Nain Singh—Secret Surveyor of the Himalayas

By Brinda Gill

On a cold winter morning in 1863, Major Smyth, a British Education Officer in Kumaon, in India's western Himalayan region, sent for Nain Singh, the headmaster of a government school in the village of Milam. When Nain Singh entered the office, Major Smyth welcomed him in, gestured to a chair and then turning to a large map on the wall said,

'As you may already know Nain Singh, our trans-frontier maps are either blank or delicately based on travellers tales. Gilgit, Chilns and Chitral on the north-west are unexplored; Yarkand though visited, from coordinating different observations, seems to be a hundred miles out of position on the map. Central Tibet remains unknown - the position of Lhasa in longitude is largely speculative. Only one point on the River Tsangpo, Shigatse, has been charted'.

Why this balance sheet? Nain Singh wondered, as Symth continued with a short account of British survey teams in the region and their quest for information of lands beyond the Himalayas. 'Nain Singh, we need you to tell us about Tibet', he said directly, circling a sparsely marked space on the map - the forbidden highlands of that windswept, and locked country.

The rest of India, reduced to two-dimensional space, was ablaze with hundreds of little markings, but the barren Tibetan plateau seized Nain Singh's imagination. He was to cross those sublime mountains to complete a lacunae which irked officials and nagged surveyors, and fill in the details of an unknown world.

Major Smyth's voice cut through his thoughts. 'With a little effort you could pass off as a good Tibetan', he observed. And he was right. Nain Singh was a Bhotia, a clan that had lived near the Tibetan border for centuries and seemed like kindred cousins of the Tibetans, with similarities in race, custom and speech. 'Are you willing, Nain Singh' Symth asked anxiously.

'I am ready', the thirty year old Nain Singh said instantly and there was no looking back then.

Pilgrimage of Precision

Nain Singh's journey was not an ordinary one. Tibetans were suspicious of foreigners, especially the British, who had made many attempts to obtain geographical information about the forbidden country. Wary of Russian efforts to establish links with Tibet and cognizant of the country's fabulous gold mines, the British had been continually thwarted by the Tibetan government.

Nain Singh would cross the rugged mountains not as a surveyor, but as a pious Tibetan Buddhist; making observations discreetly. In some ways the sojourn seemed like a reckless adventure - walking hundreds of miles to furtively gauge the heights of mountains and the course of rivers of an inhospitable, uninviting country. If caught, Nain Singh would be considered a spy, and face dire consequences. Did obtaining the physical statistics of another land, which had no bearing to his existence, necessitate such an expedition?

Despite any reservations, a week later Nain Singh and his elder cousin Mani Singh, also selected for the mission, left their village Milam for DehraDun. Both Nain Singh and Mani Singh had worked with the Schlagintweit brothers, German scientist-explorers, in the Himalayan region a decade earlier, and both were familiar with the Himalayas.

At 11,200 feet, Milam lay in the scenic upper reaches of Kumaon in the north-Indian state of Uttar Pradesh, at the foot of the Milam glacier. As a young boy Nain Singh had accompanied his father along centuries old mountain paths, to trade marts in Western Tibet. They would ferry cereals, cotton cloth, jaggery, sugar, tobacco and return with Tibetan wool, borax, salt, butter, sheep, goats and fine horses. Young Nain Singh would tie brightly coloured ribbons on their manes and little bells around their necks. The most important of all imports -gold- would be carried on their person.

In Dehra Dun the cousins trained in practical surveying under British Survey officers. They learned to observe and recognize stars, take latitudes by the sextant, gauge direction with a compass, and determine heights by observing a thermometer in boiling water! They learned to make terse notes of places, mountains, roads, rivers and the locals. These notes were to be pressed through fine openings specially made in their prayer wheels!

