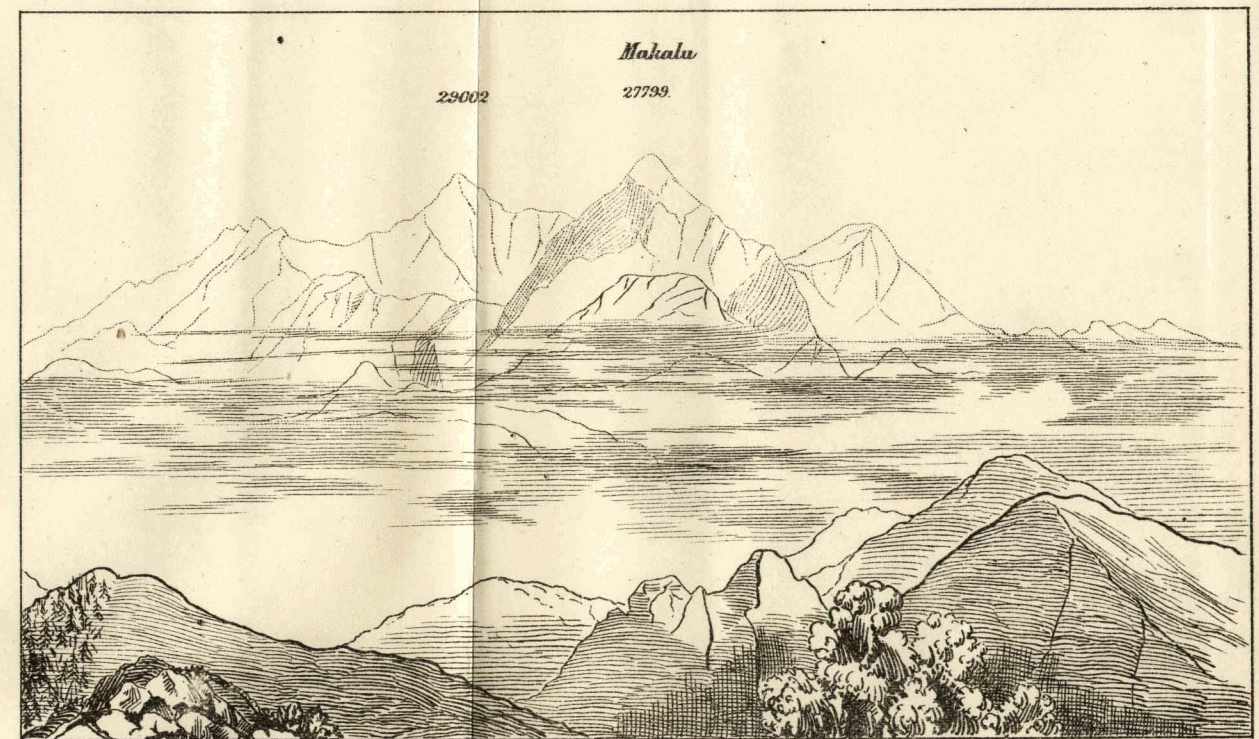
*Gaurisankar from Kaulia, facsimile of tracing from original panorama by Hermann Schlagintweit.*



*The snowy range of Nepal from Sandakphu, from a drawing by M<sup>rs</sup> Brandis reproduced by pantagraph and published by Survey Department.*



*Nepal Peaks from Phakú after H. Schlagintweit's Engraved Panorama. (with his identifications.)*



*Nepal Peaks from Sandakphu, from an Oil Picture after Colonel Tanner's drawing. (with M<sup>r</sup> W. W. Graham's identifications.)*

on the part of their author to be heard as a witness on a matter which would generally be considered within the scope of an experienced mountaineer or alpine guide—the recognition of a great mountain group from various points. I hope to find room in passing for a few general remarks on the principles of geographical nomenclature.

The new name of *Mont Everest*, given by Sir Andrew Waugh early in 1856 to the highest measured summit of the East Nepal group, was in October of the same year challenged by Mr. Hodgson, writing from Darjiling. He declared\* that, having lived for twenty years as Political Resident in Nepal, he knew the mountain in question well by sight, both from the border of Sikkim and the "confines" of the valley of Khatmandu, and that it had various native names, amongst which he gave the preference to Devadhunga, "The Abode of Deity."

"This great mass," wrote Mr. Hodgson, "is visible alike from the confines of Nepal proper (the valley), and from those of Sikkim, and all the more unmistakably because it has no competitor for notice in the whole intervening space. It is precisely half-way between Gosainthan, which overlooks Nepal proper, and Kangchan, which overlooks Sikkim."

