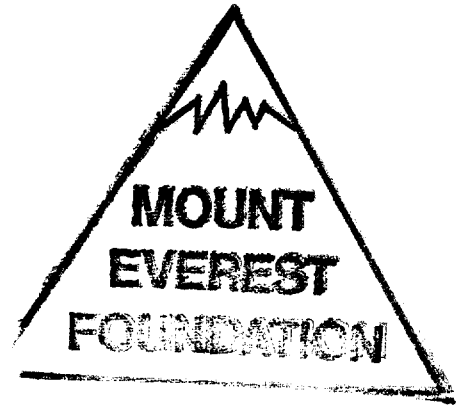


02/45



# British Nye Chu Expedition

## Expedition Report

Supported by the Mount Everest Foundation

Members:

John Town, Nicola Hart

With thanks to:



Martineau Johnson

- Bikrum Pandey, Himalayan Expeditions, Kathmandu
- Ming Ma, CITS, Shigatse, Tibet



Nyenang

MOUNT EVEREST FOUNDATION

Patron: H.R.H. The Duke of Edinburgh, K.G., K.T.

**SUMMARY REPORT**

**FROM AN MEF – SUPPORTED EXPEDITION**

MEF support for an expedition is offered on condition that you submit detailed reports to the Foundation. To assist in fulfilling the initial part of the commitment it is requested that you fill in this form and return (with three photo-copies, which we will forward to the AC, the RGS and the BMC) to the MEF Hon Secretary within six weeks of return from the expedition. Please feel free to continue on additional sheets if necessary.

1- Name of Expedition BRITISH NYEWO CHU EXPEDITION

2 – MEF Reference: 02/45 3 – Country/Area: EAST CENTRAL TIBET

4 – Names of all expedition members, indicating leader, climbing and support members:

JOHN TOWN (L)  
NICOLA HART

DAWA THE THREE HORSEMEN  
'THE DRIVER'

5 – Leader's name: JOHN TOWN

Address: 146 MELTON ROAD, W. BRIDGFORD, NOTTINGHAM

Home Tel: 0115 923 3421 Work Tel: 01509 222223 Fax: 01509 223900

E-mail Address: j.m.town@lboro.ac.uk

6 – Objective(s) of expedition – mountaineering / scientific / medical, include location of objective (or studt area) with indication of special points of interest (e.g. first ascent of NW Ridge) and heights of peaks:

EXPLORATION OF NORTHERN AND WESTERN FLANKS OF THE  
UPPER KONG-PO RANGE (E. NYANCHEN TANGLA) FROM THE  
NYEWO VALLEY, INCLUDING IDENTIFYING AND PHOTOGRAPHING  
THE TWO HIGHEST SUMMITS, PKS 6842/6920 AND 6870/6730.

7 – Overall dates of the expedition (e.g. March-June 1999) and if possible, details of dates spent on access, on the mountain and on return: MARCH-APRIL 2002

20–24 MARCH TRANSIT TO LHASA (3) 8–10 APRIL RETURN TO LHASA (3)  
25-27 MARCH JOURNEY TO NYE (3) 11-14 APRIL LHASA & FLIGHT BACK (4)  
28 MARCH- 7 APRIL: EXPLORATION NYEWO CHU & SIDE VALLEYS (11)

**8 – Brief comments about expedition with technical details of route and maximum height reached:**

Route from Nagchu to Nye was via an exceptionally difficult road. The first day, to Atsa, is reasonably well used but crosses two 5000m passes which are snow covered in Spring and often block with snow. The second section through the upper gorge of the Sung Chu to Nye sees less than 100 vehicles a year and is impassable in mid-Winter and the rainy season. Reached Nye village 27<sup>th</sup> March. Foreigners rarely reach here – last and only known British visitor was Kingdon Ward in 1936. From Nye ascended Nyewo Chu to Deba, Kongma, Nyeto Samo and Ekar villages (3 days trek). On the way attempted without success to ascend Pangma and Tsari gorges to view Peak 6842/6920. Successfully climbed to Chung Tso lake to gain first view of spectacular NW face of Nyenang(Kangla Karpo) 6870/6730. Also obtained good views of previously unknown Kalu glacier basin including N face of Jomo Taktse (6582m) and many unnamed peaks.

**9 – Weather conditions, and if appropriate, reasons for retreat:**

LYING SNOW AND MILDLY SUBZERO CONDITIONS ON PLATEAU ABOVE 3700M, WITH OCCASIONAL SNOWFALL ANDCONSISTENT CLOUDCOVER.  
REGULAR ANDHEAVIER SNOWFALL ON 5000M PASSES IN AND OUT.  
WEATHER IN NYE REGION MIXED, SOMETIMES CLEAR, SOMETIMES POOR, WITH MODERATE SNOWFALL ABOVE 3500M & HEAVY FALLS ABOVE 4000M.

10 – Note of any accident to expedition members or to porters; also cases of serious illness, especially oedema – pulmonary or cerebral:

AGENCY MANAGER TRAPPED DRIVER'S FINGER IN DOOR IN LHASA, OTHERWISE NONE.

11 – Any other relevant comments (permit, LO etc):

**12 – Brief financial details, with income and expenditure:**

<b>Expenses</b>		<b>Income</b>	
Flights	£ 2,644	Personal Contributions	£ 6,552
Arrangements ex-Kathmandu	£ 2,889	Mt Everest Foundation	£ 700
Supplies & other misc costs	£ 600		
Visas	£ 130		
Insurance	£ 250	(* analysis excludes personal	
Satellite Phone Rental	£ 317	equipment spend)	
Film	£ 240		
Maps & Satellite Photos	£ 182		
	<u>£ 7,252</u>		<u>£ 7,252</u>