The cousins' most important routine during training was taking measure, daily walks. Each day they marched a precise number of equal, paced steps between marked distances. The exercise prepared them to measure the span between sites in Tibet. Along with their unusual prayer wheels, they would also carry Buddhist rosaries, strung with exactly 100 beads, instead of the usual 108 beads, with every tenth one a big bead. They would count each bead after 100 paces; a large one marked 1000 paces. With the sextant and compass they would get their bearings, and with their measured paces they would position sites. They were also taught the rudimentary use of drugs and simple remedies to further imitate the practices of Tibetan monks.

A Mild-Manner Monk

For two years Mani Singh and Nain Singh refined their skills and sorted out possible obstacles. They set off in January 1865, dressed in the multilayered flowing robes of Tibetans, carrying a rosary and a prayer wheel like devout Buddhists. In this role Nain Singh was referred to as the 'Chief Pundit' or simply 'the Pundit', which means teacher or wise man in Hindi; and Mani Singh was GM.

While passing Kumaon they met a group of Johari merchants who had been robbed in Tibet. Hearing that Mani Singh and Nain Singh were heading for Lhasa, the merchants asked them if they could be their agents, to present their case to the Government at Lhasa. The cousins consented, and they decided to approach Lhasa via Nepal, as there was frequent travel between the two countries. They set off, piously murmuring the Buddhist prayer 'Om mani padme hum' (Oh Jewel of the Lotus), turning the prayer wheel and dropping beads to mark a hundred paces. Their minds automatically coordinated the number of steps and the drop of a bead. Nobody questioned their identity as devout Buddhists.

The travellers reached Kathmandu on the 7 March 1865. After making inquiries about the best route, they decided to con-

tinue via the small town of Kerun Shahr. On March 27, they reached Temure, a Nepalese police and customs post, where they were scrutinized. The cousins had dismantled the sextant, concealed the compass in the prayer wheel, tucked away the thermometers in a hollowed stave and hid the mercury within coowrie shells. Their bags passed scrutiny, and they were allowed to proceed after paying pay poll tax. But trouble was round the corner as they were delayed at the next halting post and permission to continue their journey by way of Kerun Shahr was denied.

With heavy hearts they retraced their steps to Kathmandu. They realized that to increase their chances of success, they would have to split up. Mani Singh decided to try a more circuitous route via Muktinath in Nepal, but was unsuccessful as he took ill and subsequently returned to Hindustan (as India was called in those days). Nain Singh meanwhile approached a Bhot merchant, Dawa Nangal, who intended to take the Kerun Shahr route. He promised to take Nain Singh to Lhasa, on the basis of which he borrowed money from Nain Singh.

They started off on June 3, with the Pundit donning the dress of a Ladakhi (the people of the high-altitude plateau in northern India having a Tibetan population and culture) and sporting a pig-tail to his head. He paced his steps, noted his bearings with a compass and measured latitude with the sextant. They reached Shabru on June 20, but it soon became clear that Dawa Nangal did not intend to keep his promise. Nain Singh explained his predicament to Dawa Nangal's uncle, who lived in Shabru, and he intervened to sort matters out. They carried on to reach Kerun Shahr July 7, and continued to Babuk, a large trade mart where Nain Singh joined a caravan to Tradon. (Though Dawa Nangal's brother helped Nain Singh onward, the Pundit never recovered the money he had lent to Dawa).

On September 6, the Pundit finally reached Tradon and took in its beautiful monastery surrounded by extensive plains. He placed its elevation at 14,200 feet by observing the boiling point of water.

Nain Singh would cross the rugged mountains not as a surveyor, but as a pious Tibetan Buddhist...

Keeping an ear open for news, he heard that a Ladakhi caravan bound for Lhasa, sent by the Maharaja of Kashmir was expected after thirty days and his carriage in Tibet was being supplied by the Tibetan government. Because Himalayan travel was extremely dangerous, cold, desolate and plagued by highway robbers, pilgrims and traders had to travel in groups. Nain Singh soon rented a house and feigned sickness to avoid contact with the locals, hoping to rest inconspicuously till the caravan arrived. When it reached Tradon on October 2, Nain Singh joined it and marched eastward along the Jong-lam Road, by means of which Tibetan officials communicated for 800 miles along the top of the Himalayan range from Lhasa to Gartok.