Mr. Hodgson's and Sir A. Waugh's memoranda were read at the Royal Geographical Society's meeting on May 11th, 1857. Sir George Everest was present, and stated that as a mark of the esteem of Indian surveyors

"the proceeding was grateful to him personally. Yet he must confess there were objections to his name being given to this mountain which did not strike everybody. One was that his name was not pronounceable by the natives of India. The name could not be written in Persian or Hindi, and the natives could not pronounce it. It would be confounded with that of O'Brien, and the hill people would probably call this mountain Ob'ron."

Sir R. Murchison had previously expressed his hope that whatever the peak was called in India, it might in England bear the name of Everest. Sir A. Waugh, however, was not satisfied to leave Mr. Hodgson's protest unanswered, or to acquiesce in Sir George Everest's deprecatory suggestions. He called—not on independent travellers such as Sir J. Hooker or Hermann Söhlagintweit, not even on the Resident who had succeeded Mr. Hodgson in Nepal, but—on five of the most eminent surveyors on his Staff to reply to Mr. Hodgson, and four of their reports were published in vol. ii. of the Royal Geographical Society's 'Proceedings.' None of these officers appears to have been at Khatmandu, and the weight of their remarks seems to me to be further diminished by the fact that they were summoned not as impartial jurymen but as subordinates to support their chief. They confidently denied that the 29,002 feet peak is visible from Khatmandu itself, which was not to the point, as Mr. Hodgson's statement was that it is visible

\* 'Journal of the Asiatic Society of Bengal,' 1856. 'Geographical Proceedings,' vol. ii.

from the *confines* of the Khatmandu district. And they also denied that it is visible from the frontier of Sikkim, which is true only if we take that frontier not to include the ridge south of Singalila, whereas Tonglo is spoken of as on the "confines of that province" by Sir A. Waugh himself. But I have not space to examine in further detail these minutes. Their purport may be most fairly summed up in General Walker's own statement :—

"The great mountain masses of which it (29,002 feet) is the highest pinnacle are known to Nepalese and Tibetans by various designations, of which Devadhunga, 'the home of the gods,' may well be accepted as most in harmony with the religious instincts of the people of the country, and also as known to Indians and Englishmen."

I shall return presently to this valuable admission.

On January 11th, 1858,\* the minutes of the four officers were read to the Royal Geographical Society. They elicited from Sir Roderick Murchison the following enigmatic response :—

"I cannot conceive military engineers performing any duty more grateful to themselves than that of testifying to the merit of their former chief by attaching the name of Everest to the highest mountain in the world.

With this polite evasion of the point at issue the discussion appears to have for the time ended. It was resumed and a new direction given to it through the publication, in 1861, of the results of the travels of the Schlagintweits. In 1855 H. Schlagintweit visited Sikkim, and passed along the high ridge beyond Darjiling, sketching and taking observations of the "great Nepal mountain" from Sinchal and Tonglo, and finally delineating the panorama from Phalut, some miles north of Sandakphu, on the Singalila spur. General Walker thinks that Schlagintweit never distinguished "Everest," and that his great peak is Makalu. Notes extracted from the Schlagintweit MS. sent me by Dr. Emil Schlagintweit seem to me hardly reconcilable with this hypothesis. Schlagintweit describes the great peak as like "the Jungfrau as seen from a very great distance." The drawings and descriptions of Makalu hardly recall the Jungfrau, while the sharp snow-peak on the top of cliffs of Colonel Tanner answers well enough to the famous Swiss mountain. Again, Colonel Tanner writes that Makalu is composed of "very light-coloured," "Everest" of "very dark-coloured rock," and H. Schlagintweit speaks of the "high black mountain in Nepal." I incline, therefore, to believe that even though the name Gaurisankar on the Phalut panorama should prove, as seems probable, to be wrongly placed, the peak recognised on the spot by

\* The statement in the 'Encyclopædia Britannica' (Geography) that it was in 1848 that the name and height of "Mount Everest" were brought forward is obviously a misprint. The measurements were published December 18th, 1855, according to Schlagintweit.

Schlagintweit as the highest, and computed by him at 29,196 feet, was the 29,002 feet summit of the surveyors. But too much importance may be attached to this confusion between two neighbouring summits. That the Breithorn, the Saasgrat, and the true Monte Rosa were not so very long ago alternately pointed out to travellers as "Monte Rosa," did not prove that Monte Rosa was wrongly named. Nor can a similar confusion prove that the great Nepal peak is wrongly named Gaurisankar or Devadhunga.