13 Aprox date when Final report will be submitted    **NOVEMBER 2002**

## Expedition Members



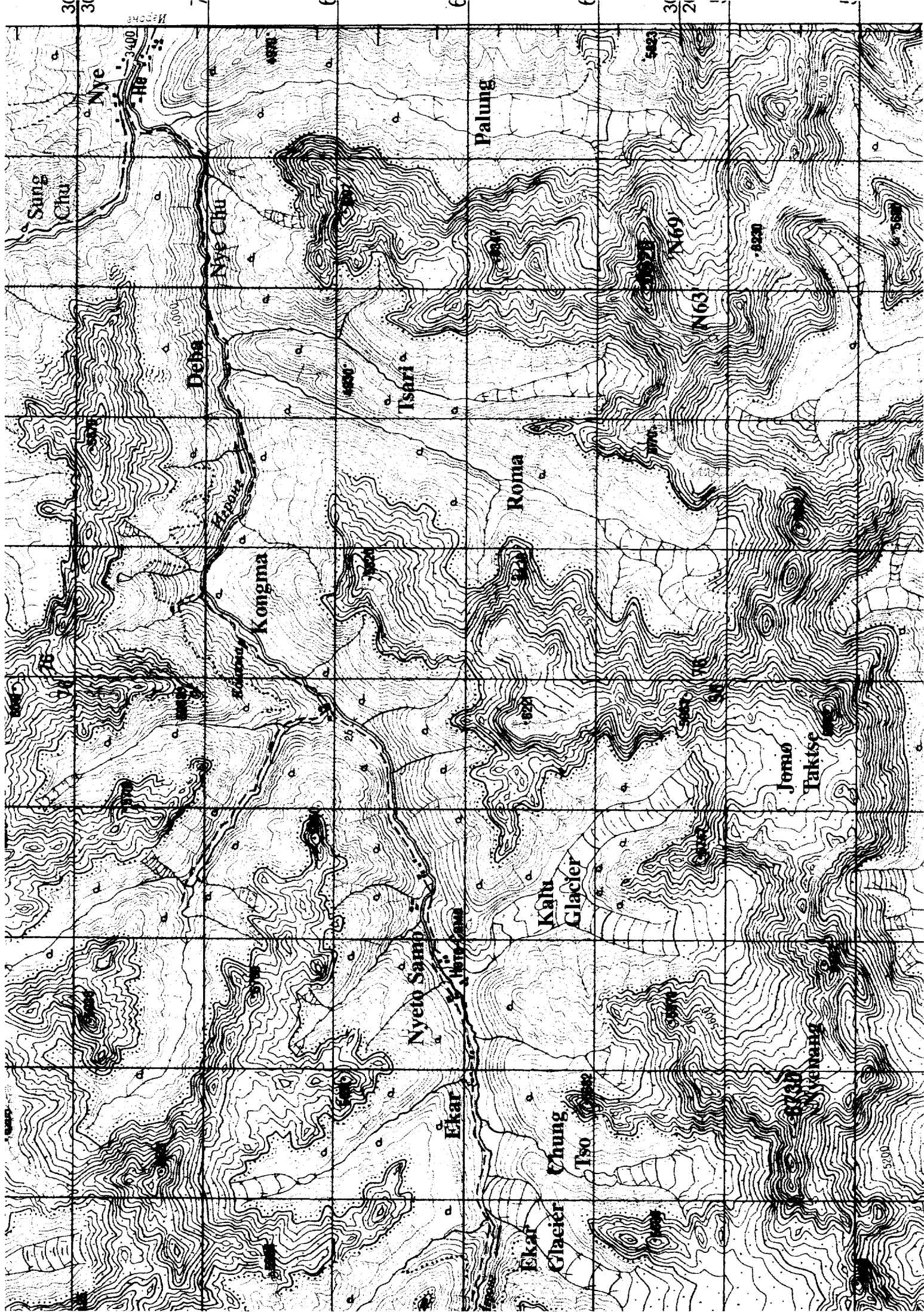
Nicola Hart, 39, is a walker and fell runner who has travelled extensively in South America, as well as in Nepal and New Zealand. She has been on the winning crew on the Three Peaks yacht race and sailed uncharted waters off Labrador.

Nicola lives in Birmingham, where she is a Partner in the legal firm Martineau Johnson.

John Town, 49, has climbed in most mountain areas of the world and has a particular fascination with remote and unexplored ranges. Over the last twenty years he has written numerous articles for climbing magazines and journals.

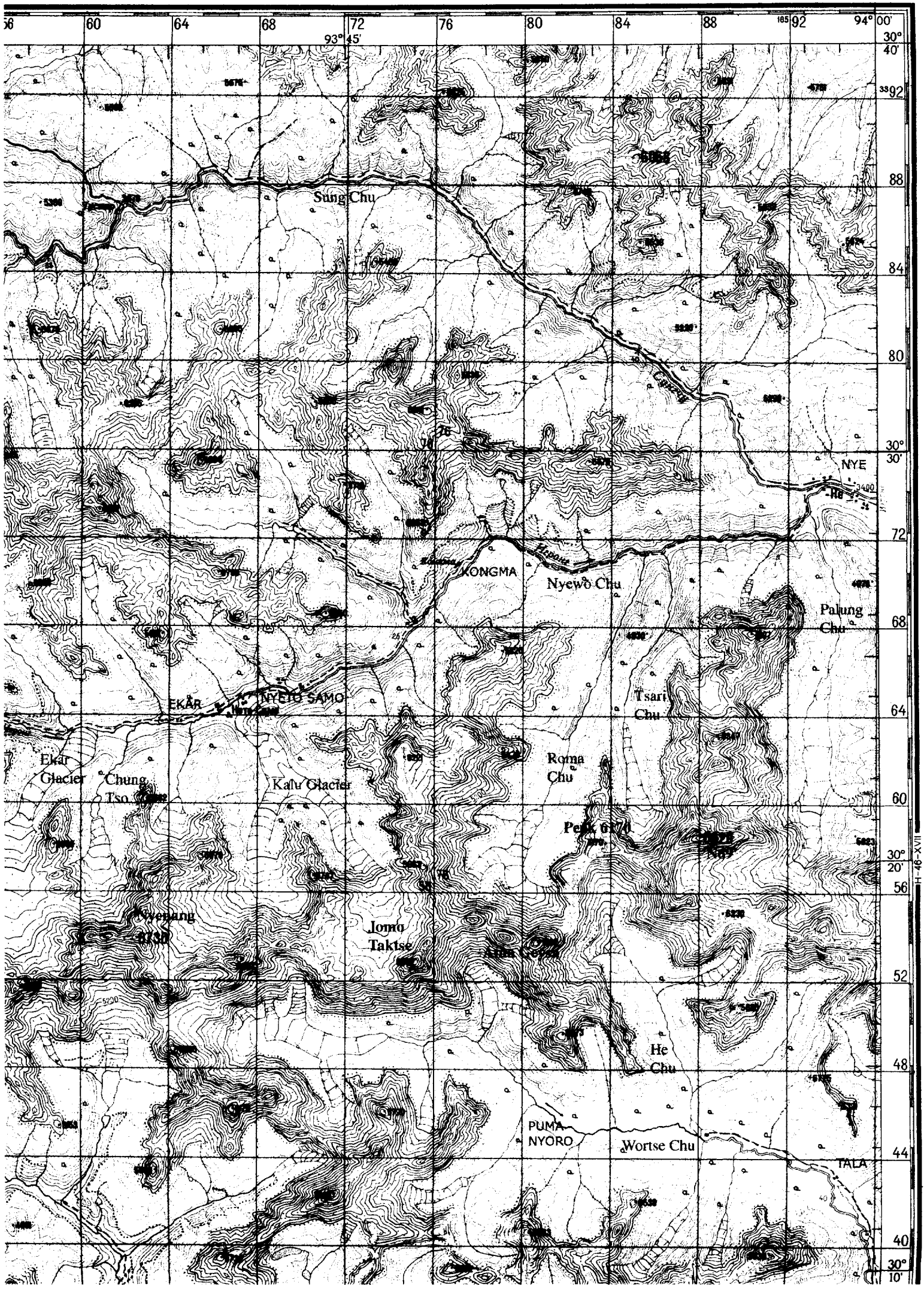
John has made four trips to Tibet in the last five years, hoping each time for better weather. He lives in Nottingham and is Registrar at Loughborough University.





