

The Nineteenth-Century Mapping of the Himalaya by the Pundits

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Abstract

The route mapping of the Himalayan region during the nineteenth century involved disguised *Pundits* engaged in clandestine survey of the remote and mostly inaccessible areas of Tibet. This essay examines the survey through two artefacts; the Tibetan prayer wheel and the route map of the expedition to Lhasa. This mapping as part of the larger trigonometric survey of India was perhaps one of the last great explorations that contributed to a knowledge bank that would protect British India but ultimately lead to the violation of this previously isolated area of the world.

The mapping of the Himalaya region during the latter part of the nineteenth century is one of the more remarkable undertakings of the period. The clandestine mapping exploits of the native surveyors or *pundits* engaged in the British survey of the Himalaya during the latter part of the nineteenth century was conducted at a time when travel between India and the Gobi Desert across the Tibetan Plateau was restricted, and information was vague at best. These surveyor-explorer-spy-adventurers through their feats of endurance, skill and bravery added to the understanding of the vast region and contributed to the security of the British interests in the sub-continent. Two artefacts, a prayer wheel and a route map, as tool for and result of the survey exercise, serve as fitting artefact representative of this undertaking. The prayer wheel, used to disguise the identity and intention of the carrier, and to store route mapping data, was an important tool in many of the route map surveys. The maps produced by those who used such disguises and wandered up into the high Himalayas both informed the defenders of British India and also provided information from which British incursion northward would then follow.

Those involved in this endeavour from the 1860s ventured into a huge *terra incognita* to the outside world and certainly a void in strategic knowledge of the geo-political powers of the day: British India and Tsarist Russia. In order to address that knowledge deficit for the British, the pundits embarked upon 'route surveys' (of distance and direction) in the clear understanding that the inhabitants to the north strictly forbade such encroachments and discovery of their purpose could result in severe punishment and even death.

From the 1860s, Captain Thomas G. Montgomerie most clearly recognised the value of having people from Indian border states trained as surveyors so that they might explore areas that were deemed off-limits to all outsiders, particularly Europeans, the seizure of whom Montgomerie felt could, 'lead to outrage'.¹ Critical of previous survey attempts that had been conducted independently,² Montgomerie attempted to have surveyors travel in ways that would build up a matrix of data most valuable to creating an overall picture. Pundits also made observations on people, commerce and settlements thereby building remarkably detailed pictures of the journeys.

¹ Lieutenant-Colonel T. G. Montgomerie, "Report of a Route Survey by 'Pandit *___' from Nepal to Lhasa and thence up through the upper valley of the Brahmaputra to its source', Report of 23 March 1868, produced in *Journal of the Royal Geographical Society of London*, 38 (1868), pp. 129-219 (p. 130).

² Derek J. Waller, *The Pundits: British exploration of Tibet and Central Asia* (Lexington, KY: University Press of Kentucky, 1990), p. 104.



Figure 1. Hand-held Tibetan prayer wheel.
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From Peshawar in 1867, Montgomerie as 'spymaster'³ directed mapping operations to the north; the Pundits themselves designated code names (numbers or initials), the first, Nain Singh Rawat dubbed 'No.1'. These men, possibly as few as twenty in number, were Brahman Indians and they were recruited into the Indian Survey team. Their motivation for taking on such dangerous work could be no more romantic than a living wage, yet for long journeys, up to three years' worth of wages might be paid in advance.⁴ Nain Singh's father incurred many debts from his various liaisons,⁵ yet Pundit contemporary descriptions are limited to survey leader reports, thus a lot of this detail is lost.⁶

A device instrumental in both logging route survey information and creating a disguise for the Pundit was the hand-held Tibetan prayer wheel. This is a simple metal cylinder set atop a wooden handle that becomes its axle. The external markings are an embossed prayer script, ('Om mani peme hung') encircling the cylinder which may be encrusted with various decorations and stones. A small bead is tethered to the cylinder by a short cord or chain, and when the handle is rotated this applies a centrifugal force to the cylinder that sets the wheel spinning. The rotation sends the prayer of the carrier upwards. Within its core, and removable by lifting the lid, are paper scrolls of these prayers. The example provided here is a portable version of the large drum versions that are commonly situated near Buddhist monasteries in Tibet and Bhutan, which can also be spun by the hands of passers-by in order to gain merit.