Two years later H. Schlagintweit visited Khatmandu, and drew the panorama from Kaulia, a neighbouring hill 7000 feet in height, and 108.6 miles distant from the 29,002 feet summit, that is, about the same distance as Cuneo from Monte Rosa.\* He, as Mr. Hodgson had done before him, identified to his own satisfaction one of the summits visible as the "great Nepal peak," and obtained for it from natives the title Gaurisankar, "the bright, or white, bride of Siva," which was subsequently confirmed by Indian pundits. From their account of its appearance it seems probable that the peaks noticed by Mr. Hodgson and the German traveller were identical, but it is open to any one who likes to dispute this.†

As to the identity of a mountain conspicuous from the confines both of Sikkim and "Nepal proper," Hodgson and Schlagintweit are fellow-witnesses. Nor are they necessarily at variance as to its name; for Hodgson is careful to state that he got the name Devadhunga at Kuti, and not in the Khatmandu district.

General Walker, however, here steps in and asserts that the mountain H. Schlagintweit drew from Kaulia and heard named Gaurisankar cannot be the "great Nepal peak." He has recently examined minutely in the atlas (part ii.) to the Schlagintweits' English work the panorama of the view from Kaulia, and the chart showing the positions of the principal peaks given with it. He notices—and it is, I believe, the first time the point has been taken—that in the panorama the names of some minor peaks (XVIII., XIX., XX.), which would be visible on the right of peak XXI., are attached to summits seen on the left of it.

This error, I find, does not extend to the accompanying chart, and the false identification is omitted in the reduced panorama published with the German edition of the travellers' work.

General Walker further suggests that an intervening crest known as XVIII. (22,000 feet) might have covered the 29,002 feet peak. From Khatmandu itself it might, but from Kaulia there is a difference of

\* From the ridges of the Maritime Alps behind Cuneo the individual peaks of the Monte Rosa group are most plainly recognisable. Some of the summits on the farther side of the watershed (e.g. the Weisshorn) are well seen. From one of the summits of the Orteler group I have, with Mr. F. F. Tuckett, recognised Monte Viso, distant 210 miles. 'Alpine Journal,' vol. ii. p. 145.

† See Schlagintweit's 'India and High Asia,' vol. iii. p. 193, and Atlas, Part II., 1861. 'Indien und Hoch Asien,' vol. ii. p. 253, 1871.

nearly three degrees in the bearings of the two mountains. I gather from official maps that there is hardly half a degree difference between the bearings of Makalu and the great peak from Tiger Hill, near Darjiling. Yet we know from an equally official sketch that the great peak stands clear of its rival. I cannot, therefore, bring myself to share General Walker's firm belief that owing to the distance and configuration of the chain it is extremely improbable that the great peak is seen (not, mark well, from Khatmandu itself, but) from the confines of the Khatmandu valley. The mountain is ten miles nearer than it is to the spot whence Colonel Tanner observed the stratification of its rocks, and that it had exactly 190 feet of snow on its summit! Great peaks are apt to turn up very unexpectedly, and (like great men) the farther you are from them the more they assert their pre-eminence.

Again, General Walker notes that in the Schlagintweit outline the great peak is, in comparison to a nearer neighbour (XXI., 19,560 feet), made 35' too high in vertical elevation. This result is obtained by using the formula adopted by the Indian Staff in computing the height of distant objects, and then measuring on the outline the difference between the two summits. Whereas the nearer peak should rise above the horizon  $1^{\circ} 57'$ , and the more distant  $1^{\circ} 32'$ , the peak named Gaurisankar is, on the outline, about one thirty-fifth of an inch higher than that identified as XXI.\*

It must be remarked here that no observations fixing the exact geographical position of Khatmandu (or consequently of Kaulia) have as yet been published. These calculations, therefore, in so far as they are based on distances, rest on an uncertain foundation. Captain Montgomerie, in his 'Report on Trans-Himalayan Explorations, 1865-6,' comments on Hermann Schlagintweit's failure to fix with precision the longitude of Khatmandu.

It may also be permissible to doubt whether the effects of terrestrial refraction are at all times sufficiently uniform to be embraced in any single formula, and more particularly whether a formula adapted to observations taken in the plains would be equally accurate in the hills. I believe different allowances for refraction are made in the Indian and Kashmir surveys. A scientific friend assures me that in the far north the apparent height of the same mountains will vary to an astonishing extent. This effect, however, may not extend to the skirts of the tropics.