# Itinerary

Day 1	Wednesday	20th March	plane			
Day 2	Thursday	21st March	Kathmandu		Flight to Kathmandu	
Day 3	Friday	22nd March	Kathmandu		Buy supplies	
Day 4	Saturday	23rd March	Lhasa		Flight to Lhasa	3700m
Day 5	Sunday	24th March	Lhasa		Buy supplies	3700m
Day 6	Monday	25th March	Apa La	cloudy	Journey in	5000m
Day 7	Tuesday	26th March	Sung Chu	snow	Journey in	4200m
Day 8	Wednesday	27th March	Nye	clear	Journey in	3400m
Day 9	Thursday	28th March	Nye	cloudy	Exploration of Palung Valley	3400m
Day 10	Friday	29th March	Deba	cloudy	Trek in	3500m
Day 11	Saturday	30th March	Deba	cloudy	Exploration of Tsari Valley	3500m
Day 12	Sunday	31st March	Nye Chu	clear	Trek in	3600m
Day 13	Monday	1st April	Ekar	clear	Trek in	4000m
Day 14	Tuesday	2nd April	Ekar	snow	poorweather	4000m
Day 15	Wednesday	3rd April	Ekar	snow	poor weather	4000m
Day 16	Thursday	4th April	Ekar	clear	Climb to Chung Tso	4000m
Day 17	Friday	5th April	Kongma	clear	Trek back	3600m
Day 18	Saturday	6th April	Nye	clear	Trek back	3400m
Day 19	Sunday	7th April	Nye	clear	Exploration of Nye Gorge	3400m
Day 20	Monday	8th April	Atsa	clear	Journey back	4400m
Day 21	Tuesday	9th April	Nakchu	snow	Journey back	4500m
Day 22	Wednesday	10th April	Lhasa	snow	Journey back	3700m
Day 23	Thursday	11th April	Lhasa			3700m
Day 24	Friday	12th April	Lhasa			3700m
Day 25	Saturday	13th April	Kathmandu		Flight to Kathmandu	
Day 26	Sunday	14th April	London		Flight back	



1:50,000  
H-46-XVI



## **Background to the Expedition**

In September 2001 John and Derek Buckle explored the mountains at the head of the Wortse Chu, to the north of the Draksum lake, in the Kongpo province of east central Tibet. Despite finding a wealth of beautiful unclimbed peaks, we failed to reach the two highest peaks of the range. The first, N69, unnamed and marked as 6842m on Chinese maps and 6920m on detailed Russian maps, lay out of sight behind the headwall of the He Chu. The trackless upper gorge of the Wortse barred access to the second peak, Nyenang, 6870m or 6730m.

In 2002 we were determined to reach and explore these two mysterious giants and, since the southern approach had yielded little result, thought that a route from the north might hold the key. The watershed of the range forms the boundary between Kongpo to the south and the province of Lhari. On this northern side the rivers and glaciers run down to the Nye Chu, which runs for 70 km from its source below the Lachen La, to its junction with the Sung Chu. A few kilometres further east the river joins the Dakson Chu to become the Po-Yigrong, which continues eastward into a series of savage gorges. Frank Kingdon Ward had come this way in 1936, travelling up the gorges from Tongkyuk to Rigongka (Ragoonka), through Nye and on westwards over the Lochen La. The weather was bad and he had only a few spectacular glimpses of the main range as he made his way over the pass. This route took several months and was plainly not a starter for anybody with a steady job, even with employers as understanding as ours. In any case Kingdon Ward's hair-raising accounts of the gorge were not encouraging.

Some Chinese maps showed another approach to Nye, via a road running south west from the city of Nakchu to the town of Atsa, on the old Gya Lam caravan route, and then down the gorge of the Sung Chu. Chris Bonington and Charles Clarke had travelled this route in 1996 as far as Lhari, the former provincial capital, about 20km east of Atsa and had various unkind things to say about the road, but we could not find any accounts of anyone traversing the final 60km down the lower part of the gorge to Nye. Charles' most recent expedition report reported that it was unlikely permission could be gained for travel in this area. The sensitivity arises from continuing controversy over the Panchen Lama, with both the Chinese and Dalai Lama's candidates having been found in Lhari province, in the town of Chiali, just north of Atsa.

