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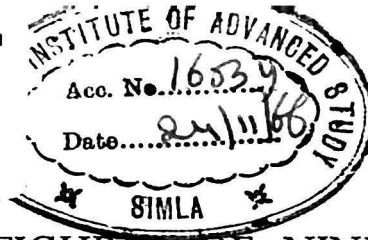
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GREAT FIGURES OF NINETEENTH-CENTURY HIMALAYAN EXPLORATION

By LIEUT.-COLONEL KENNETH MASON, M.C.,
late Professor of Geography at Oxford University

A lecture given to the Royal Central Asian Society on March 28th, 1956; Mr. C. A. P. Southwell, C.B.E., M.C., in the chair.

When introducing the lecturer, Mr. C. A. P. Southwell, Vice-Chairman of the Society stated:

It gives me great pleasure to welcome Professor Mason. We are honoured to have so distinguished a geographer to address the Society.

It is a long time since Professor Mason was awarded the Founder's Gold Medal of the Royal Geographical Society. He is already known to many here as Founder Editor of the Himalayan Journal and a member of the pre-war Mount Everest Committee.

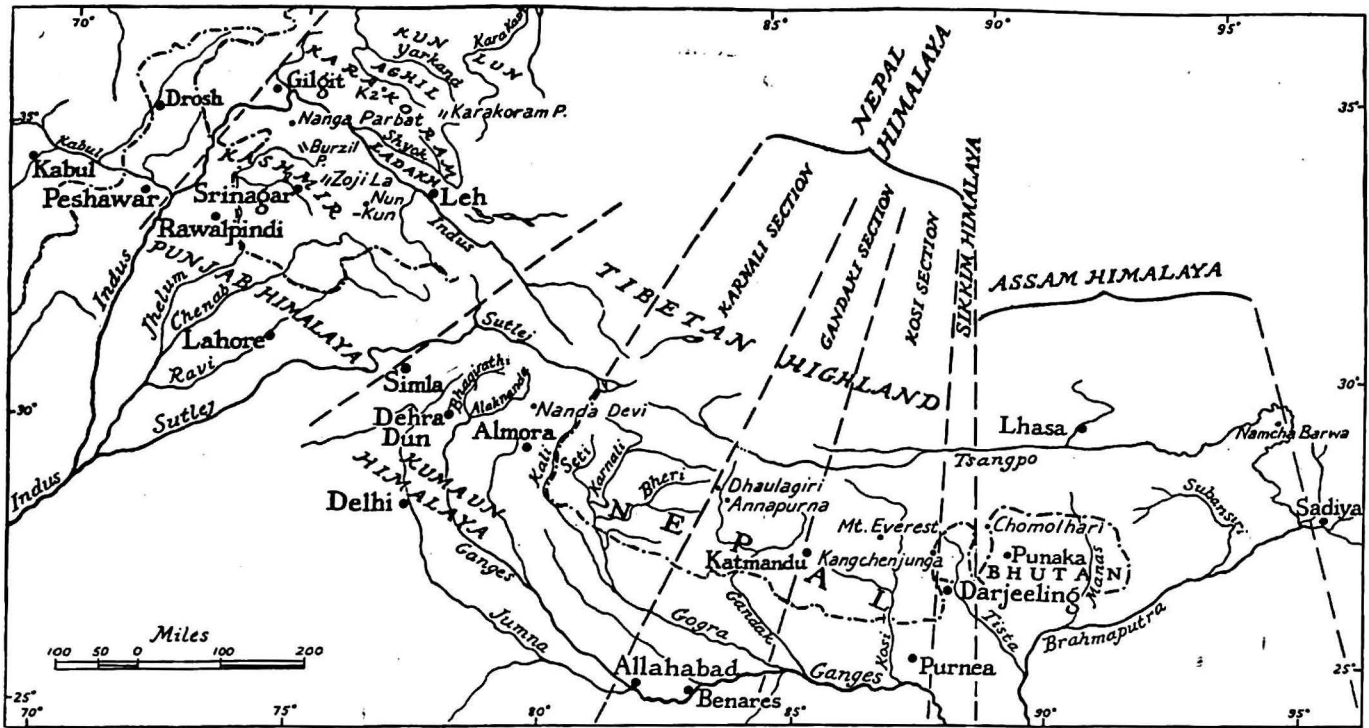
Professor Mason has recently written the only completely authoritative book on Himalayan Survey and climbing (see footnote). Until recently he was Professor of Geography at Oxford University after his retirement from the Army and 25 years service with the Survey of India: Professor Mason.