But "*Ne sutor ultrà crepidam*": a public school education has ill fitted me to discuss questions of geometry with skilled surveyors. It is wiser to bow at once to the late Surveyor-General's authority, and to accept his criticism as it stands, that is, to admit that the "Gauri-

\* In the tracing from the original drawing sent me by Dr. Emil Schlagintweit, Hermann's surviving brother, and reproduced among the illustrations, this difference disappears, and the two peaks are apparently level.

sankar" of the engraved panorama is one-tenth of an inch higher than "Mont Everest" would appear. But having done this, does it become as obvious as General Walker supposes that the peak H. Schlagintweit saw "cannot have been Everest"? I do not think so.

The Kaulia panorama was drawn on a very much larger scale—78, in place of 30 inches in length. Probably the original drawing was to some extent corrected by more or less accurate measurements obtained with the theodolite. Both in the note under the plate, and in the German 'Reisen,' we are told with some detail how the panoramas were produced. We are also warned \* that slight differences will be found "between the angles of bearings in nature and those on the plan, chiefly in the lateral parts." After reading these passages it appears to me far from improbable that the Kaulia panorama may be rather pictorially than scientifically accurate, that geometrical may have been sacrificed to artistic truth in favour of the more lofty mountain. In the case of a distant peak, the artist is always tempted to exaggerate; for the measurable space it occupies on the horizon is far from commensurate with the impression it makes on the spectator whose experience enables him to appreciate the meaning of delicate gradations of colour and fine details in structure. Such a primary exaggeration may have escaped correction either through incompleteness in the theodolite observations, or carelessness in their application, or from the technical difficulty at the corner of a sheet referred to above. That there must have been considerable carelessness in the preparation of these sheets of the atlas is rendered evident by the obvious discrepancies between the charts and panoramas. It will be most to the point, however, if I prove the companion panorama, taken from Phalut, to be inaccurate in the sense and to the extent here suggested. In the footnote below, † I have shown how General Walker's test may be extended and so used as to indicate that the fact that a peak is, in the engraved and reduced panoramas, made higher than it really is cannot be accepted as proof that it was not visible and correctly identified. Indian surveyors have long asserted that the Schlagintweits' scientific work is far from infallible.

\* 'India and High Asia,' vol. ii. p. 265.

† I have had General Walker's test applied to another of the Schlagintweit panoramas, that from Phalut, selecting two peaks whose outlines and relative positions are too well known to allow of any reasonable possibility of a false identification. The results, following Schlagintweit's chart, are as follows. From Phalut (12,042 feet), Kanchanjanga (28,156 feet), 33·5 miles distant, will have a vertical elevation (disregarding seconds) of 4° 59', Kabru (24,015 feet), and 27 miles distant, of 4° 38'. The true difference will be 21'. But the difference in the panorama is over 1° 40'. Therefore, according to General Walker's argument, the Kanchanjanga of the panorama is not that mountain. But this is absurd, for it obviously is. According to the figures given in 'India and High Asia,' vol. ii. p. 291, the distances are slightly greater, but not sufficiently so as to affect materially the results or the argument. Here Schlagintweit has obviously sacrificed scientific truth in order to make the loftier summit look its height.

General Walker's argument on this point appears to be based on the assumption that it is.\*

General Walker also points out that in the chart "the ray to Everest falls between the rays to XX. and XXI., which is impossible." This is true, but it may be the minor peaks which are wrongly identified. Any inaccuracy in the position assigned to Kaulia itself would help to produce such confusions in the lines drawn from it.

