
Geography and History

The Exploration of the Nepalese Side of Everest

MICHAEL WARD

(Plates 50-54, 64)

After finding a feasible route to the summit on the First Everest Reconnaissance Expedition of 1921, all attempts on Everest in the 1920s and 1930s failed within about 1000ft of the summit. Each expedition was well organised and led and the climbers very capable of overcoming all the technical mountaineering difficulties, yet the altitude barrier frustrated success.

Pre-war expeditions were restricted to the northern, Tibetan side of the mountain, as the southern, Nepalese side was forbidden to all foreigners. When Tibet closed her borders in 1950, all access to the mountain would have been banned had it not been for the opening of Nepal a few months earlier in 1949. This was the result of a bloodless revolution that overthrew the power of the hereditary Rana family of Prime Ministers and put the King firmly on the throne. The Ranas had realised that, following the end of the British Raj in India in 1947, contact with the outside world was needed to offset Indian domination of the southern border of Nepal. It was under their auspices that H W Tilman and Peter Lloyd, with O Polunin, a well-known botanist, and J S Scott, a geologist, visited the Langtang Himal in 1949, the first party to carry out any mountain exploration in Nepal.¹

This revolution also provided the first opportunity to explore the remote and complex Nepalese side of Everest and, if possible, to find a new route to the summit. If this were accomplished, the need for a solution to the altitude problem would be a matter of considerable urgency. However, in 1949 geographical knowledge of Nepal was scanty and of the Nepal Himalaya it was almost non-existent.

Topography of Nepal

The first attempt at a formal survey in Nepal was carried out by Charles Crawford between 1801 and 1804. He was a member of the staff of the first British Resident in Kathmandu, Captain William Knox. Crawford calculated the latitude and longitude of Kathmandu and produced a large-scale map of the valley. He was also the first to survey the hills surrounding the valley and to give some indication of those peaks of the Nepal Himal that are visible from the city. Finally, he drew a small-scale map of the whole country based on information provided by native travellers. In 1804 Knox and his staff were forced to leave Kathmandu, and Anglo-Nepalese relations deteriorated. Some years later a British Resident and a small entourage were allowed back to represent the

United Kingdom in Kathmandu, but no visitors were allowed into the country and only on very special occasions were any allowed outside the confines of the valley of Kathmandu. Despite a general improvement in external relations, Nepal remained a closed country for over a century.

However, for some years officers of the Survey of India had been carrying out a routine check of peaks visible from the plains of India, and by 1848 it was becoming apparent that Peak XV on the Nepal–Tibet border was an extremely high mountain. After a great deal of cross-checking it appeared certain that this was the highest mountain in the world. Following consultation with the Government of India, Lt Col A S Waugh, the Surveyor General, wrote a formal letter, dated 1 March 1856, to the Royal Geographical Society from Dehra (Dehra Dun). In this he gave the final coordinates of this mountain and a height of 29,002ft, the average of seven readings. Believing that there was neither a local name nor a native appellation² of the mountain, Waugh suggested that the peak should be named 'Everest' to perpetuate the name of his respected chief and predecessor Colonel George Everest, the founder of the Indian Trigonometrical Survey. In fact the Tibetans of the Rongbuk valley had already named the peak 'Chomo-langma',³ but Waugh did not know this, any more than the Tibetans knew that the peak was the world's highest mountain. (For information about the native name for Everest, and the controversies, see Burrard and Hayden.⁴)

In 1855 Hermann Schlagintweit identified Everest, and painted it from Phalut on the Singalila ridge that runs south from Kangchenjunga (Plate 64). Two years later, in 1857, he climbed a small hill, Kaulia, in the Kathmandu valley and from there saw a mountain which Hodgson, the British Resident in Kathmandu, called 'Devadhunga'. Schlagintweit identified Devadhunga as Everest, but certified the local name as 'Gaurisankar'. This was the name he gave to the mountain in his painting from Phalut, but that peak is clearly Makalu, the dominant peak from this viewpoint.⁵ Although some mountaineers and geographers used the name 'Gaurisankar' rather than 'Everest', the Survey of India neither accepted this name nor its position and later showed that these were separate peaks. Waugh tried unsuccessfully to get surveyors into Nepal in 1860 to resolve this problem and identify other mountains of the Nepal Himalaya.

