

The Himalaya's Adventure Continues

Geophysical surveys by the seismic (sound wave) reflection and gravity methods indicate that the crustal thickness beneath the Himalaya is about 70 km, which is twice that of a normal continental crust (for example, the Indian Peninsula). In other words, the Himalaya are higher because these mountains are sitting on an over-thickened continental crust, produced by compression, thrusting, and folding.

Geologists believe that all major faults in the Himalaya, including the Normal Himalayan Thrust, the South Tibetan Detachment, the Main Central Thrust, the Main Boundary Thrust, and the Himalayan Frontal Fault, are all joined at depth to a major shallow-dipping structure, called the Main Himalayan Thrust or Decollement (a French word meaning Detachment). This structural model together with the available geologic data discussed in this article implies that as the Indian plate has pushed northward, thrust faults have developed sequentially from north to south and that as a new thrust fault has ruptured, the tectonic push has added some elevation to the entire Himalaya. In other words, the present elevation of the Himalaya is a cumulative effect of 55 million years of continental collision, a magnificent drama of episodes which geologists have painstakingly pieced together and are beginning to make sense of it. A period of 55 million years or so since the India-Asia collision may seem a long time from human perspective, but by Earth's standards, the Himalaya are still young, rising mountains.

Summary :

This is a brief account of how the Himalaya were formed, written by a geologist for non-geologists particularly Himalayan climbers, trekkers, teachers and students.

This article is based on a lecture by the author at a meeting of the Himalayan Club in Mumbai on 14 December 2009.

Retracing the Footsteps of Frank Smythe

Ashutosh Mishra

'To us the Bhyundar Valley will always remain the Valley of Flowers. It is a place of escape for those wearied of modern civilisation. ... the lover of beauty and solitude could find peace in the Valley of Flowers. He would discover joy and laughter in the meadows; the stars would be his nightly canopy; he would watch the slow passing of the clouds; he would share the sunset and dawn with God.'

Thus wrote Frank Smythe in *Kamet Conquered* introducing to the world what we today call as the 'Valley of Flowers'. Frank Sydney Smythe; almost anyone who visits or thinks of visiting the Valley of Flowers comes across this name. To most, it remains a name. A few years ago, only after reading the volumes written by this legendary explorer did I realise what I had been missing out on - a brilliant combination of adventure and poetic reflection, captured with details that can fire one's imagination. Immersed in his journeys and inspired to sample those experiences, I floated a thread on Internet forums about retracing his trails. The idea was to revisit the route he followed during his famous exploration in 1937, vividly captured in his book *The Valley of Flowers*¹.

The team got formed in the virtual world of Internet - a motley crew of people with a great variety in background, location, profession, age and experience in the high mountains.

We aimed to complete the trek in the first half of June 2010. The route we were to follow was divided into two distinct stages. In the first stage we planned to follow the traditional route to Valley of Flowers and then going beyond over the Bhiundhar khal to reach the Bank Kund glacier. In the second stage we were to traverse the Bank Kund glacier upstream, cross the hidden pass, Gupt khal and reach Badrinath to end the trek.

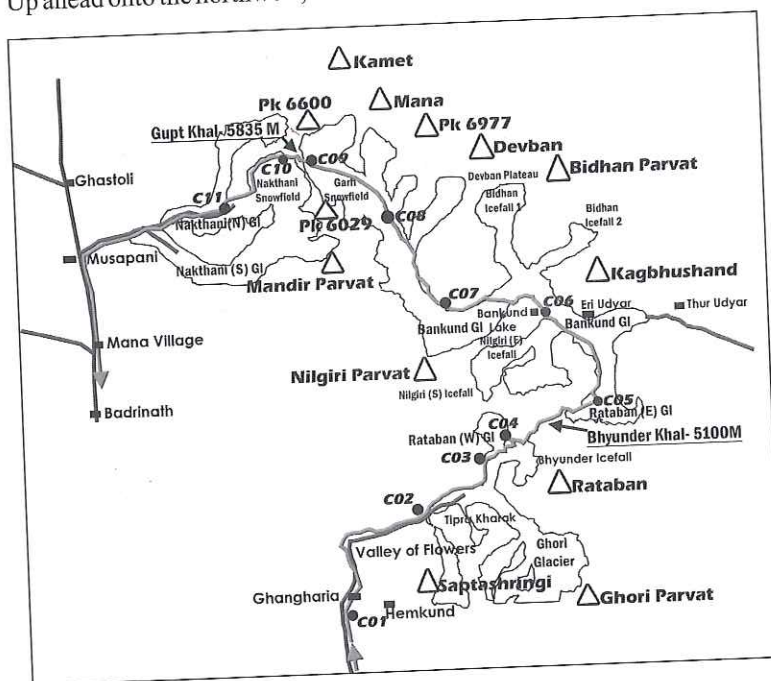
1. See books *Valley of Flowers*, and *Kamet Conquered*, by Frank Smythe (Baton Vicks, London, reprint, 2000).