I cannot admit that General Walker has as yet finally overthrown H. Schlagintweit's identification, supported, as it is to some extent, by Mr. Hodgson's and other evidence. But I am very ready to allow that he has shown that it requires confirmation before final acceptance. Mr. Hodgson had twenty years' knowledge of the country, and those who have read the preface to Sir J. Hooker's 'Himalayan Journals' know how highly his scientific attainments are valued by a very competent judge. Whatever failings may come to light in the results of his scientific observations, Hermann Schlagintweit was a man of considerable mountain experience. I shall probably, and not unnaturally, be told that I overestimate the rude faculty gained by such experience. Possibly I do; but the faculty exists: just as the Highland shepherd knows his individual sheep, many mountaineers learn to recognise individual summits, and to estimate the difference between their heights. Eyes were made before instruments, and have done some service in their time. Parnassus was known all over Greece, and Olympus was the recognised "abode of Deity," long before theodolites were thought of. The alpine climber can distinguish Monte Viso or Monte Rosa from over 100 miles off, as surely as Leith Hill from the Brighton line. He could never for a moment from any distance confuse appearances so far as to mistake the "silver spearhead" of a great mountain for a "very moderate hill." But there are mountaineers who do not acquire this faculty. Hermann Schlagintweit may have been one of these exceptions. Both he and Mr. Hodgson may prove to be altogether wrong. If General Walker can find a respectable claimant for the name Gaurisankar other than "Everest," it will go far to settle the question. But what is now wanted is surely not disputation on documents from people who have never been on the spot, but the direct testimony of competent eye-witnesses. As yet the only direct evidence is all on one side. Before long some more data sufficient to settle the question ought to be forthcoming. What do the recent residents at Khatmandu, Mr. Girdlestone and his successor, say?

Meantime I would point out that Schlagintweit's testimony, even

\* Dr. Emil Schlagintweit informs me that his brothers' observations are recorded in detail in six MS. volumes in his possession, and that the original panoramas are now deposited at Munich. He has kindly sent me some extracts bearing on the two panoramas in question. The vertical angle obtained for "Gaurisankar" from Kaulia is not among them.



as to the name of the great peak, is not entirely unsupported. The authoress of 'The Indian Alps' (Longmans, 1876) writes as follows in describing a view seen from the Singalila track (p. 366):—

"Suddenly there is a loud and simultaneous exclamation of 'Deodunga! Deodunga! Gaurisankar!' from my attendants, all apostrophising it in their different dialects, as the magnificent spires of Mount Everest again burst unexpectedly upon the view."

Is this fact or feminine fiction? If the latter, it is strangely circumstantial, and the context makes it even more so. But I give the evidence with all reserve and for what it may be worth. For the general topography of the work is not of a character to inspire much confidence in the author's passion for "faultless fact."

Again, Sir Joseph Hooker, in his 'Himalayan Journals' (1854) describes the appearance from four points of what there can be no doubt was the group crowned by the 29,002 feet pinnacle.

"A white mountain mass of stupendous elevation, at 80 miles distance from Tonglo, called by my native people Tsungau, in about lat.  $27^{\circ} 49'$  and long.  $86^{\circ} 24'$ —perhaps the one measured by some of Colonel Waugh's party, and reported upwards of 28,000 feet—the only mountain of the first class between Gosaintan north-east of Katmandu and Kinchinjunga."

Two of his points of view are within eight miles of Sandakphu, mentioned by Colonel Tanner as the best view-point for the great mountain, and if the longitude given,  $86^{\circ} 24'$ , is thirty minutes out, Sir Joseph Hooker's estimate of its distance shows that the "2" is a misprint, and that "54'" should be read.

I am not prepared to assert that Tsungau = Sankar (or Sunkur, as H. Schlagintweit spells it in his MS.), although Mr. Hodgson, to whom reference has been made, is of this opinion; but here is proof, at any rate, that a native name was used for the group before that of Everest was assigned to its crowning pinnacle! And I may note also that the adjacent summit (XIII.) has had a native name, Makalu, found for it by the surveyors, despite its situation in the forbidden territory of Nepal, only twelve miles less distant.

I have put forward the facts as far as I know them, but I shall hardly be sorry if I fail in my argument, in so far as the assertion that Gaurisankar is the proper name for the great Nepal peak is contained in it. If I succeed in showing that the mountain has an appropriate native name, I shall consider my case won. And General Walker has, I consider, proved for me this—the material point at issue—by admitting a native name for the group, the noblest name man can give—Devadhunga, "The Abode of Deity!" Let me quote again his exact words:—

"The great mountain masses lying between the Bhotia Khosi and the Arun rivers, of which it (29,002 feet) is the highest pinnacle, are known to Nepalese and Tibetans by various designations, of which Devadhunga—the home of the gods—

may well be preferred as most in harmony with the religious instincts of the country, and also as known to Indians and Englishmen."

General Walker, however, proceeds:—

"But we do not know to what extent of region this name applies, whether to the whole mass or to a single peak, or, as is most probable, to a group of the most prominent peaks which are seen from Nepal and the British Provinces. What Waugh named was the pinnacle itself, not the general mountain mass, and for this reason he called it 'Mont Everest,' not 'Mount Everest.'"