In the early 1870s a member of the Kathmandu Mission wrote: 'the country except for 20 miles around the Capital is as unknown to Europeans as it was 50 years ago.' Wright, the Residency Surgeon in Kathmandu for 10 years, described Nepal as 'a country where every enquiry made by a European is viewed by the most jealous suspicion, where the collection of statistics is looked on as mere folly and where above all Baron Munchausen himself would have been considered a marvel of accuracy and truthfulness'.

The Pundits: Hari Ram

The Topography of Nepal could only be studied secretly, using the 'pundits', secret native surveyors of the Survey of India, who were engaged in making route maps and gathering information about Central Asia and Tibet. Hari Ram,



50. *Left* Photo taken on the 1935 Mt Everest reconnaissance expedition from the col between Pumori and Lingtren Peak. The letter B represents a height in the Cwm approximately equal to that from which the photo was taken. (*L V Bryant*) (p213)



51. *Right* Photo taken probably in 1945 from a plane from 684 Squadron, showing N face of Lhotse, South Col, Geneva Spur; a mosaic from three photographs. (p213)

52. *Below* Photo taken on the 1936 Mt Everest expedition from the Lho La, showing the Khumbu icefall in profile, the upper part of the Khumbu glacier and Nuptse. (*E G H Kempson*) (p213)



whose code-names were MH and No 9, was the pundit chosen by Col T G Montgomerie, who was in charge of the Trans-Himalayan Native Explorers of the Survey.⁶ Hari Ram was a Hindu from Kumaon who entered the service of the Survey in 1868. In that year he was able to go within 50 miles to the north-west of Everest and in doing so clarified details of the Himalayan watershed that lay out of sight behind the ranges visible from India. Unfortunately, he was apprehended by a Tibetan official and forced to leave the area. Although it is not clear whether Hari Ram was asked to identify the mountain on his various trips to the Everest region in the next few years, it would be likely that this was the case in view of the interest in the mountain expressed in Waugh's letter of 1856.

In 1871, while trying to cross into Tibet from Sikkim, Hari Ram was again detained but luckily was able to ingratiate himself with the Sikkimese official, whose wife was ill. Montgomerie always supplied his agents with some medicines and Hari Ram also had a Hindi translation of a medical text with him. By matching up symptoms described in this book he was able to give the appropriate drugs and awaited the result with not a little trepidation. To his astonishment the woman made a rapid recovery, whereupon the official provided Hari Ram with a companion to vouch for him. They proceeded into Tibet, reached Shigatse on 17 September and continued to Tengri. Here, fearful of being trapped by winter snows, Hari Ram headed for Nepal by the Kuti Pass, arriving in Kathmandu in January 1872.

Several years later, in 1885, after another journey to central Nepal when he visited Mustang, Hari Ram was instructed to proceed north through Nepal, following the Dudh Kosi river to Sola Khumbu, and then to cross the Himalaya to Tengri. He arrived at the residence of the governor of Khumbu in mid-August, and initially he was not allowed to cross the Himalaya by the Pangu Pass (Nangpa La), as it had never been crossed by a 'Hindustani or Gurkha'. Again his medical skills helped him: he was able to cure the governor's daughter-in-law of goitre, although by what means is not known. The lady's husband was indebted to him, and Hari Ram was allowed to join his caravan which crossed the Pangu La (20,000ft) and descended to Tengri.⁷ This pass, now called the Nangpa La, is crossed throughout the year (except during the winter months) by whole families trading between Nepal and Tibet. It enables yak herders in south Tibet to gain access to the softer climate of Sola Khumbu where yaks breed better. From Tengri in Tibet the pass is a wide gap in the frontier peaks, and it is an easy gradual climb; from Nepal the approach is narrower and steeper. Although Hari Ram passed within 15 miles of Everest on this occasion, he made no mention of having seen a particularly high peak during his travels. From Nepal, Everest is by no means a dominant peak, being hidden behind the Lhotse-Nuptse ridge, whereas from the plains of south Tibet it stands out, a dominant obelisk, dwarfing its neighbours.