Though generally well defined, some stretches of the surrounding plateau resembled the road, causing confusion. Travellers frequently left stone heaps, called lapcha, topped by flags on sticks. The Tibetans regarded these as guide-posts as well as objects of veneration, often contributing a stone to the pile making them grow into immense mounds. Each lapcha served as a focal point for Nain Singh to take compass bearings. The sight of them in the distance urged him on during the three hundred miles journey to Shigatse. He trudged along counting his paces, taking observations whenever he found a quiet moment, quickly slipping the chit into the prayer wheel, and always keeping a strict eye on this storehouse of notes.

Charting the Abode of God

The band of travellers rested at staging houses whenever possible, but sometimes were compelled to halt between them, when Nain Singh had to sleep in the open or in a rough tent that offered little protection from freezing winds. One morning he awoke to find a black scorpion under his bedding. The staging houses had minimum comfort, but provided a welcome roof and a supply of fuel made from dried animal droppings that had a peculiar smell. After a few nights of sleeping in the open this smell, evocative of warmth, seemed most comforting!

The caravan reached Shigatse on the October 29 and took up residence at a large caravan-sarai. About half a mile to the south-west of the city, stood a beautiful monastery surrounded by a wall about a mile in circumference, ensconcing many houses and striking temples topped by gilded spires stood within this enclosure. Later Nain Singh visited them and saw idols studded with precious stones, gold and silver. About 3,300 priests dwelt in the monastery, the Chief being the Panchan Lama. As Ladakhis deeply revered the Panchan Lama, they were eagerly anticipating paying their respects to him. Nain Singh was terrified at the thought for it was believed that the Lama knew all the secrets of the heart! A dramatic finish to his life seemed imminent, but as he could offer no plausible excuse for not paying his respects to the Panchan Lama he nervously went along.

To his great relief the Panchan Lama turned out to be a young lad seated on a high throne covered with rich silks, surrounded by priests. The devotees made a low obeisance and offered silk pieces. The Lama placed his head on each of the worshipers and then beckoned to his priest to ask them to be seated. Then he asked every worshipper three simple questions -'Is your king well?', 'Is your country prospering?' and 'Are you in good health?'. The devotees replied in the affirmative and the priest then placed a small strip of silk round their necks and poured a little tea for each of them from a silver kettle. The ceremony was soon over and Nain Singh breathed easier.

Nain Singh noted the atmospheric temperature at Shigatse several times. It was always below freezing point at night, even inside the sarai. Though the snowfall was never more than twelve inches, he noted the cold was intense often causing streams to freeze.

The group left Shigatse city on December 22, and crossed the lofty Kharola pass where Nain Singh very carefully took angles of elevation to its height and calculated its height at 17,000 feet.

He trudged along counting his paces, taking observations whenever he found a quiet moment, quickly slipping the chit into the prayer wheel...

In all he had travelled 1200 miles - from Kathmandu to Lhasa, back to the Manasarovar Lake before crossing into Hindustan.

Within a week they arrived at the Nan-kartse village on Lake Palti. The thrill of traversing an unknown pass, of surveying the area and mapping it for the first time urged him on across the rugged mountain passes. He had walked five hundred miles from Kathmandu and as he neared Lhasa he was full of anticipation.