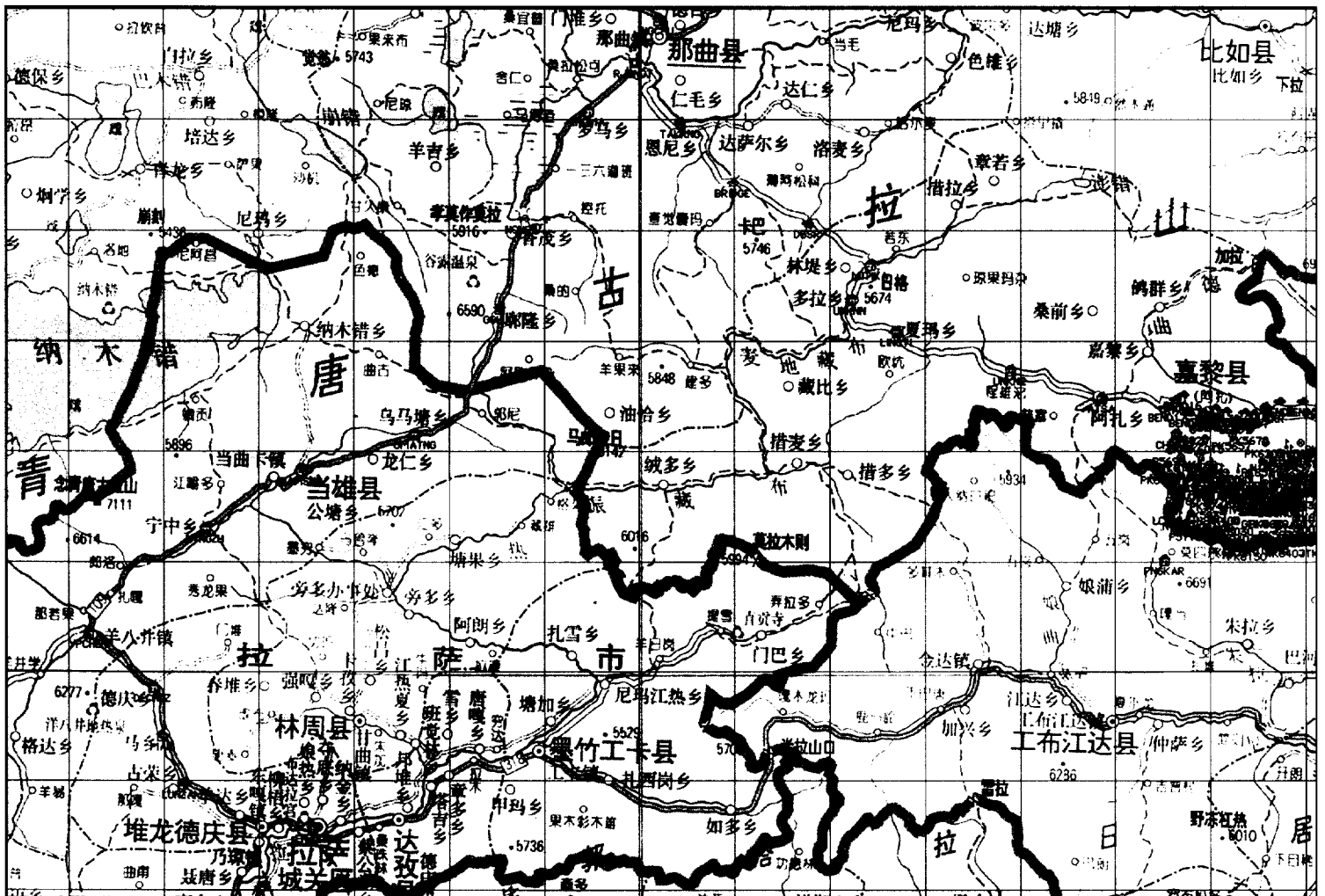
Rather than becoming too discouraged we took courage from Kingdon Ward. At Temo Chamna he flourished his 'permit' to Tibetan officials, before heading up the Po-Yigrong gorge. At a later stage he learnt that the 'permit' was in fact a letter denying him permission to go any further. In our case we followed my usual practice of faxing someone (in this case the ever-reliable Bikrum Pandy in Kathmandu) a map of where we wanted to go and not asking too many questions when we were told it could be arranged.

## **Kathmandu and Lhasa**

The MEF supported us with a grant and Loughborough University were generous enough to release me for four weeks over Easter. On Thursday 21st March 2002 we stepped off the plane in Kathmandu, unusually refreshed - since there had been no economy seats left, we had travelled business class and been upgraded to first on the last leg.