Other Travellers and Surveyors in Nepal

In 1903 Henry Wood of the Survey of India was permitted to enter Kathmandu valley for the special purpose of observing the principal peaks and to discover

and check their names. He distinguished between Everest (Peak XV) and Gaurisankar (Peak XX), as Everest is not visible from Kathmandu. In 1907 a single surveyor, Natha Singh, unaccompanied by a European, was allowed to make a hurried visit to the Upper Dudh Kosi river to sketch the southern slopes of Everest; he delineated the southern end of the Khumbu glacier. In 1908 the Prime Minister of Nepal and the British Resident in Kathmandu, Major J Manners-Smith VC, discussed a joint British–Nepalese expedition to Everest, and in 1909 the Nepalese Durbar was prepared to permit this, but at the last moment the British Government judged the venture to be inexpedient and preparations were abandoned.⁸

Up to 1924 the only map of Nepal was derived from native reports and route surveys by Indian explorers. However, in 1924 the Survey of India managed to obtain permission from the Government of Nepal to send in British-trained native surveyors, though neither British officers nor photographs were allowed. Between 1924 and 1927 about 55,000 square miles of Nepal were surveyed – the mountainous border regions being the least accurately depicted.⁹ The quarter-inch Survey of India map gives reasonable detail up to glacier level, but it was not until 1929 that it was thought that representation of the glaciated regions of the Himalaya should be improved to meet the requirements of glaciology.¹⁰ This did not apply to the Nepal sheets, as the Survey there ended in 1927.

Although Nepal was closed to Europeans, a retired Nepalese army officer, Major Lal Dhwoj, made a fairly extensive botanical survey of Sola Khumbu and the Rolwaling district in 1930 and his work was continued in 1933 by another Nepali, K N Sharma. An Indian, M L Banerjee, made five pre-monsoon visits to east Nepal between 1948 and 1955, but although he went to Khumbu his route is not known.¹¹ As far as is known, no mountaineering party visited Khumbu until 1950 when an American group went to the area.

American Expedition 1950 to Sola Khumbu

In May 1950 Dr Charles Houston was asked by the journalist Lowell Thomas to accompany his party on a second visit to Lhasa. Thomas had broken a leg there the year before and felt that a doctor was necessary. In the course of this visit Houston was to convey the new medication, cortisone, to Reginald Fox, a clandestine radio operator sending messages from the northern Tibet border to the free world. Fox had developed severe rheumatoid arthritis and George Merck (head of the company of that name) donated a valuable amount of cortisone for this purpose. Unfortunately, as the Thomas party was about to leave, word came that they could not go to Lhasa because the Chinese communists were there.

Meanwhile, Houston's father Oscar Houston, a New York lawyer, had obtained permission to cross Nepal and look at the south side of Everest, and he invited his son Charles to accompany him, together with Elizabeth Cowles and the American Anderson Bakewell of Kurseong, near Darjeeling. While in Kathmandu, Oscar Houston met H W Tilman, who had been climbing in the Annapurna and Langtang Himal,¹² and Tilman was invited to join the group.



53. *Above* Photo taken from near Kala Pattar (18,000ft) in 1950 showing upper part of SW face of Everest, the W ridge, the lowest part of the icefall, Lho La and North Peak. The South Ridge of Everest running up to the South Col is not visible. (*H W Tilman*) (p213)

54. *Below* Aerial photo taken in 1945 from a plane of 684 Squadron, showing the Kangshung Face of Everest, South Ridge, SW ridge in profile, South Col. The South Summit is clearly seen, as is the Hillary Step and the upper part of the NE ridge. (p213)



Charles Houston already knew Tilman – he had climbed with him on Nanda Devi in 1936. Having no map, the party had some difficulty in finding the approach to Everest, but eventually Charles Houston and Tilman arrived at Thyangboche and went up the Khumbu glacier to Kala Pattar at about 18,000ft. Here they took some photographs (Plate 53) showing the summit ridge, the upper part of the SW face, and the lowest part of the icefall. These also showed what they wrongly thought was the upper part of the South Ridge falling to the South Col, but in fact it was another spur falling from the South Summit direct to the Western Cwm.

They could not see the lower part of the South Ridge, nor into the Western Cwm, nor the slopes of the N face of Lhotse leading to the South Col. Neither were well acclimatised and suffered severely from mountain sickness, probably with mild cerebral oedema, so after crossing the Khumbu glacier they descended the same day.

Neither followed up this tantalising glimpse of the route by which Everest would eventually be climbed, Houston because he was already locked into organising the third American expedition to K2, and Tilman because he felt that the Himalaya had become, for him, 'too high and too large'. Later, both were very pessimistic about a feasible route along this approach because of the dangers of what they had seen of the icefall and the unlikelihood of finding a safe way round this.¹³ But Tilman did not entirely rule out the possibility of an ascent from the south once the portion of the route between the head of the Western Cwm and the slopes leading to the South Col had been seen and assessed.