YOU will not expect me before this audience to give you a geographical account of the Himalaya. Many of you have doubtless travelled there. I will therefore merely introduce my talk by saying that geographers divide these great ranges into three zones from the Ganges plains to Tibet: (i) the Siwaliks and Duns; (ii) the Lesser Himalaya; (iii) the Great Himalaya. For convenience, partly geographical and partly historical, we also divide them between the Indus on the west and the Tsangpo Gorge on the east into five sections: (i) the Punjab Himalaya; (ii) Kumaun Himalaya; (iii) Nepal Himalaya; (iv) Sikkim Himalaya; (v) Assam Himalaya.

The Karakoram, generally associated with the Himalaya, is strictly speaking trans-Himalayan, but its exploration and history is so closely allied to the Himalaya that it is included.

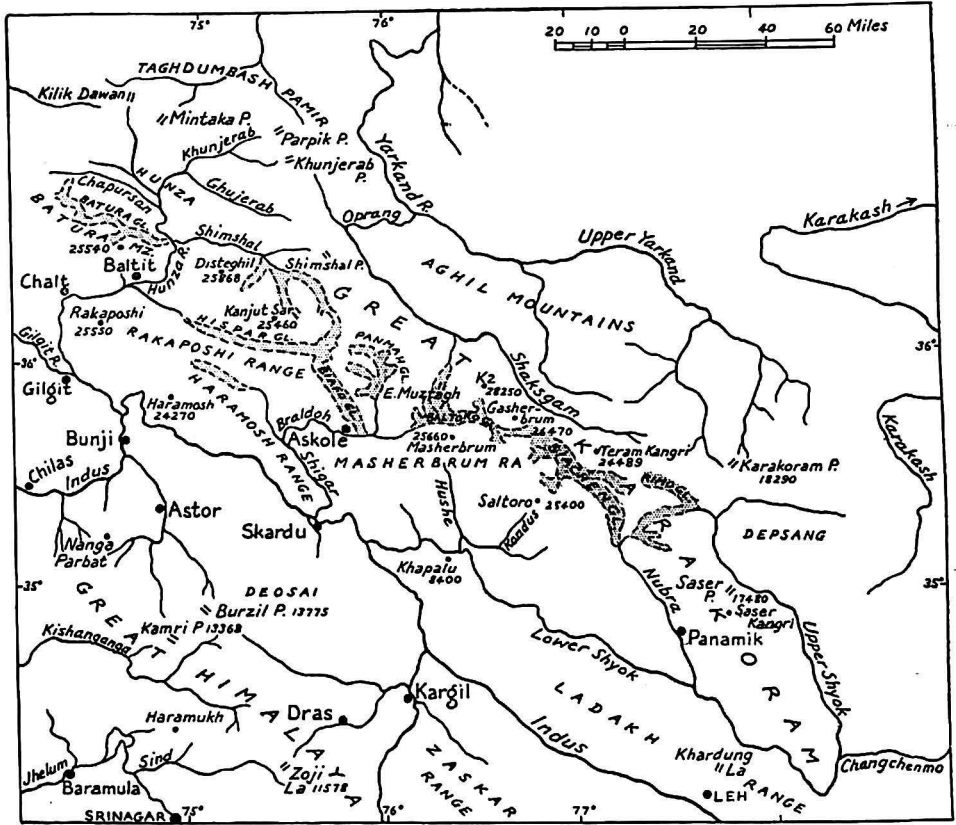
Himalayan exploration is interwoven with the political history of the British in India, and by this I mean British officials, both civil and military, on duty and on leave, have been largely responsible for it. It is quite time (now that the task of the British in India is finished) that some tribute is paid to them. So many of their doings are hidden in departmental files and official reports that the traveller and mountaineer of today and tomorrow can hardly be blamed if he does not know how much he owes to the pioneers.

One has only to look at James Rennell's Map of Hindoostan, first published in 1782, or his subsequent map of "The Countries situated between Delhi and Candahar," ten years later, to see how little was known at the end of the eighteenth century. This was because these maps were still based on the old d'Anville Atlas of China, in which the Himalayan and Tibetan geography was the work of Chinese lamas sent out by the Emperor Kang-Li between 1705 and 1717.