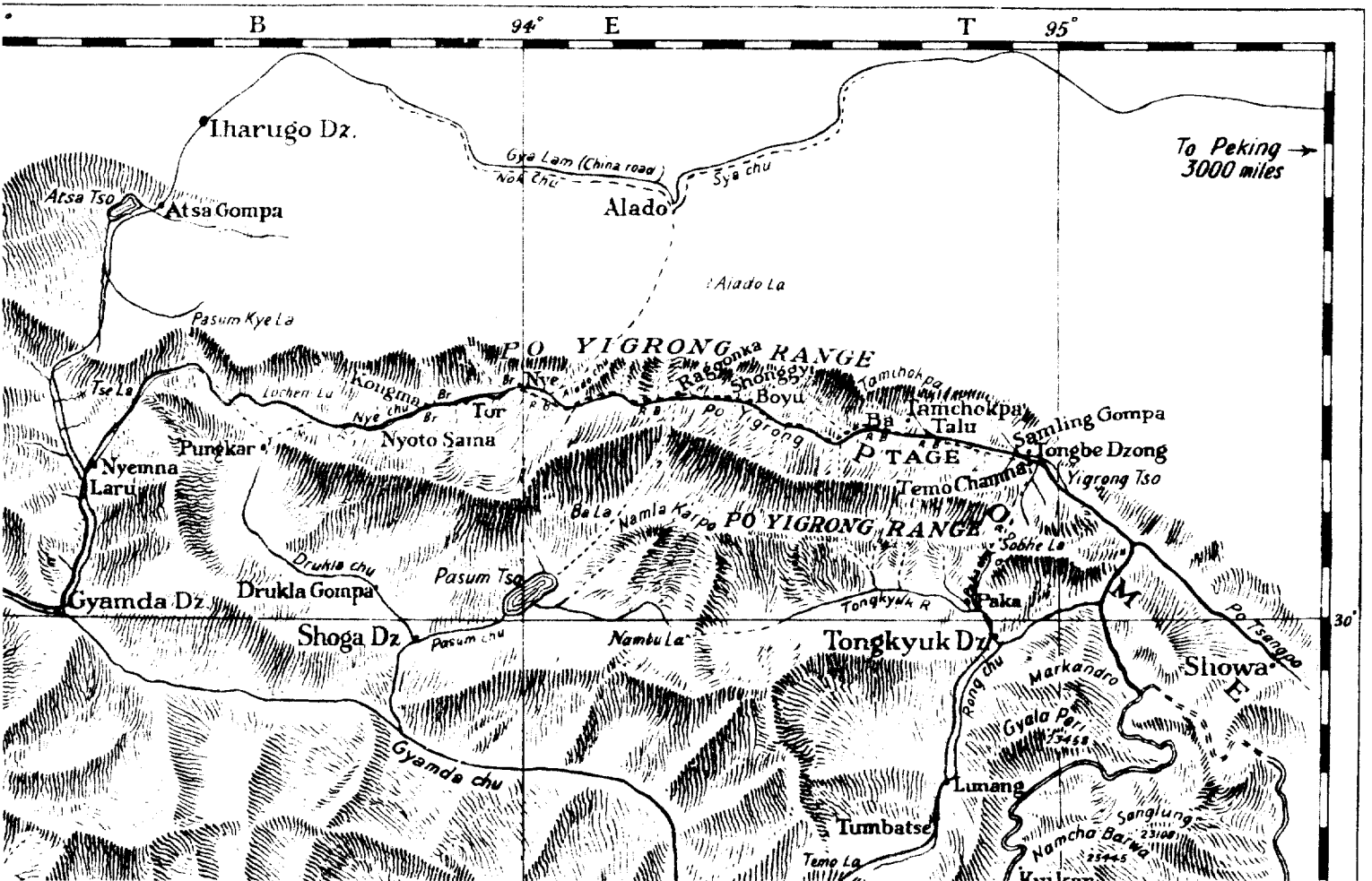
# Navigation - GPS Waypoints input in UK

Navigation in Tibet was assisted by use of GPS waypoints - shown here as blue house symbols with black english legend - derived from Russian and Chinese maps and downloaded into the GPS in the UK. The process involves scanning the maps into a computer and using software which, once the map co-ordinates are specified, allows you to mark up the waypoints needed. The software used was MacGPS Pro, for Garmin GPS units. Waypoints for road travel were defined on the Chinese Tibet Map shown below, and were accurate to within 1 to 2 km in the field. Waypoints for travel in the Nye and Sung Chu regions were defined using Russian 1: 200 000 Military maps and proved accurate to within a few hundred meters