Topographical Research in the UK (1951): Evidence of a New Route

The pessimistic view of the possibility of a route up the Nepalese side of Everest held by Houston and Tilman was not shared by a group in the UK. W H Murray, who lived in Scotland, had just led a party to the Garhwal Himal, and Michael Ward, an RAMC officer attached to the Brigade of Guards in London while doing his National Service, were keen to mount an expedition, with Murray as leader. They were joined by Tom Bourdillon, a rocket physicist, who, with Hamish Nicol, had just made the first British ascent of the N face of the Dru. Two other members of the group were Campbell Secord, a Canadian economist, and Alfred Tissieres, a Swiss biochemist, who had climbed together in the Himalaya – but they had to drop out.¹⁴ Charles Evans was also asked to join the party but had to refuse because of his surgical duties in Liverpool.

Ward searched in the archives of the Royal Geographical Society and elsewhere for photographs of this unknown Nepalese side of Everest to back up the party's assumption that a route was possible from the south. Initially this seemed an impossible task, but in early 1951 three photographs taken on pre-war Everest expeditions were found. The first was a poor one taken by Mallory in 1921 from the col between Pumori and Lingtren Peak, which showed the icefall and the entrance to the Western Cwm. The second was a similar but better photo taken by L V Bryant on the 1935 reconnaissance expedition from

the same position (Plate 50), A third photo had been taken by Kempson on the 1936 expedition when, with Gavin,¹⁵ they visited the Lho La on 11 June of that year (Plate 52). All these photos suggested that the icefall would be a formidable and dangerous problem.

Working on a temporary basis in the Royal Geographical Society was Ian Mumford, later of Military Survey,¹⁶ and with his help Ward was able to see many of the photographs taken on the 1933 'Flight over Everest' which flew over the Nepalese but not the Tibetan side of Everest. Surprisingly, only one or two of these photos were of any use. The most important were those of the Kangshung (E) Face, which showed the South Ridge falling from the summit to the South Col. Many details, however, were not clear. Another batch of photographs was taken on an unofficial flight over Everest in 1947 by Flight-Lieutenant K D Neame, a member of No 34 Squadron, a photo-reconnaissance unit, with Spitfire XIX aircraft, and deposited in the Royal Geographical Society archives in 1948. These gave much better detail of the South Ridge and South Col,^{17,18} Photographs taken on this flight appear, without attribution, in the front of Shipton's book *The Mount Everest Reconnaissance Expedition 1951*. Details of the N face of Lhotse, rising from the head of the Cwm to the South Col, were finally seen in a photograph taken probably in 1945 on another unofficial flight over Everest by a pilot of No 684 Squadron (Plate 51). A further photo taken by this Squadron showed more detail of the South Ridge from South Col to summit (Plate 54). Thus, after a few months' research, there were photographs available of each step of a possible route up the unknown Nepalese side of Everest, from the icefall to the summit.

It was now learned that H F Milne, Chief Draughtsman of the Royal Geographical Society, and A R Hinks, FRS, a mathematician and cartographer and former Secretary of the Society, had constructed a map of both the N and S sides of Everest, based on Michael Spender's photogrammetric survey of the Tibetan side on the 1935 Everest reconnaissance expedition and the many aerial photographs taken on the 1933 'Flight Over Everest' expedition. This map had been compiled between 1933 and 1945 at the Royal Geographical Society and was subsequently lithographed and exhibited at the 17th International Geographical Congress in Washington DC in 1952 and at the 1990 exhibition of maps at the RGS for the Sir George Everest Bicentennial Meeting. At 1:50,000, with many spot heights, it was an astonishingly accurate and artistic piece of work, given the mathematical difficulties of interpreting the aerial photographs of 1933 on the Nepalese side of Everest and reconciling them with Spender's work on the northern (Tibetan) side of the mountain. A photostat copy of the original compilation was discussed with Murray and taken by Ward on the 1951 Everest reconnaissance expedition. Thus, before the party left the UK, Murray, Shipton and those who planned the expedition had considerable photographic and cartographic knowledge of the mountain.¹⁹ Despite these detailed preparations, the Joint Himalayan Committee of the Alpine Club and Royal Geographical Society, which had been responsible for mounting all Everest expeditions since the first one in 1921, remained distinctly cool and sceptical towards this latest initiative. (Further unpublished and historically interesting material about this possible new route on the Nepalese side of



63. *Pays de Valais*, watercolour by John Robert Cozens 1752–1797. (Reproduced by permission of the Fitzwilliam Museum, Cambridge.) (p203)