Stage 1

Govind ghat (1700 m) - Ghangharia (3100 m - 13 km) - Tipra kharak (3700 m - 10 km) - Bhiundhar² icefall camp (4300 m - 6 km) - Bhiundhar khal base (4600 m - 4 km) - Bhiundhar khal (5100 m) - Rataban East glacier (4500 m - 8 km)

Govind ghat was teeming with activity at the beginning of the pilgrim season. Sikh pilgrims of all ages, sizes and sects were busily moving about. New shops were being setup and an unending stream of cars was pouring into the parking lots. We chanced upon an auspicious beginning at the very start. The 'Guru's Procession' marking the opening of the holy shrine at Hemkund Sahib started at the same time as we started off!

Fighting the usual fatigue of the *first day*, we reached the Kanjilla camping grounds well before sunset. Ghangharia was still 600 m away. Up ahead onto the northwest, the two lofty pinnacles of Bhiundhar gorge,



2. Smythe had called the village, valley and the pass 'Bhyundar'. On revised official Survey of India maps it has been changed to correct Indian spelling 'Bhiundhar'

became a dark outline as the sun went down. Beyond that imposing gateway was our target for the next day, the Valley of Flowers.

Changes at Ghangharia were a sad surprise compared to what one saw twenty years earlier. Larger concrete structures had replaced little shops selling photos and trinkets. The lovely riverside was now replaced with a bustling pony stand. The stench of mule-dung had now replaced the sweet smell of wild flowers.

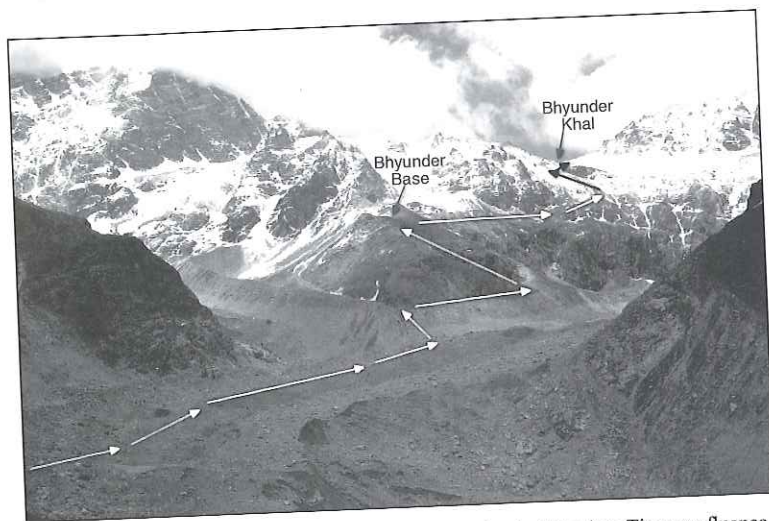
We entered the Valley of Flowers after the usual procedures at the forest check-gate after Ghangharia. As the valley opened up one could see the Rataban peak on to the northeast. The Bhiundhar khal lay on its northern flank, faintly visible from where I was standing at the entry of the valley.

A few hundred metres later, as the trail turned right at Bamani dhaur, one could see the entire valley stretching eastwards all the way till Tipra kharak camping grounds. To the west of this point, a sharply rising trail takes one to Khunt khal - the moderate pass that connects the Valley of Flowers with Hanuman chatti and then on to Badrinath. Smythe used this pass to crossover to Badrinath during his maiden visit to the valley in 1931³.