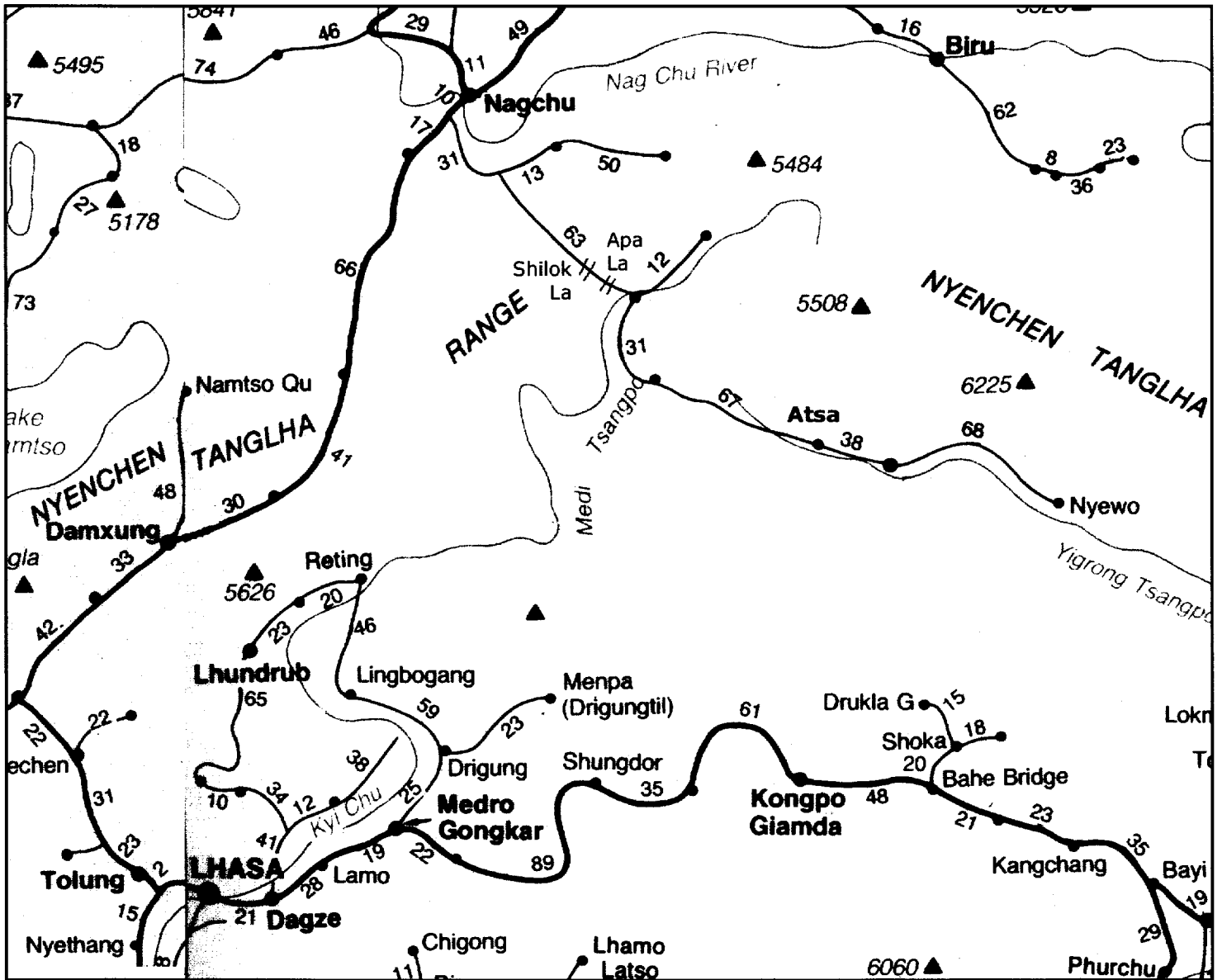


# Kingdon Ward's 1936 Route

from 'Assam Adventure' 1941



# The Route to Nye



Two days later we flew to Lhasa and were greeted by our guide/translator Dawa and his companion The Driver. It was immediately apparent that these were two very sound men, even by Tibetan standards – I was particularly impressed by the Driver's beaming smile and white driving gloves. In Lhasa we met their boss Ming Ma, a man who was willing to go out of his way to make our trip a good one – just how far would become apparent later in the trip.

### **Nakchu and the High Passes**

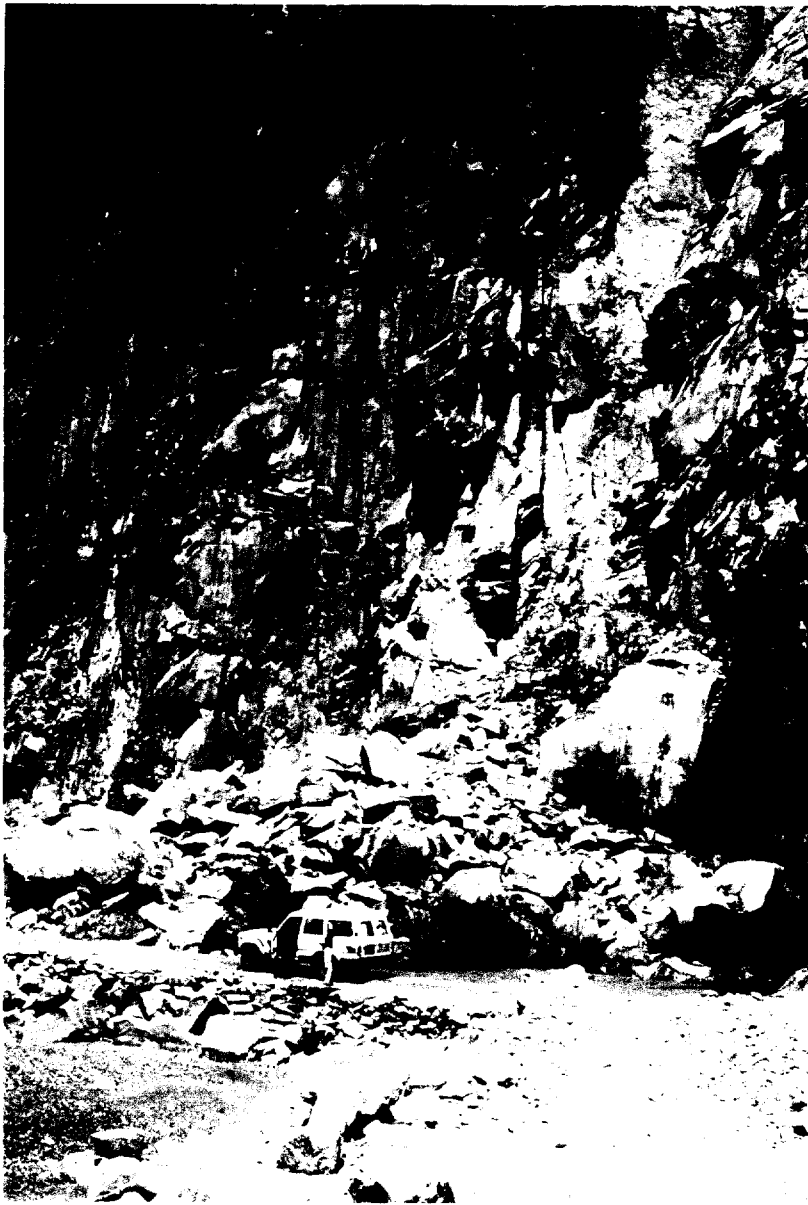
On Monday the 25<sup>th</sup> March we set out from Lhasa, taking the tarmaced main road north through Yangpachen and reaching the outskirts of Nakchu in about 6 hours. We didn't enter the city but refuelled and then doubled back a few kilometres to the Atsa turning, crossing the frozen Nakchu river on the way. Conditions up here were tough – anybody outside the relative warmth of a vehicle had their faces swathed against the wind. It was a lonely business as we headed away from the traffic of the main road and into the gathering darkness of the late afternoon – the deserted dirt road was in poor condition and at times the way was far from clear.

The road maps of this area are rather vague as to place names and distances, but it gradually became apparent that there really isn't much worth marking on a map anyway. Somewhere in this snow bound wilderness of endless plateau and low hills were two 5,100m passes, the Shilok and Apa La – the highest on our route. We both assumed that long before these some homely truck stop with a warm fire and plenty of tea would duly appear over the horizon. Instead it started to snow. We struggled on into the darkness, without the opportunity to discuss whether it was time to call a halt, since there was nowhere to halt. We climbed gradually, the air became thinner and the road gradually disappeared. Just before things became impossible (on the way back the Tibetans had to walk this section, to guide the vehicle through the white-out) the road levelled out and dipped down to a storm-bound hovel. The inhabitants suggested we cross the second pass, which lay just ahead of us, and try to find shelter lower down. Given the weather and the state of their accommodation, we thought they might want to come with us.

We pressed on, crossed the second pass and stopped at the first house we could find. Relief at finding somewhere warm and dry was fast tempered by the realisation that we had not descended very far and were in for an unplanned night at 5000m, with our prior acclimatisation limited to one day in Lhasa at 3500m. An appalling night duly followed, lightened only by the opportunity to practice a little amateur medicine. Ming Ma had trapped the drivers thumb in the car door in Lhasa and Dawa requested the most powerful pain killer we had. We duly administered the second best and the driver quietened remarkably. He had, we were told on enquiry, lost all feeling in his tongue.