Here, so far as I understand the Surveyors-General, I must join issue directly. I am confident that no one intimately acquainted with the growth of European mountain nomenclature will consider this plea valid. How can the loftiest pinnacle be sure of getting a distinctive name before science has ascertained that it is the loftiest? *Where it has none the proper and natural process is for the name first given to the group to be gradually confined to the crowning crest.* Thus the *Monts Roëses* (ice mountains) of earlier centuries have given a name to *Monte Rosa*. The same thing has happened in the *Bernina*, the *Adamello*, the *Presanella*, and *Rosengarten* groups within my own memory. A friend of mine was setting out from the shepherds' huts not so long ago to climb the noble *Monte della Disgrazia*. "Ma qui è la *Monte della Disgrazia*," said the shepherd when told his purpose.

What Sir A. Waugh meant by introducing the French form "Mont," what possible distinction can be imagined between "Mont" and "Mount," is altogether beyond me. If local usage is in question, *Mont* in the French Alps means sometimes a pasture (*Mont-en-vers*, *Mont-riond*), often a pass (*Mont Cenis*, *Mont Genève*, *Mont Iseran*, *Mont St. Bernard*), and less frequently a summit (*Mont Blanc*, *Mont Pourri*). In the Italian Alps, *Monte* distinguishes the spring and autumn meadows and pastures from the higher midsummer pasturages, the true *Alpi*. *Alpe* in Tuscan literature often means the top of an Apennine, as Dante critics ought to know. In literary use the French "Mont" and Italian "Monte" are equivalent to our word "Mount," as it is employed in Bible English and by English-speaking people in North America and New Zealand, as well as by the department over which General Walker himself presided during his presidency.\*

The true principle of geographical nomenclature is surely that set out by Sir A. Waugh and quoted by General Walker—that local and national appellations should prevail. Travellers are often far too prone to indulge their sentiments or their vanity, to attest their gratitude or their expectations, by engrafting exotic names on natural objects. The first requisite in geographical names is that they should be appropriate,

\* See index chart to the Great Trigonometrical Survey of India, compiled under the orders of Colonel J. T. Walker, Superintendent G. T. S., August 1870, corrected up to October 1881. Colonel Tanner, it will have been noticed (Report for 1884-5), adopts, contrariwise, the strange barbarism *Mount Blanc*.

that they should in themselves announce their locality and indicate some natural characteristic or human connection. Where the English race has supplanted its predecessors it has a fair claim to introduce its own names, though not to the extinction of such as already exist. Aorangi (the heaven-piercer) ought to have been left as the title of the loftiest of the New Zealand Alps, while Cook found more appropriate commemoration in some cape or harbour. But Mount Darwin and Mount Hooker are not out of place as secondary summits. The "icy privacies" of the Poles offer a very suitable field for the immortalisation of sovereigns and sailors. Uninhabited islands lie naturally at the mercy of their first discoverer's imagination—or want of it. But in the historic highlands of Asia, amidst the relics of peoples and languages that carry us far back in the story of humanity, such inventions as the "Tsar Liberator Mountain" or the "Columbus Range" are too sadly out of place. The Russians, indeed, have been great offenders in this matter. In the Caucasus they have substituted Elbruz and Kazbek—the latter the name of a petty chief—for the local names Minghi Tau and Mquinvari, in the former case introducing an unlucky confusion with the Elburz of Persia. They have put a Balkan Range east of the Caspian! *Mount Everest* (dropping the meaningless Gallicism) stands, I admit, on a different footing and has far more to be said in its favour. If there is in the name at first sight something "bizarre et presque choquant," the impartial geographer must, with Reclus, soon remember that the Great Survey of India is in itself an historical fact deserving commemoration. As far as I know its authors have made but this one exception to the observance of the good rule of adopting a native name where they could, and waiting for one where one was not at once forthcoming. Had they chosen any other summit for the exception, their discretion would hardly have been questioned.

Practically, perhaps, the matter at issue may seem a very small one—a mere matter of convenience and tastes. But ethnologically and historically it has considerable interest. Shall the greatest mountain we know stand for ever as a monument of the religious faith of the human race? Or shall the space-searching watchman who looks down over the valleys of Nepal and the plains of India light his fires at sunrise and at sunset to celebrate no greater thought and no higher fame than that of a most meritorious mathematician?

Mr. John Ball wrote some years ago:

"With the highest estimate of the services of General Dufour as director of the admirable Swiss Survey, the writer does not believe that the name of any individual can remain permanently attached to the highest peak of the second mountain in Europe."