A gently undulating trail leads through verdant slopes from Bamani dhaur to the Tipra kharak. The rise of elevation is so gentle one barely notices it. At the peak of the monsoons, it would perhaps be one of the most colourful walks on earth.

Dotted with bushes of rhubarb the Tipra kharak has a pretty setting- the Tipra glacier to the east, the Khulia ghata ridge to the north, The Saptashringi range to the south and the sprawling meadows of the Valley of Flowers to the west. Smythe mentions bears and Yeti footprints during his stay in the area. From Tipra kharak, the faint trail to Bhiundhar khal follows the right lateral moraine of the Tipra glacier. After reaching the point where Rataban and Tipra glaciers meet, we were to follow the right bank of Rataban glacier in a northerly direction till we encountered the Bhiundhar icefall.

3. For details and nomenclature see, *Meeting the Mountains*. by Harish Kapadia, p.101 (Indus Publishing, New Delhi, 2nd edition, 2009)



37. View of route to Bhiundhar khal from ridge top, ahead of Rataban-Tipra confluence. (Vishwanath Radhakrishnan)

By lunch time we reached the confluence point of the glaciers, a camp site with loads of waste in the form of rusted cans lying under rocks. The post-lunch enthusiasm was neutralised as soon as we started climbing the exposed grassy slope on the right bank of the Rataban glacier. The Ghorī glacier (the other branch of the Tipra glacier) looked eerie behind us, under the fast-gathering afternoon clouds.

After an hour, on our right, the bulk of the Bhiundhar icefall slowly revealed itself from under a misty haze. The scale of it is impressive for a diminutive observer. One is awestruck by the mighty display of raw power! Tons of masses of ice-slabs and seracs tumbling down in suspended animation! We found a campsite on the ridge beside a small rivulet of ice-melt. The Bhiundhar icefall was directly in front. We were on our 3rd day in the mountains and the altitude was 4300 m. Thankfully all of us were acclimatising fast.

We wanted to gain some distance during the next day so that a base camp could be established closer to the pass. The challenge was to descend to the glacier bed and cross its width and then climb to the top of the right lateral moraine of the Bhiundhar icefall. The target was a raised platform under rock-buttresses connecting the Rataban

and Nilgiri massifs. Getting down to the glacier bed required some strenuous step cutting and rope fixing. Two hours later we gained the right bank close to the icefall. After another hour of laborious climb we finally reached what we called as 'the Balcony Camp'. It provided a 360-degree view of the panorama around- the Nilgiri to the north, the Valley of Flowers and Tipra glacier to the south, the Khulia ghata ridge to the west and the Bhiundhar icefall to the east. A low cloud hung everywhere truncating the view. Pretty though it was, it filled our mind with foreboding about the oncoming weather conditions.

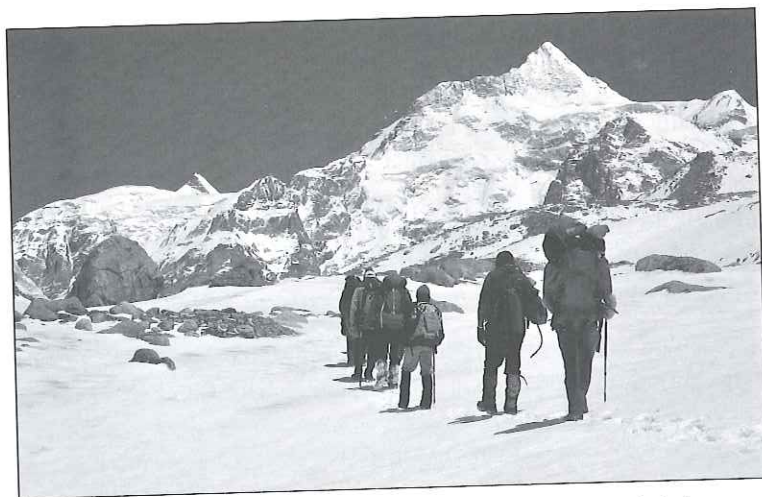
Within an hour of starting the trek the next day, we were on a near vertical slope that led up in the general direction of Bhiundhar khal. At about 4900 m, the view opened wide as we reached a snow plateau. The route that went east was a tricky traverse with some areas marked with rock-falls from above and the slope falling at an alarming angle to our right. After a few hundred metres, we took a northerly turn and saw a prominent depression directly ahead. The GPS pointed straight towards this depression. We were having the first view of Bhiundhar khal.