### **Atsa and the Sung Chu Gorge**

The next day we pressed on, across high featureless plains and low hills, with the occasional group of houses huddled against the elements. On an icy section the land cruiser broke through the crust and sank to the axle. Eventually a tanker passed and hauled us out. Shortly afterwards we took a wrong turn, then doubled back, only to find the tanker bogged down in front of us. Figures and vehicles gradually appeared out of the snow to pitch in and two hours later we were on our way again. Towards



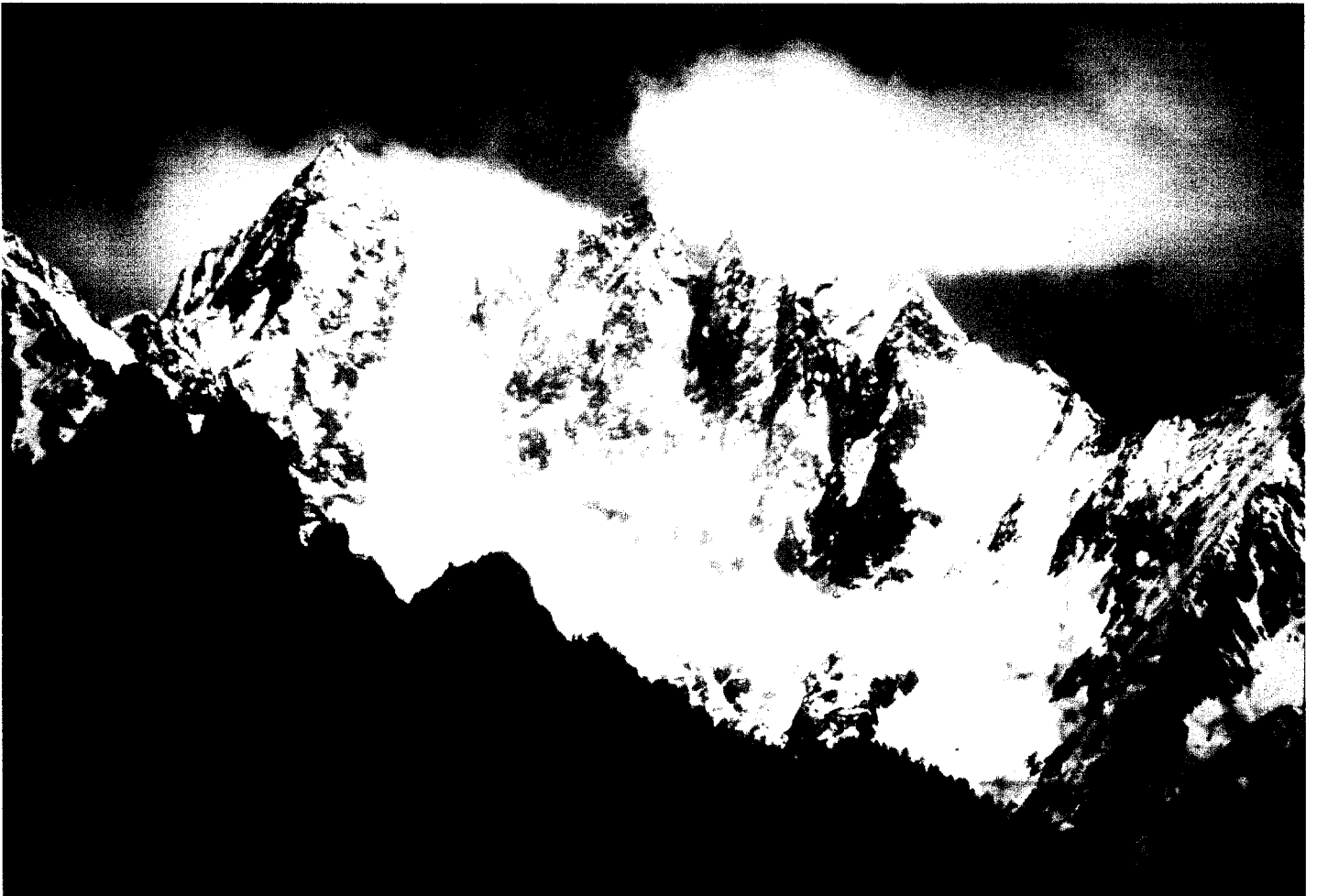
1. Rockfall in lower Sung Chu Gorge (500/20)