Holy men and devout pilgrims walked the remote roads and tracks of the high Himalaya gaining merits for the journey to Lhasa,⁷ the capital of Tibet, the location of which was understood in India prior to the survey merely as 'a matter of guess'.⁸ Pilgrims were known to prostrate themselves and rise repeatedly marking out body-lengths over hundreds of miles of pilgrimage.

³ Jules Stewart, *Spying For The Raj: The Pundits and the Mapping of the Himalaya* (Stroud: Sutton, 2006), p. 56.

⁴ Waller, p. 42.

⁵ Stewart, p. 56.

⁶ The Montgomerie reports in *The Journal of the Royal Geographic Society* constitute a rare example.

⁷ Stewart, p. 24.

⁸ Montgomerie, 'Report on a route survey', p. 130.

For the purposes of the survey, a prayer wheel was adapted most notably through the replacement of the internal paper prayers with blank paper, which was then used by the Pundit for the recording of distance, altitude, and directional information gathered. A compass could also be secreted beneath the removable lid of the wheel, while a thermometer, used for calculating altitude (by measuring the temperature at which water boiled), was often hidden elsewhere on the Pundit's person. Some even carried a small sextant (used for establishing latitude) within their robes.⁹ Therefore, the prayer wheel was both tool-kit and disguise. Pundits also adapted the string of prayer beads ('*nama*') for the purpose of distance measurement, reducing the number from the traditional 108 to one hundred.¹⁰ Then, having been trained to take steps of a certain uniform length, the pundit could subsequently count off the hundred identical steps, flick a bead, and thereby make an accurate estimate of the distance covered. The compass could be used to judge the direction of those steps from starting point to finish. All this data could then be stored within the wheel, in the belief that it was unlikely that strangers would inspect a prayer wheel to any great degree.

Yet what importance is there in using a religious object for what is, in any reasonable interpretation, a clandestine spying purpose, regardless of a more noble justification of increasing the geographic information for mankind? Such a question requires the interpretation of a modern moral judgement from one particular time upon another, over one hundred and fifty years earlier, which, of course, invites challenge. Yet the very sacrilegious nature of the disguise provided much of its power as subterfuge. That is not to say that travelling holy men did not attract suspicion, and Pundits using this disguise were on occasion searched and even apprehended. If tested, and discovered as false, the religiosity of the chosen disguise would increase the severity of punishment so adopting such a disguise had its risks.

The religious devotion of those pilgrims on passage to Lhasa is juxtaposed against the cunning of the interloper. As to the subjectivity of what constitutes noble endeavour, even for the Royal Geographical Society, post-Francis Younghusband's invasion of Tibet (an invasion which was to reach Lhasa), a Royal Geographical Society medal for the exploration of Tibet would obviously be viewed very differently in Lhasa and in London. This also invites questions as to the justification of using local personnel as Pundits, and paid relatively little for this hazardous work but this, however, cannot be examined here. It is sufficient to note that this should be viewed in the context of the time and the practices prevalent throughout British India at the time.

Yet the wearing of disguise in order to cross dangerous terrain was not unique to those who dressed as holy men in order to survey for Britain. The earliest 'Great Game' exponents, mostly European adventurers such as Moorecroft, had been making variously disguised incursions into the north-western frontier of India (now Pakistan) and Tibet for many years prior to the survey with varying degrees of success. The Pundits themselves utilised other disguises that had to be adapted to the particular environment and those encountered along the way; holy men becoming traders to fit the requirements of area traversed.

⁹ Liquid mercury was also used to establish trigonometric readings by theodolite.

¹⁰ Waller, p. 42.



Figure 2. Route map of the 'Pundit *_____' 1857 from Nepal to Lhasa expedition.

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The trigonometric survey technique using chain used to create the Indian survey map (see Figure 2) and the Pundit route survey (see Figure 3) differed in significant ways. The Great Trigonometric Survey of India begun in 1802 took over sixty years to complete, and over that period created triangles and transepts the length and breadth of India. From an initial reference point at sea level, the measuring of grid triangles advanced across the landscape by use of 'triangulation chains'¹¹ allowing surveyors to place each reference point accurately in relation to the first and its surrounds and thereby build up a network of neat triangulated position data points across the sub-continent. To place the distant peaks of the high Himalaya in relation to these reference points and thereby measure their height accurately, a method of 'secondary triangulation' (noted in text on map and seen in detail in the last map; see Figure 3) fixed the location and height using a bulky theodolite. This method was utilised in 1852 to establish the position of Mount Everest. The extensions seen are from the arc across the southern bounds of the Himalaya first established by the survey.