THE DIVISIONS OF THE HIMALAYAS

By the beginning of the nineteenth century only six journeys by British officials had been made into the Himalaya—four into western Bhutan and two into southern Nepal. Two of the former, under George Bogle (1774) and Samuel Turner (1783) had reached Shigatse in Tibet. The whole of the Himalaya (1,500 miles long and about 100 miles wide throughout) was virgin country to the geographer, in the truest sense. The courses and sources of the great rivers, the giant mountains, their positions and heights



THE KARAKORAM

were totally unknown; and Rennell himself recorded his belief from Indian sources that the Ganges itself forced its way by a subterranean passage through the Himalaya.

The first sixty years of the nineteenth century changed all this. By 1863 we had maps—not, of course, perfect but adequate for British administration and interests—of the whole of the Himalaya west of Nepal, and an outline knowledge of the mountain alinements in Nepal and Sikkim from distant trigonometrical observations.

1ST PERIOD: (UP TO 1845)

First in my story comes Charles Crawford, who commanded the first Resident's escort to Katmandu from 1801-03, and brought back a rough

map of central Nepal; he was the first to suspect the great height of the Nepal Himalaya. But it was William Spencer Webb, of the 10th Bengal Infantry, who first traced in 1808 the course of the main Bhagirathi branch of the Ganges to within forty miles of its source, and who first took observations to the high peaks. He had been chosen to command the escort of Robert Colebrooke, Surveyor General of Bengal (1794-1808), and when the latter's health broke down, was sent on this pioneer exploration. Webb's rough calculations made the snowy peaks higher than expected. In 1809-10 he took further observations from four more stations, and calculated the height of Dhaulagiri, one of the great Nepalese peaks, to be 26,862 feet. When his results were announced they were ridiculed in England, where it was held that the Andes were supreme. In actual fact Webb's figure is only 67 feet higher than the accepted figure today, 26,795 feet. It is the seventh highest mountain in the Himalaya and is not yet climbed.

Two political events in the first twenty years of the century were to influence the further course of Himalayan exploration. The first was Napoleon's threat to India in 1808, which led to Charles Metcalfe's mission to "the Lion of the Punjab"—Ranjit Singh—and to the treaty in 1809 by which British influence was extended up the Indo-Gangetic plain to the Sutlej. The second, as a direct result of the first, was the Nepalese war of 1814-16. With this extension of influence the East India Company had to consider its Himalayan flank, and here it came in contact with the warlike Gurkhas, who were expanding westwards into Kumaun and encroaching southwards into the Indian plain.

But before the war broke out I must record the adventurous journey of William Moorcroft, and that strange individual Hyder Jung Hearsey, who, disguised as fakirs, explored Kumaun from south to north and reached Manasarowar and the Sutlej source in Rakas Tal in Tibet. Hearsey was a natural son of an officer in the Bengal infantry and had taken service with the Mahrattas, changed sides, and then commanded irregular cavalry against the Mahrattas. He had also accompanied Webb on his exploration of the Ganges in 1808. Moorcroft was a Liverpool man who, having been appointed veterinary surgeon to the Bengal Government, held charge of the Company's stud farm at Pusa, near Patna. He was already forty-seven when he slipped off with the approval of the Company's agent at Fatehgarh—and the Bengal Government were too late to stop him.

This journey of Moorcroft's is of particular interest because he was detained by Tibetans at Daba Dzong, a few marches west of Manasarowar, and was helped there by two Bhotia Rawat brothers, Bir Singh and Deb Singh, later the fathers of four of our most distinguished pundit explorers, about whom I shall speak later.

Moorcroft was also responsible for our first knowledge of the Karakoram Pass, because he sent his agent, Mir Izzet Oolah, over it to Yarkand and Kashgar in 1812-13; and after the Nepal war he spent five years exploring Ladakh and Baltistan with the Company's geologist, George Trebeck. He was the first to indicate the layout of the Karakoram mountains. He died at Andkhui, about 200 miles south of Bukhara, in August, 1825.

There were two important results of the Nepal War. One was the fixing of the western boundary of Nepal at the river Kali, which opened up the whole of the Kumaun Himalaya to British administration. The other was the closing of Nepal by treaty. Throughout the whole period of British administration in India no British Expedition entered Nepal—that is from 1816 until after the Second World War. There were British Residents and Ministers at Katmandu, but even they were not permitted to explore the country.