Nain Singh arrived at Lhasa, the Abode of God, on 10 January 1866. He was thrilled to see the city, situated majestically on a generally level, spreading plain surrounded by mountains. He rented two rooms, one of which was perfect for taking observations of stars. He noted that Lhasa was at 11,400 feet, circular with a circumference of two and a half miles with a large temple in the city center. The temple contained richly ornamented gilded idols and was surrounded by lively bazaars run by Lhasan, Kashmiri, Ladakhi, Azimbadi and Nepali merchants frequented by Chinese tradesmen. At the northern end of the city on a low hill was Po-ta-la Fort, the residence of the Great Lama of Tibet - who was never referred to as the Dalai Lama in Tibet. As his companions were eagerly waiting for audience with the Great Lama they made their way there on the seventh of February. After making offerings of silks, sweets and money, the Dalai Lama asked them the same questions as the Panchan Lama had. Subsequently some of them were invited to inspect the fort, where they saw more gilded images draped with rich silks.

As Nain Singh's funds were running low, he decided to earn a little income by teaching bookkeeping to some Nepalese merchants. One afternoon while he took in the colour and bustle of the market place he was confronted by two Muslim merchants who asked him who he really was. They refused to believe Nain Singh was a Tibetan. As they persisted, Nain Singh meandered deeper in their shop and binding them to secrecy, revealed his true identity. He managed to pawn his watch to them for a small sum of money and decided to leave Lhasa at the earliest. Lopchak was sending his party back to Ladakh with large quantities of tea and he quickly joined his caravan.

They left Lhasa on April 21, and it required almost two months of continuous marching to cover the six hundred miles or so to reach the holy Kailash Manasarowar Lake. Nain Singh was anxious to return to Hindustan, but breaking off from the group was unthinkable in those vast, lonely, inhospitable stretches of the Jon-lam.

When they finally reached the serene, blue lake on 16 June, the snow had melted. As much as Nain Singh would have wished to stay on at this site so sacred to Hindus, the thought that news of his true identity may catch up with him compelled him to hasten to Hindustan.

He parted company from his Ladakhi companions and quickened his pace. He soon arrived at the Lam Thazing camp and was surprised to see the low hills in the vicinity covered with snow. The Niti pass was also covered with snow, but there was no time to wait for clearer weather. As he rushed on he slipped and the thermometer fell and broke.

On the 29 June Nain Singh crossed the Unta-Dhura pass and made his way through to his beloved family and village. It was then onwards to Dehra Dun to inform his seniors of his accomplishments.

In all he had travelled 1200 miles - from Kathmandu to Lhasa, back to the Manasarovar Lake before crossing into Hindustan. He had numerous details from the slips stored away in the prayer wheel that would furnish information for a map of the southern trade route of Tibet and of the River Tsang-po's course for 600 miles. There were 31 observations of latitude and thirty of the boiling point of water to determine heights, numerous compass and distance bearings, which laid down the 1200 miles of route survey.

The officers were overjoyed to see him and receive the information he had brought back. This journey was greatly appreciated by the Royal Geographical Society and he was presented with a beautiful gold watch, at a ceremony, by the Society.

A few years later in 1873, Nain Singh was asked to undertake another survey, which took him from Leh in Ladakh via Lhasa to Assam. The journey stretching across thirteen hundred miles was full of hardship, skill, diplomacy and extremely rewarding geographical results. In the proposal for an award for this effort, he was described by the British as 'a man who had added a greater amount of positive knowledge to the map of Asia than any individual of our time'. He was honoured with a gold watch by the Paris Geographical Society, the Founders' Gold Medal of the Royal Geographical Society in 1877 and later appointed 'Companion of the Indian Empire'. The gathering of geographical and other scientific knowledge in the vast and uninviting Himalayan reaches was a slow process in those days, but Nain Singh's courageous expedition contributed immensely to the efforts of the British Survey of India.

Brinda Gill is a freelance writer based in Pune, India. Her article "The Big Man - Surveying Sir George Everest appeared in the Winter 2000 edition of the Ontario Land Surveyor magazine. She can be contacted by email at satyagill@vsnl.com.

Further Reading

Indian Explorers of the 19th Century: Account of Explorations in the Himalayas, Tibet, Mongolia and Central Asia. By Indra Singh Rawat. New Delhi. 1973. Publications Division, Ministry of Information and Broadcasting, Govt. of India, Patiala House, New Delhi.