*Mutatis mutandis*, I adopt these words in the present case. And in what has taken place in Europe we may find a practical and peaceful solution for the similar question that has arisen in Asia. In a few large official

maps and Swiss books, *Dufourspitze* maintains a somewhat obscure existence; but the great public—"the poets too"—know, and will continue to know, the mountain as Monte Rosa. What would have happened if Byron, and Coleridge, and Shelley had had to write of Mont Paccard (the suggestion was actually made) or Mont Saussure instead of Mont Blanc? Fancy Tennyson's lines converted into

"How faintly flushed, how phantom fair,  
The Dufour Spitze was hanging there!"

English and foreign geographers will, I still think, be well advised to hold to a native name for the highest measured peak, whether Gaurisankar or Devadhunga, time must decide. General Walker, if his authorities are correct, has in my opinion clearly and convincingly proved, according to the canons which have decided the naming of European mountains, the applicability of Devadhunga; he has weakened on one point, without meeting—as a whole, the case for Gaurisankar; while in producing "Mont Everest" as the official substitute, he puts forward a nondescript phrase, which will only be accepted by Englishmen when they begin to talk of Mont Sion and Mont Skiddaw.

It remains for me to add a few words with regard to the published plates of the East Nepal group as seen from different points on the Singalila spur. According to the maps issued by the Indian Government and Colonel Tanner's paper, the culminating summit "gradually becomes hidden behind Makalu as one proceeds north along the Sandakphu ridge, and does not reappear until the foot of Kubroo is approached." I cannot agree with General Walker ('Proceedings,' Feb. 1886, p. 91) that these words necessarily imply that "Everest" is already completely eclipsed at Phalut.\* In the first place, we must know exactly where Phalut is, a preliminary point which deserves some attention. Schlagintweit identified his Phalut with Singalila, and Hooker's with Sandakphu. Anyhow that station is not, as the late Surveyor-General's phrase may suggest, nearly half-way between Sandakphu and Kabru, but (by Captain Harman's map) one-quarter of the way, or only some eight crow's miles from Sandakphu. Captain Harman's sketch shows that the two peaks are seen apart from Tiger Hill, and, assuming his sketch-map to be correct, they must *à fortiori* both be visible from Phalut, and

\* The position of Phalut is variously given. My remarks above apply to the first position. They would be strengthened if one of the others is correct. Its position on Captain Harman's sketch-map is inconsistent with the sketch from Tiger Hill issued on the same sheet in which Phalut is shown immediately on the right of Makalu.

Schlagintweit, 1861 (= Singalila? See 'India and High Asia,' vol. ii. p. 291) .. .. .	{ Lat. 27° 13' N. Long. 87° 59' E. }
Harman and Walker, 1882 .. .. .	{ Lat. 27° 11' N. Long. 87° 57' E. }
Hooker, 1854 (= Sandakphu? 'India and High Asia,' vol. ii. p. 290) .. .. .	{ Lat. 27° 6' N. Long. 88° 3' E. }
Indian Map: 'N.E. Frontier, Bengal,' 1865 .. .. .	{ Lat. 27° 6' N. Long. 88° 2' E. }

the total eclipse of the higher must take place near the Singalila summit slightly farther north. I am disposed to believe, after a careful comparison of the two views taken by Hermann Schlagintweit, from Phalut itself and a lower point farther south-east, with the sketch from Sandakphu by Mrs. Brandis, published under Captain Harman's and General Walker's authority in 1882, that the prominent peak in the Schlagintweit plates is Makalu, and that what is there represented as its southern spur is in reality the 29,002 feet peak. The panorama is obviously more exact in detail than the chromolithograph, and the former supports this impression. It is further confirmed by the disappearance of the spur in the drawing taken farther north by Colonel Sherwill (see R. A. S. of Bengal's Journal for 1853). It is rendered almost a conviction by the picture from Colonel Tanner's drawing, in the possession of Mr. Graham, and reproduced in the illustration p. 216. The places in question, however, are so near Darjiling that there can be no difficulty, if I am wrong, in proving my error, and ascertaining what is the exact spot on the ridge between the Sandakphu and Singalila summits at which the monarch of mountains disappears.\*

With regard to the second part of General Walker's note—that, referring to the distant peaks stated to have been seen beyond the 29,002 feet summit by Mr. Graham and Herr Boss from Kabru—there is only one sentence on which I desire to comment. It runs as follows:—

"Nothing corresponding at all closely to the two peaks is to be met with in the maps of the Trans-Himalayan explorers, but the 'one snow' may very properly be identical with the 'very high snow peak' west of 87°, which was seen by Pandit No. 9 on the Tibetan range, north of the Dingri plateau, in much the same direction from Kabru, but about 50 miles nearer than estimated by Messrs. Graham and Boss; the 'one rock' has no representative in the Pandit's map, though a pinnacle higher than Mont Everest, and so perpendicular as to be bare of snow, must have been a very remarkable object which should not have escaped the Pandit's notice."