On the other hand the fixing of the western boundary at the Kali enabled Kumaun and Garhwal to be fully explored. Much of the early exploration was done by John Anthony Hodgson and James Herbert, both of whom had been on service during the war. Hodgson was in charge of the survey of the "North-west Mountain Provinces," but he suffered so much from illness that Herbert took over. Officials appointed to the new districts must also have had a wonderful time. The country north-east of the "middling-sized village of Simla" was explored in considerable detail by the Gerard brothers, Alexander and Dr. J. G., who were the first to cross many of the passes into Bashahr. G. W. Traill, the civil commissioner of Kumaun from 1817 to 1835, was also a great traveller in his domain: in 1830 he was the first to cross the watershed of the Great Himalaya at the head of the Pindari glacier, between Nanda Devi and Nanda Kot, by the difficult glacier pass, 17,700 feet, still known by his name. Knowledge of Kashmir was gained by G. T. Vigne during his explorations, 1835-38, and there were other travellers of note.

The death of Ranjit Singh of the Punjab in 1839 and the Sikh wars which followed were responsible for the next step forward, since once again it became necessary for the Company to learn as much as possible of the States in the mountains of the Punjab. Gulab Singh, the Dogra ruler of Jammu, now independent of the Punjab, had conquered Ladakh and Baltistan, and it became necessary to examine his frontiers with the British districts. Alexander Cunningham (who was appointed Commissioner for this purpose) had with him Henry Strachey, who had already reached Manasarowar in 1846, and Dr. Thomas Thomson. All three made great names for themselves. Together they covered much of Zaskar, almost the whole of Rupshu and eastern Ladakh and much of Baltistan. Cunningham was the first to sort out the tangle of mountains known as the Zaskar range, south of Leh, and to distinguish it as a branch of the Great Himalaya. Henry Strachey discovered the Siachen glacier in the Karakoram, though he was unaware of its great length. Thomson was the first to cross the Saser pass between the Nubra and the Shyok, now one of the main passes on the Yarkand trade-route. Their collected writings on the physical geography added enormously to our knowledge and were an indispensable foundation to the detailed work of the Great Trigonometrical Survey of India which was about to begin in Kashmir. There were other travellers of note also, the three Schlagintweits, employed by the Company for several years on scientific exploration, and Sir Joseph Hooker, the great botanist and naturalist who first explored Sikkim, to mention only four of them.

Up till now all this exploration had been rather individual and piece-

meal. It was not easy to tie together the route-sketches and reports. I have mentioned it since not only is much of it now forgotten but also because there is a thread of continuity that runs through the accumulation of all knowledge. I have nothing but admiration for the endurance and devotion of these pioneers and I still find their writings and their experiences fascinating to read. Remember that they had no special equipment and knew nothing about mountaineering. They had to learn all about the vagaries of Himalayan ice and snow and weather by the hard and painful way.

TRIANGULATION AND SURVEYS 1845-68

I now come to the period of the first accurate surveys, due in the first place to Sir George Everest's methodical work. Coming out to India as an artillery cadet in 1806, he had succeeded William Lambton as Superintendent of the Great Trigonometrical Survey in 1823, and from 1830 to 1843 was Surveyor General of India. He conceived the gridiron system of triangles and quadrilaterals which covered the whole of India. His great Arc of the Meridian, stretching from Cape Comorin in the south to Banog near Mussoorie in the north, was completed by him and from it he calculated the figure of the earth on which all subsequent observations were computed. It was this accurate framework of stations and triangulation series that enabled his successor, Sir Andrew Waugh, to observe additional stations along the Himalayan foothills north-westwards and south-eastwards, and from these stations to cover the mountains with a network of triangles and stations whose precise positions and heights were known. By 1862 the whole of the Himalaya west of Nepal was covered by this accurate framework and on it was based the detailed topographical survey. During these operations heavy instruments were carried up the mountains and observers camped at great heights. By 1863 no fewer than thirty-seven mountains over 20,000 feet had been climbed and observed from with theodolites and five above 21,000. There are instances of cairns and poles erected on other high points as survey marks.

During the observations of the North-East Himalayan series a peak, designated XV, was fixed. When the observations were computed in 1852 it was found to have the height of 29,002 feet, the mean of a number of observations from six distant stations. It took the place of Kangchenjunga, 28,146, observed about the same time, as the highest mountain in the world.