However, the route survey technique (see Figure 2) used by the Pundits in the less accessible terrain, differed; without the luxury of being able to set up equipment in the open and triangulate positions, the data was gathered mostly by pacing distance, using compass for direction and also measuring altitude by thermometer. The Pundit stride length, despite years of training at Dehra Dun, could not remain consistent therefore introducing error. Pundits, often in peril and fatigued, also had to improvise which would also adversely impact the accuracy of the maps. Trigonometric readings could be taken by understanding the distance and direction and plotting these using the hypotenuse each time but this would involve taking compass readings for the reference point to the original point, a dangerous undertaking subject to the risk of being observed. Each route had to link up with previous knowledge to fill-in blank or questionable areas. Route survey leaders would be frustrated at not being able to link data from various Pundit travels (that is to say, to have routes bound one data set to its neighbour), thereby turning line into picture. They were, however, restricted by the road or river they were following, choosing a route as best they could.

¹¹ See Matthew H. Edney, *Mapping an Empire: The Geographical Construction of British India 1765-1843* (Chicago: University of Chicago Press, 1997).

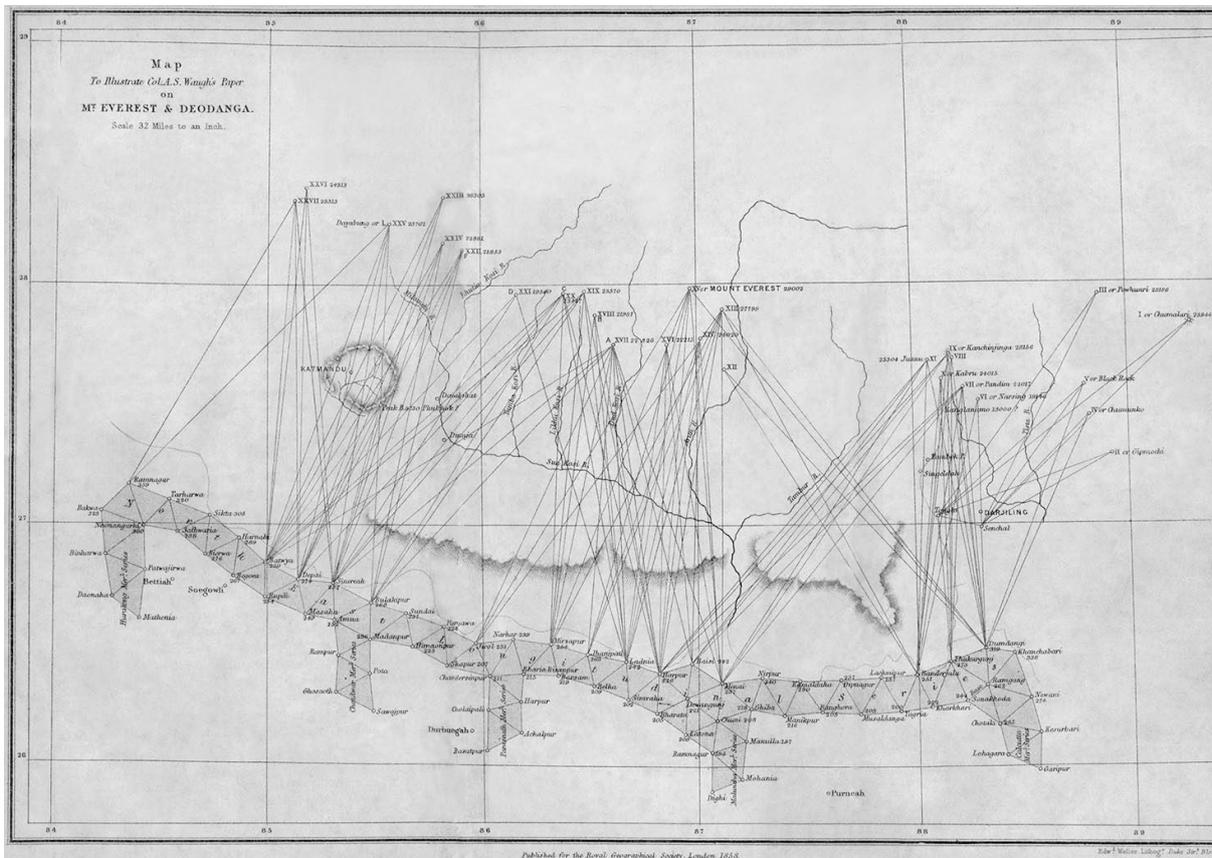


Figure 3. 'Secondary Triangulation' from transect locates 'Peak XV' (Mount Everest).
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Objects such as the prayer wheel and even more so, an adapted wheel or the data produced in the form of the map cannot be viewed without the viewer's particular attitudes to colonialism flavouring perception. The artefact cannot be viewed as isolated object even within its cultural context (Tibetan Buddhism) but rather exists within its context filtered through history. The many events and interpretations of history in the intervening years impose themselves upon an object such as this. The label 'Tibetan' has come to carry with it in the Western consciousness all the baggage of a long intervening period of Chinese annexation, an exiled Tibetan religious leader and a Tibetan diaspora in Northern India, documentaries of a mysterious plateau 4,000 metres in the air beyond the highest mountain range in the world.

The map also represents a particular vision of the world and the nineteenth-century maps reflect a very modern western scientific vision. They use and build upon the best available knowledge to gain a better understanding of the physical world and attempt at least to convert the unknown or poorly understood into something that can be seen, very much quantified and significantly given boundaries. Maps are therefore tools for limiting and controlling; defining just as they are illuminating devices, simultaneously creating knowledge and destroying the romance of the previously unknown. They therefore de-mythologise the world as they explain it.