I have consulted the following maps: 1. Route Survey from British India into Great Thibet, compiled by Captain Montgomerie. Report on Trans-Himalayan Explorations, 1867. 2. Map from a Route Survey made by an Asiatic explorer, compiled by Major T. G. Montgomerie, in the Report of the G. T. S., 1871-2. 3. Transfrontier map, sheet No. 9, compiled by General Walker and Major Montgomerie, 1882.

In No. 1 map a great nameless peak is shown in lat. 29° 14' N. and long. 86° 20' E., 150 miles distant from Kabru. About 224 miles distant, in lat. 29° 32' N., long. 85° 53' E., "Hurkiang, a very high snowy

\* I should mention that to avoid complicating the discussion I have confined my remarks to the two names already partially received into European literature, and made no reference to other native names for the mountain mentioned by Mr. Hodgson. Amongst the independent authorities in addition to Petermann and Reclus who have used the name Gaurisankar, I may mention Andrew Wilson, 'Abode of Snow,' Count Goblet d'Alviella, 'Inde et Himalaya,' M. de Déchy, in 'Petermann's Mittheilungen,' Dr. Balfour, 'Cyclopedia of India,' 3rd ed. 1885, and Professor Keane, 'The Earth,' 1886.

peak, is shown. On map No. 2, a "very high snowy peak," that referred to by General Walker, is shown south of the Sanpo, in lat.  $28^{\circ} 47' N.$ , long.  $86^{\circ} 55' E.$ , at a distance from Kabru of 112 miles. Another lofty peak is indicated about 20 miles further east. Beyond these appear the great nameless peak of No. 1, now called the Gela Peak, and in lat.  $29^{\circ} 27' N.$ , long.  $85^{\circ} 47' E.$ , the Gnangla Peak, 180 miles distant from Kabru. On map No. 3 all these peaks are shown in the same positions.

The distance of "Mont Everest" from Kabru is 78 miles, add "80 to 100," Mr. Graham's estimate of the further distance of the peaks seen ('Proceedings,' vol. vi. p. 439) and we have 158 to 178 miles. The Gela and Gnangla peaks would therefore, so far as distance is concerned, correspond best with Mr. Graham's final guess. The two peaks south of the Sanpo will, however, in my opinion, most probably prove to be the summits seen, for Mr. Graham in a letter, written while his impressions were fresh, describes the two peaks as on "the true watershed," and "at least 50 miles further than Everest."—('Proceedings' R.G.S., vol. vi. p. 69).

I must guard myself against being supposed to rely on the exactitude of impressions and "rough guesses" founded on a very hurried glimpse. But it will hardly be questioned that the inquiry how far the official maps, founded on the reports of native explorers, the only other evidence in the case, confirm or contradict these impressions, is an interesting one; and this being allowed, it is obviously desirable that its result should be completely stated.

My second remark is of no importance except in so far as it may serve to show how desirable it is that writers on the Himalaya should accept common Alpine terms in the sense in which they are employed in Europe, and how easily misunderstandings may arise—not all of them unimportant—when they do not. Mr. Graham wrote in the 'Proceedings' of "two peaks, one rock:" General Walker paraphrases "one, bare of snow," and founds comments on this paraphrase. Alpine climbers do not generally use the expression "rock-peak" to denote a summit bare of snow. The Dent Blanche is a rock-peak, but, as its name implies, it is very far indeed from being bare of snow. Definitions are proverbially difficult, but I think most mountaineers would agree with me that a "rock-peak" is a summit, of which the ridges which form its characteristic outline are mainly rock, and on which such snow as lies is plastered to its crags and does not form part of a *névé*.

*Note on the Illustrations* (p. 216).—The figures inserted in the extract from H. Schlagintweit's panorama from Phalut represent the probably erroneous identifications he introduced. There appears to me no room for doubt, on a comparison of his outline with that taken from the picture based on Colonel Tanner's sketch from Sandakphu, that the same group and the same peaks are represented in both, and that the peak marked 29,002 feet by H. Schlagintweit is Makalu, and the point seen to the south of it in both outlines the 29,002 feet summit.

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