We reached the pass at 12.40 p.m. and a storm hit us almost immediately, its speed increasing with furious rapidity. Soon came heavy snowfall and loud thunderclaps. The altitude read 5092 m. In the snowfield below we came upon a long crevasse, which required us to get roped up. The storm abated an hour later, only after we had safely regrouped on the left bank of Rataban East glacier.

We had trekked for six hours and the water supplies were woefully low. We didn't have the morale to cross another six kilometres to Bank kund lake camp before sundown. Tents were pitched on the glacier floor. Far ahead was a bounding ridge with lofty peaks and hanging glaciers. We could see the Thur Udiar route to Devban plateau that Smythe describes in his diaries. High above the wisps of misty clouds it was like a paved road leading skywards.

Stage 2

Rataban East glacier (4500 m) - Bank Kund lake (4500 m - 6 km)
 - Bank Kund bend (4900 m - 6 km) - Garh (5430 m - 8 km) - Gupt khal base (5700 m - 4 km) - Gupt khal (5835 m) - Nakthani snowfields (5650 m - 3 km) - Nakthani glacier snout (4950 m - 6 km) - Badrinath (3100 m - 18 km trek and 4 km drive)



38. Headed towards Garh camping ground on the left bank of Bank Kund glacier near Bank Kund icefall area. Kamet on left and Mana on right. (Vishwanath Radhakrishnan)

We started a bit late next morning. Starting off on the left bank of Rataban glacier, we reached the Bank Kund junction after three kilometres of easy walk. It was a vast amphitheatre of a glacier field. The Bank Kund glacier described a gigantic curve and led on to our east towards Ghamsali. Two other glaciers were joining in at that point, one from which we came, Rataban and another slightly to our west and left, the glacier from the Nilgiri Parvat. Right ahead in front of us to the north was the wall of the Kagbhushand peak.

Somber brownness of the glacier pervaded everywhere made bleaker by the pregnant clouds overhead. Here and there one could see dark-green puddles of glacial pools. By noon we had re-grouped upon a large heap of boulders on the bed of the Bank Kund glacier. A new challenge had cropped up. We weren't able to locate the Bank Kund lake! The glacial pools around us were nowhere close to the picture of the beautiful lake in Harish Kapadia's book. After extended scouting around, the lake was finally located on top of the right lateral ridge near the Nilgiri icefall⁴.

It was a little oasis of green amidst all that brown. True to account in the book, birds were indeed chirping and the grass was a spongy

4. For description of route see, Harish Kapadia, *High Himalayan Unknown Valleys*, p. 43. (Indus publishing, New Delhi, 4th edition, 2001)

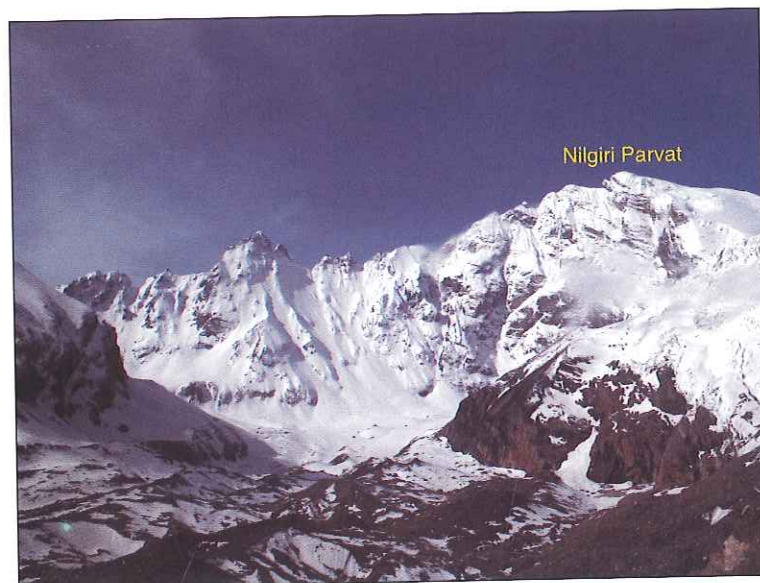
foam mattress, which allowed us to compensate for the discomfiture of the previous nights!