64. *View from Phalut on the Singalila ridge*, painted in 1855 by Hermann Schlagintweit. He thought that the mountain was Everest, but in fact it is Makalu. (From the Royal Geographical Society archive, by permission.) (p213)

Everest, together with the provenance of the Milne-Hinks map and photographs, are discussed in the *Geographical Journal*.²⁰⁾

The Mount Everest Reconnaissance 1951

In June 1951, when Eric Shipton returned to the United Kingdom from a diplomatic appointment at Kunming in SW China, the group who were planning to participate in this expedition consisted of Murray, Bourdillon and Ward. Although Cam Secord had previously dropped out, he was still taking an active part in the preparations for the expedition and it was he who invited Shipton to lead the group. Shipton's reputation was such that Murray was happy to stand down as leader but continued the active organisation. Having so recently returned from communist China, Shipton took about a month to make up his mind to accept the invitation. The deciding factor seems to have been an unfulfilled wish to visit Sola Khumbu rather than a conviction that Everest could be climbed from Nepal. Shipton insisted that the Joint Himalayan Committee of the Royal Geographical Society and Alpine Club should become involved in what until then had been a private venture. This was arranged when *The Times* agreed to finance the Committee's support of the expedition, and thus its financial problems were solved.

Before the party left the United Kingdom, and following representations from the New Zealand Alpine Club, Shipton decided to strengthen the group with the addition of two members of a New Zealand party who were currently climbing on Mukat Parbat in the Garhwal Himal, as he had been greatly impressed by the performance of L V (Dan) Bryant, a New Zealand mountaineer on the 1935 Everest reconnaissance expedition. The group were therefore joined in Nepal by Ed Hillary and Earle Riddiford. Their presence was a great asset, for not only were they extremely fit and mountain hardened, but the skills they had acquired and developed in the New Zealand Alps were particularly suited to the Himalaya.

Before attacking the Khumbu icefall, Shipton and Hillary gained a high vantage point at just over 20,000ft on Pumori from which they were able to see the way clear to the South Col. A direct ascent from the head of the Western Cwm appeared to be a viable possibility, but the N face of Lhotse was also clearly visible, and an ascent of this followed by a traverse to the South Col was another feasible proposition. On the back of Ward's copy of the Milne-Hinks map, Shipton drew the first sketch-map of the lower part of the Western Cwm. This showed the relative positions of the South Ridge of Everest (in fact the SW ridge), the N and very steep ridge of Nuptse, the curve of the Khumbu glacier, and the position of the hanging glaciers on either side of the icefall.

The party climbed the Khumbu icefall but were prevented from going to the end of the Western Cwm and looking closely at the Lhotse face by a very wide crevasse which stretched from one side of the Cwm to the other. The group were equipped extremely lightly and had already lost some tents and equipment on the march in while making a dangerous river crossing during the monsoon.

The expedition now split up and carried out a great deal of exploration to the E and W of Everest. Hillary and Riddiford returned to Kathmandu via the Tesi

Lapcha Pass and the Rolwaling Himal, while Shipton, Ward, Bourdillon and Murray confirmed the position of Gaurisankar (Jobo Tseringma), 23,440ft and Menlungtse (Jobo Garu), 23,560ft. Although the 'true' Gaurisankar was marked on the quarter-inch Survey of India map, the higher peak to the E was given a spot height only. It was named 'Menlungtse' after the stream that flowed along its foot. The Menlung La that provided access to the Gaurisankar-Menlungtse group was noted as a possible future physiology campsite, as it was high and relatively close to Namche Bazar. Meanwhile, Bourdillon and Murray visited the Nepalese side of the Nangpa La, the first Europeans to do so.

The discovery of a new route on the unknown Nepalese side of Everest was the result of a few months' search in the archives of the Royal Geographical Society, followed by confirmation in the field. By contrast, the solution of the high-altitude problem by Griffith Pugh and his colleagues at the Medical Research Council, in the laboratory and in the Everest region on Cho Oyu in 1952, was the culmination of years of toil. It changed the face of Himalayan exploration and high-altitude mountaineering by providing it, for the first time, with a clear, logical and scientific basis.

The solution of the high-altitude problem of Everest will be the subject of a further article in the *Alpine Journal* in 1993.

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ACKNOWLEDGEMENTS

I would like to thank Peter Clark, Keeper, Royal Geographical Society, W H Murray, Sir Charles Evans, A E Gregory, W G Lowe and Peter Lloyd for their help in preparing this article.