

Re-discovering Nain Singh

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On 27 October 1999, it will be 133 years since Nain Singh completed one of the most heroic adventures ever carried out under the auspices of the Survey of India – that mammoth organization which has had more than its share of heroes and adventures! This article is an effort to pay tribute to this incredible personality.

In the last half of the nineteenth century, the British Survey of India made several abortive efforts to map the lands that lay beyond Tibet – but the emperor of China had closed the Tibetan border to foreigners, on pain of death. Several men of the Survey died in this attempt, until Thomas G. Montgomerie hit upon his brilliant solution – of sending in Indians, disguised as itinerant lamas, to literally ‘spy out the land’¹. He succeeded in convincing his superiors, and then set about locating new recruits for his mission. His requirements by way of prospective agents were fairly severe – they had to be able to read and write, should not be ‘too old’, should not have unreasonable demands in terms of rewards expected, and have some idea of the difficulties that could be expected on this proposed trip.

The first recruit, Mohamed-i-Hameed, was sent on a journey to Jharkhand, and died of illness on the way back. Undeterred, Montgomerie next selected two cousins – Nain Singh and Mani Singh – for this Herculean task. When recruited in 1863, Nain Singh was a 33-year-old Tibetan-speaking headmaster of a school in Milan, in the upper Himalayas. Mani Singh was slightly older, from the same village. Montgomerie put the cousins through a rigorous two-year training course, which was to later become the standard training for all future Indian surveyors – or ‘chain men’, as they came to be called. They were first trained to walk in a measured fashion, so that no matter the nature of the terrain, each pace measured a constant distance – 33 inches. To keep track of the number of paces they took, they were given rosaries, with 100 beads instead of the traditional 108 – after every 100 paces, one bead would be clicked. A complete circuit of the rosary, therefore, represented 1000 paces, or five miles. In this manner they were to keep track of distance.

They were also taught the use of sextants, which they carried concealed in

specially designed secret pockets within their clothes, and the use of thermometers for altitude measurements. Mercury, required for setting an artificial horizon from which to take altitude readings, was hidden in a sealed cowrie shell, and poured out into the standard pilgrim’s begging bowl, when needed. The Tibetan prayer wheel, which was supposed to contain strips of paper with holy prayers written on them, was also suitably modified so that the surveyors could record their observations on these paper strips. (For those for whom this seems somehow familiar, Rudyard Kipling borrowed several of his characters and much of the general atmosphere for his novel, *Kim*, from real life incidents of Montgomerie’s team.)

The Singhs were also given code names – Nain Singh was called the Chief Pundit and his cousin, the Second Pundit. These names stuck, and all Indian surveyors were referred to for many years by the Survey as ‘pundits’.

In 1865, the two pundits finally departed on their first mission – to cross the Tibetan border disguised as Bashahris, who were given limited rights to travel there. In spite of the two years they had spent being trained, this was a task of enormous difficulty – all for twenty rupees a month, and the tentative promise of more in the future. Once in Nepal, the two brothers separated ways, and Nain Singh headed for the Tibetan border near Lhasa. He managed to cross into Tibet by associating with a party of traders who were also crossing with a large caravan – who subsequently vanished at night, with most of his money. Fortunately, they left his most precious possessions intact – his survey equipment, in a box with a false bottom which they fortunately did not find.

With this primitive apparatus, he spent the entire summer of 1865 journeying to Lhasa, begging for food from the rare caravan that appeared. In January 1866, he finally reached the ‘forbidden’ city of

Lhasa, where he played the role of a pilgrim for a few days. One day, he witnessed the public beheading of a luckless Chinese man who had arrived in Lhasa without permission – this scared him into adopting the life of a recluse. Within the confines of a little inn, he stayed for several weeks, and used the roof of the inn as his observatory at night. By measuring the boiling temperature of water, he calculated the altitude of Lhasa to be 3240 m above sea level – astonishing precision, when you consider that we today believe it to be 3540 m! From the angular altitude of stars, he then calculated the latitude of Lhasa.

Soon, however, he realized that local merchants were getting a little suspicious of him. Therefore in April, he packed his equipment, and left for India with another caravan of people, who were heading west along the Tsangpo. During his two-month journey with the caravan, the ever pious lama clicked his rosary beads and tracked the river course for more than 800 km. Finally, one night, he stole away from the caravan and struck north for India, reaching the Survey headquarters at Dehradun on 27 October 1866 – and here my story ends (and began!).

Singh did not stop here, though. Between 1865 and 1872, the Singh family of Nain Singh, Mani Singh and nephew Kishen Singh contributed greatly to the exploration of Tibet. In 1874, Nain Singh went on his third and last excursion into Tibet, to survey the route from Leh to Lhasa². There is evidence to show that he was rather reluctant to undertake this last piece of travel, being much older and relatively worn out. Persuaded by the likelihood of further inducements, and a possible pension, also assuaged by a promise that this was to be the final such journey, he set out with a small party of people on 15 July 1874. During an incredible eight and half months, where they ran out of money and their disguise almost exposed by a

merchant they met on the way, he succeeded in charting the route through large parts of Tibet. His maps provided the only definitive information on these parts for almost half a century, when the next British party was able to reach Tengri Nor. This last journey had taken its toll on his health, also impairing his vision. He continued for a few years to train other Indians in the art of surveying (and spying), and did a highly commended job of it, too.

Nain Singh's name, and feats, could now be made public after years of secrecy. In 1876, his achievements were announced in the *Geographical Magazine*. The awards and recognition soon started flowing in. On his retirement, the Indian Government honoured

him with the grant of a village, and 1000 rupees in revenue. The Paris Geographical Society, having heard of his feats, sent him a gold watch (according to Montgomerie, 'not a very handsome watch, but the Society is not rich, and they meant to pay N.S. a handsome compliment')². The crowning achievement came in 1876, when the Royal Geographical Society honoured him with a gold medal as the 'man who has added a greater amount of positive knowledge to the map of Asia than any individual of our time'³.

Although Nain Singh got the recognition he deserved late in life, it is difficult to imagine what drove such a man to carry out arduous and dangerous work like this, under conditions of near-

impossibility, all for a starting salary of rupees twenty a month!

1. Hopkirk, P., *Trespassers on the Roof of the World: The Race for Lhasa*, Oxford University Press, Oxford, 1983, pp. 276.
2. Waller, D., *The Pundits - British Exploration of Tibet and Central India*, University Press of Kentucky, Kentucky, 1990.
3. Wilford, J. N., *The Mapmakers*, Knopf, New York, 1981, pp. 414.

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MEETINGS/SYMPOSIA/SEMINARS

Environmental Management for Nuclear Establishments and Chemical Industries

Date: 25-26 September 1999

Place: Mumbai

Themes include: Environmental management in nuclear establishments; Environmental impact assessment and legislation; Eco-friendly liquid/solid waste management; Management of clear air.

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Challenges and Prospects of Plant Pathology in the Coming Millennium and the Zonal Chapter Meeting of Indian Phytopathological Society

Date: 30-31 December 1999

Place: Lucknow

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