Planning the route the next day, it appeared unnecessary to get down to the glacier floor and then ford the way up through heaps of rocks. We chose the inviting slope up a gentle gradient on the ridge we were standing upon. After the first bend to the left the vista changed dramatically revealing a wide valley from whence came the Bank Kund glacier. A few hundred metres ahead we came to a point where the ridge ended abruptly, cut in by a steep snow slope coming from above. The icy slope was tricky. A fall would mean a short cut to the glacier floor couple of hundred feet below. During the next hour, Suraj had an unfortunate slip and was on his way down before he self-arrested.

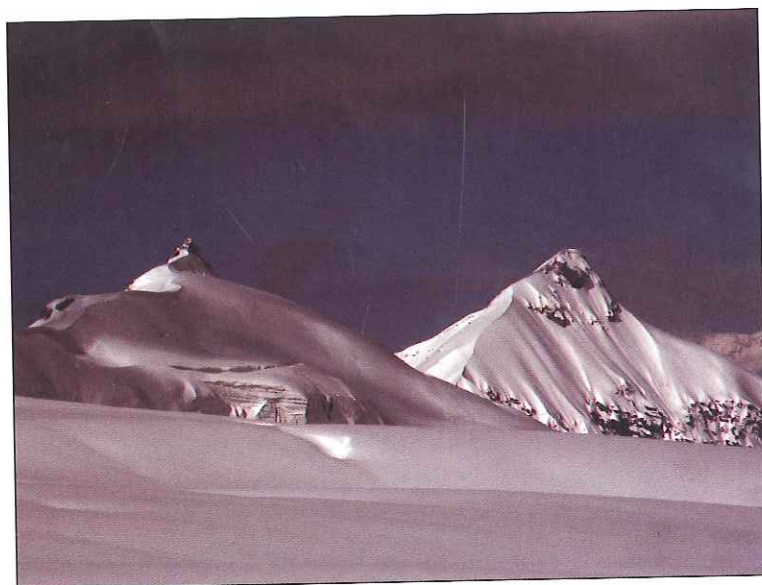
It was late afternoon when we reached the top of the left bank after a frustrating kilometre of boulder hopping on the glacier bed. We would now remain on this side of the glacier till we reached the snow flats of Garh camping ground. Thankfully the ridge provided a much easier and faster trail. Soon it vanished into a rocky slope that cut in from above. We were still 800 m away from the planned campsite, when we decided to call it a day. A bright sun next morning revealed the spectacular panorama around. The wall of the Nilgiri ridge stood tall across the glacier, its top shining with the first rays of the sun. The shapely Kagbhushand stood silhouetted against the glittering golden of the sun to the southeast. Anxiety about the route got resolved when, after some careful boulder hopping in the rocky slope, we emerged on a vast sloping field of snow, extending for several kilometres.

The GPS beep indicated that this field was our intended campsite of the previous day. A beautiful campsite probably used by Smythe and Kapadia's teams. The divine spectacle afterwards made us forget the travails of the previous days. The Bank Kund icefall was the first recognisable landmark. A massive snowfield extended towards left on top of the icefall. Far away was a ridge defining its boundary. It looked like a raised mound of brown in all that whiteness. That seemed to be our target - the Gupt khal ridge.

If one trained the eyes up to the northern skies, one could see two distinct pyramids. The one to the left was Kamet, the tallest of the mountains in the Zaskar ranges and to the right, Mana, both seven-



42. The Cwm on the east face of Nilgiri Parvat from the ridge near Bank Kund lake. The Nilgiri icefall is partially visible in the extreme right. (Ashutosh Mishra)



43. Twin peaks seen to the southwest of the Nakthani snowfields, Nar and Narayan Parvat. (Ashutosh Mishra)

our highest camp in the trek. The worry was not the altitude, for all in the team seemed to be in fine fettle. The worry was about the relentless snowfall! We had to scale the imposing wall of Gupt khal ridge and get on to the other side, our easiest way to safety. We could do that easily but only if the snow allowed us to!