The survey of Kashmir was organized and carried out by a Bengal engineer, Captain T. G. Montgomerie. Much of the reconnaissance was done by him personally, and it was from the survey station at Haramukh, 16,002 feet, which stands north of the Sind valley towering above Gandarbal, that he, in 1856, first saw the giants of the Karakoram. In the following year George Shelverton first observed them from the same station; and in 1858 the great pyramid of K2 was computed at 28,250 feet, so displacing Kangchenjunga to third place. In these observations thirty-two peaks of the distant Karakoram were observed. They were recorded as K1, K2, K3, etc., up to K32; no names could be given them at the time, and some have none. Nineteen of them are above 25,000 feet and, of these, six are over 26,000 feet.

It is interesting to record that the Kashmir survey continued throughout the period of the Indian Mutiny at the express wish of Sir Henry Lawrence, the wise Governor of the Punjab.

The best-known of Montgomerie's assistants was Captain H. H. Godwin-Austen, of the old 24th Foot (now the South Wales Borderers). He was the topographer who first discovered and surveyed the great system of Karakoram glaciers in 1861, including the Baltoro glacier approach to K₂. He was probably the greatest mountaineer of his day. When the Kashmir survey was completed he was sent to the eastern Himalaya and surveyed with the Bhutan field force, but he suffered much from fever and eventually was invalided home. He drew a pension for over forty years and died in 1924 at the age of 90. He was a great man and I, like many of my generation, benefited from his advice.

But, though he was a great mountaineer, K₂ was not discovered by him, and is not named after him. In 1888, General J. T. Walker, at a meeting of the Royal Geographical Society in London, proposed that K₂ should be named after him. But the suggestion was not approved by the R.G.S., the Survey of India, or by the Government of India. The mountain remains K₂, and when I was in its neighbourhood many years ago I found that even the nearest people who had carried loads to it knew it as Kechu or Cheku!

The problem of Himalayan names is a very difficult one. But with the exception of Mount Everest, the name of which was not sanctioned until eleven years after its discovery and then only when no native name could be found for it, no personal names have been given to any Himalayan mountain.

PUNDIT EXPLORERS AND THE LAST FORTY YEARS

I come now to probably the most romantic period of Himalayan Exploration.

By 1864 the surveys west of Nepal had reached the borders of Tibet, and because of the disturbed state of the frontiers British travellers and surveyors were forbidden to go further. Yet our trans-frontier maps were still almost blank. Gilgit, Chilas and Chitral on the north-west were unexplored, Yarkand, though visited, was a hundred miles out of position, Central Tibet was quite unknown, as was the course of the Tsangpo.

Chinese Turkistan was in a turmoil, Tibet exclusive and watchful, the border states on the extreme north and north-west were openly predatory, Nepal was barred by treaty, Bhutan suspicious and Sikkim sulky. And beyond the Hindu Kush Russia was in motion, and the Great Game in Asia was "on." It is the period of Kipling's masterpiece *Kim*, in which every character is true to life.

Walker and Montgomerie set about training Indian explorers to carry on the work. Through Major Edmund Smyth, the British Education Officer in Kumaun, two Bhotia Rawats, Nain Singh and his cousin Mani Singh, sons of the two brothers who had helped Moorcroft and Hearsey in 1812, were brought to Dehra Dun and given two years' training in route survey. They were taught the use of the sextant and compass, how to recognize and observe the stars, how to obtain rough heights by boiling

water and to count and record their distances. On his first journey in 1865 Nain Singh passed through Nepal into Tibet, disguised as a lama, and, having joined a caravan going to Lhasa, reached that place in January, 1866, counting and recording his paces all the way and surreptitiously observing latitudes with his sextant. He returned with the same caravan to Manasarowar and crossed into Kumaun, having left his servant Chumbel and his watch with the caravan, to be collected later. The details he brought back enabled Montgomerie to construct a map of the southern trade-route, a distance of 1,200 miles. Much as I should like to do so, time does not permit me to describe many of these explorations. Nain Singh helped to train others, amongst them AK, his cousin, who was responsible for several daring journeys. Almost always he assumed the guise of a Tibetan lama, with prayer-wheel and rosary. His journeys covered the period 1872-82, and on his last journey he was absent from India for four years. After reaching Lhasa he went right through Chang Tang and reached the extreme north-west of Kansu, though robbed and beaten-up on the way by bandits. Yet he returned with his servant Chumbel and with complete records of his journey.