Geographic knowledge, of course, also provides power; an advantage that could more easily be converted to control over those areas or exploitation of their resources. For those powers, primarily the British and Russian empires, wrestling for control over large

swathes of the globe for which only blanks could then mostly be attributed, a detailed understanding could be decisive. From the British perspective, with the safety of the Indian Empire interpreted in terms of the perceived viability of a land-based invasion from the west and north, understanding the northern frontier of India was all important.

This 'Great Game' or 'Tournament of Shadows' was a geo-political struggle played out primarily between Britain and Russia¹² but Persia and China were important players as well; China being particularly important as the Pundits often needed permissions to traverse Chinese-influenced territories. And these survey exercises must be seen within the context of an extremely volatile time (spanning the Anglo-Afghan wars, the Crimean War and a seemingly inexorable Russian advance towards Afghanistan and India). The map must therefore be viewed within the complex and dynamic prism of the geo-political and military maneuvering within and towards the region, a crucial part of protecting the British empire by understanding that frontier and, equally importantly, understanding the northern approaches to that frontier, which was by any measure, an extremely volatile environment.¹³

This knowledge would eventually turn that defence into a more aggressive stance with the 1904 (tenuously sanctioned) Younghusband lead British invasion. Similarly, the twentieth-century occupation of Tibet by the Han Chinese was made viable by the knowledge generated in the earlier period. In this sense, the attitudes or motivations of the map makers are made subservient to the usage of that knowledge. The map then subverted and destroyed the cosy security of those who relied on the remoteness and relative inaccessibility to hold back the outside world, a destruction of the mysterious noted earlier.

These two artefacts are important in that they represent the imagination of the framers of the survey, the endeavour, bravery and skills of the Pundits, and the romance of the age. The prayer wheel straddles the romance and mystery of Tibet and the cunning of the spy determined to penetrate the layers of that mystery. The maps of the trigonometric survey were a most advanced scientific approach to understanding the physical environment of their time and the route maps complemented that survey. Maps at once record the ambitions of the makers and describe their own cultural attributes; the motivations of the mappers enmeshed in the geo-political struggles of the time. They should be understood not simply through the simplistic lens as expansionist tools, along with the negative interpretations that can be imposed on them for that reason. It would not, therefore, be useful to view either artefact through a purely apologist nor celebratory lens when elements of both surely cohabit these two objects.

¹² See Peter Hopkirk, *The Great Game* (London: Barnes & Noble, 1992).

¹³ Lawrence James, *Raj: The Making of British India* (London: Abacus, 1997), p. 394.

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