Jaisingh, our guide, started off for cutting the route and fixing the rope as soon as the snowfall stopped around 10 a.m. in the morning. Within two hours we got an ok from him to follow to the top. Strangely, the sky began clearing up just as we started off towards the ridge. It was a near vertical ascent and all of us focused on holding on to the rope and taking the next step - the next step was sometimes chest high. We later calculated the climb to be about 150 m.

At about 1 p.m. we reached the top! There was no jubilation or victory cry as one usually finds in such moments. Everyone was just happy and thankful. It was a mix of too many emotions, anxiety about the route and weather ahead, the joy of being there at 5835 m and an utter sense of thanksgiving! As Negi and Bharat wrote later 'We could do it because the mountain allowed us to'. How true! We might conquer and re-conquer the loftiest summits and the most inaccessible cranny of the grand mountain; but whenever and however we do it, we must remember, it is an act of permission by the Himalaya. It's not an act of submission, for if it wishes, it can strike off a puny man with the faintest brush.

The panorama from the top was spell-binding. To the north was the route that Smythe had followed over the pyramid of Pk 6600 m on his way to Mana. To the south were the Pk 6029 m, Mandir Parvat and its two lesser subsidiaries. To our east, Mana stood tall. Garh camping ground was under the shades of the clouds far away in the southeast. The Alaknanda valley and the peaks flanking it dominated the view west. We could recognise Nilkanth, Chaukhamba and Arwa Tower. To the southwest and northwest were the two glaciers that emanate from the Nakthani snowfields, the southern and northern Nakthani glaciers respectively. It was a tricky descent through a near-vertical gulley between two imposing rock walls. It was an individual ordeal for each of us as we descended down a route far steeper than the one we used to climb up. We had crossed Gupt khal and were now on the highest

parts of the Nakthani snowfields. I had never seen anything so virgin, serene and surreal where the colours of nature created such variety of illusions.

It must have been five in the morning when we heard a cry of pain coming from the porters' tent and some commotion followed. One of the porters, Prem Singh Shahi had developed severe stomach pain and was screaming in agony. We suspected complications because of altitude so two porters were released from their loads to help the sick man get down quickly. Soon we were on the boulder filled right bank of the northern Nakthani glacier, inches from a dreadful Nakthani icefall. Afterwards it was a painful struggle on the right bank, filled with large snow covered boulders. We could locate a probable campsite where the glacier converted into a thin stream. At about six in the evening, with snow falling hard, we set up tents.

Within an hour came the sad news that the sick Prem Singh succumbed to his illness on the way down. Prem Singh had a punctured appendix as the post mortem revealed. The mood in the camp was a queer mixture of sadness, frustration, anxiety and anger. There was no sign of altitude sickness, nor there was any accident. Having weathered the worst of the weathers and now on our way to our homes, the end of the trek barely few hours away, we had lost a man!

We had run out of supplies and lost a man. The mountains had struck a decisive blow to the team morale. We navigated the entire way from Nakthani snout till Badrinath the next day through unforgiving and unmarked terrain, through changing moods of weather and unsure trails that threatened to disappear frequently. After 8 hours and 18 km we finally reached Mana village at 5 p.m.

This was an experience unlike any other that I have had so far in the Himalaya. There was a bit of everything; sunny days, avalanches, rock falls, vertical ascents, animal sightings, glacier crossings, near vertical rappelling, crevasse traverses and blinding blizzards! We had our moments of ecstasy and hours of grief.

Just to repeat a route with modern information and gadgetry was such an experience! What romance and adventure would it have been to carve out a virgin route almost a century back, one wonders. Its one thing to read up the Shiptons and Tillmans and Smythes of the world. It's a different thing to sample their experiences!

Members: Madhur Lakhani, Vishwanath Radhakrishnan, Arun Negi, Bharat Tomar, Ravin Bhatt, Suraj Mal, Rajesh Jadhav and Ashutosh Mishra (leader). The team members were from different cities in India, most of them did know each other and had met in the virtual world of Internet for this trek!

Summary :

A trek to Valley of Flowers and Rataban glaciers. Bhiundhar khal (5100 m) and Gupta khal (5835 m) were crossed in June 2010.