All these journeys were secret and the men's names were not known outside the Survey of India. Most went by initials—*e.g.*, AK, GK, MH; generally, but not always, the last-sounded letter of the name followed by the first. MH, Hari Ram, was the first to make the circuit of Everest in 1871; RN, Rinzin Namgyal, the first to make that of Kangchenjunga. Kinthup was the first to trace the course of the Tsangpo from Tibet to within forty miles of the plains of India and so to prove its identity with the Brahmaputra.

At the other end of the Himalaya and on the North-West Frontier where the explorers were Moslem, Ata Muhammad, "the Mullah," explored the wild gorges of the Indus below Chilas. Mirza Shuja gave us details for the first map of northern Afghanistan and the Pamirs. While still in the Survey of India he became tutor to the sons of Sher Ali at Kabul. He was afterwards murdered in Bukhara.

These men set an example to many who afterwards joined the Survey of India, and in my own work I often used to remind my men of the courage of these old explorers. Though it is now more than twenty years since I retired from the Survey of India, I have, since last Christmas, received letters from two of AK's descendants, to whom I sent copies of my book; one, Indra Singh Rawat, is still in the Survey of India, and the other, Ranjit Singh Rawat, a captain in the Indian Artillery.

It must not be thought that British officers and civilians themselves were idle during this period. During a residence of nearly nine years in Kashmir, from 1862 to 1871, F. Drew travelled extensively and described the whole country in great detail. In 1868 G. W. Hayward crossed the Lingzi-tang plains to Shahidulla and reached Yarkand, and the following year explored the sources of the Yarkand river. He was murdered in Yasin in 1870 in an attempt to explore the Pamirs and the Oxus sources. Robert Shaw also reached Kashgar in 1869, and Douglas Forsyth led two British missions to that place in 1870 and 1873-74.

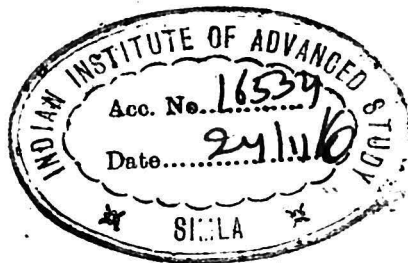
A great deal of administrative and settlement work in Himalayan dis-

tricts was also carried out in this period, while there were a number of small military expeditions to little-known parts of the North-West Frontier. Much exploration was carried out here, but little has been given to the public and much is still hidden in departmental archives. Paget and Mason's *Records of Expeditions on the North-West Frontier* (published in the early nineties) was the Bible of the frontiersman in those days and is a mine of information, but it was published confidentially and is not a personal record of individual achievement. Sir Thomas Holdich had an almost unbroken record on this frontier from 1878-98. Adventurous officers, among whom was an uncle of mine, passed among the tribes in disguise (his daughter is with us today), and William Watts McNair penetrated Kafiristan in the guise of a Moslem doctor. It must all have been enormous fun!

A landmark in the history of exploration is Younghusband's great journey in 1887 from Peking to India by the Gobi desert and Yarkand. He crossed the Karakoram by the disused Muztagh pass, without tents or mountaineering knowledge or equipment of any kind and had to sleep in the open for fear of being seen by Hunza raiders. This northern frontier was causing great concern to the Government of India partly because of Russian activities and their intrigues with our border states of Chitral, Hunza and Nagar. Major Biddulph had been at Gilgit for a year or two before 1880 but it was not until 1889 that Algernon Durand established a permanent Agency there. Younghusband was sent on two further missions to the Hunza frontiers and Pamirs during which he encountered the Russian Cossack explorer Grombchevsky, and was detained by Russians on the Pamirs in 1891.

In the same year the Hunza-Nagar campaign was caused by the continued intransigence of the two rulers of those states. The settlement of this border now led to its complete pacification and the exploration of the remaining territory within our boundaries.

These were the foundations on which were built the exploration in detail of the great mountains. These were the men who paved the way. In the present century we have tried to carry on their traditions. I left India before the great ascents were made or were even possible. We had neither the equipment nor the knowledge.



"The Abode of Snow," by Kenneth Mason, was reviewed in the last number of the R.C.A.S. Journal.