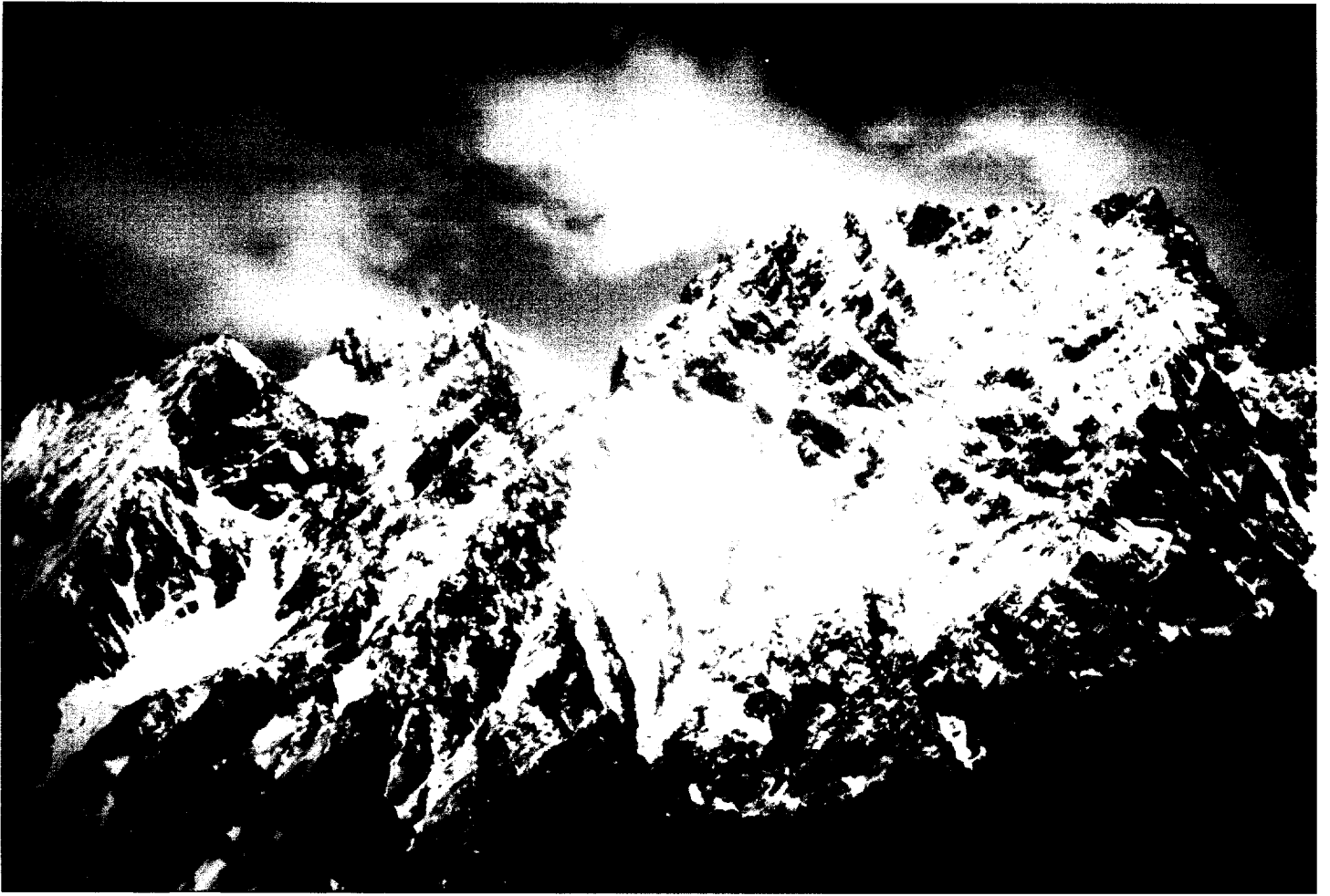
2. Gompa, upper Sung Chu (490/35)



3. Po-Yigrong Pks from Nye (499/15)



4. Po-Yigrong Pks Pinnacle Group (499/05)

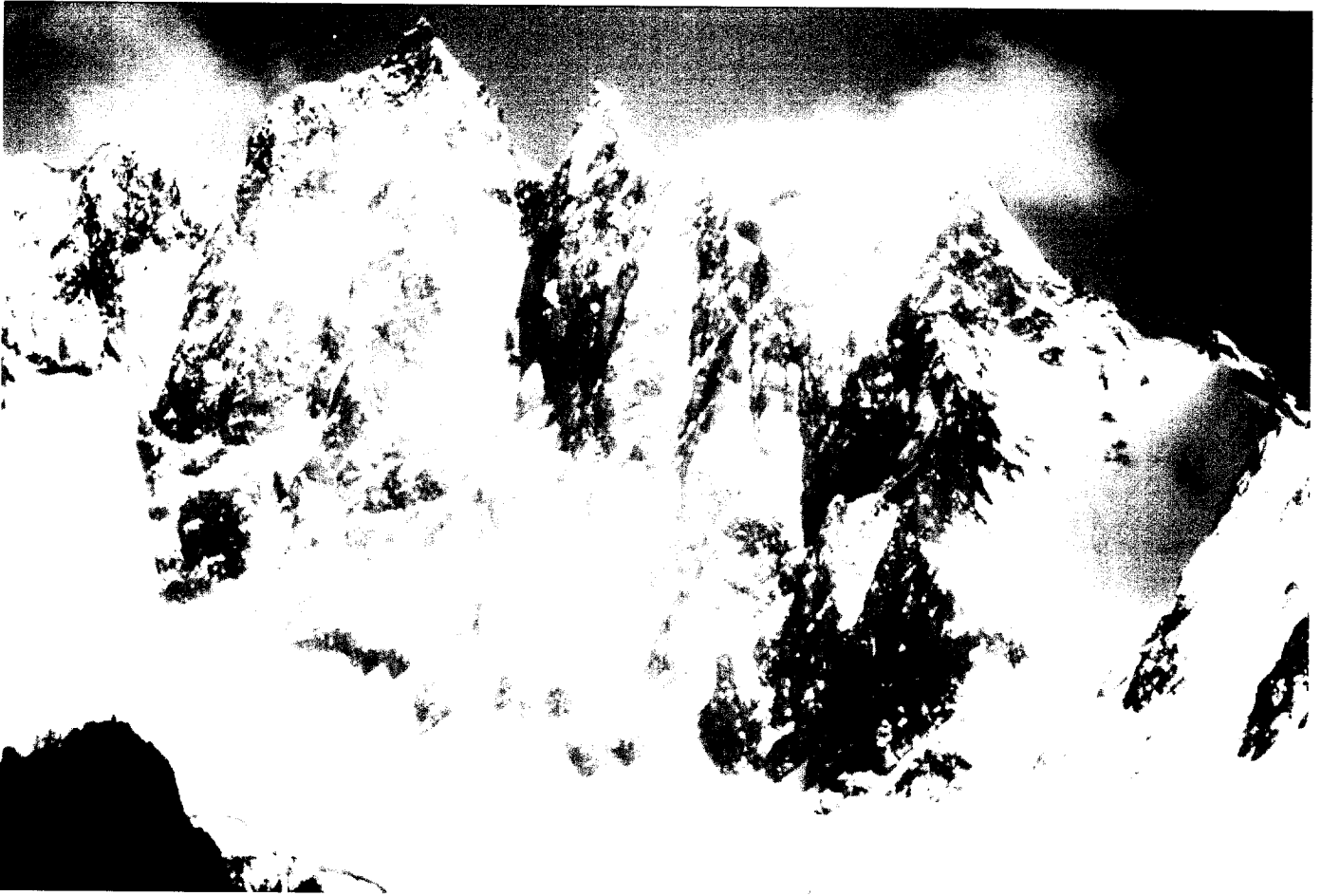


5. Po-Yigrong southern peaks (499/07)



6. Po-Yigrong Pks Pinnacle Group (498/07)





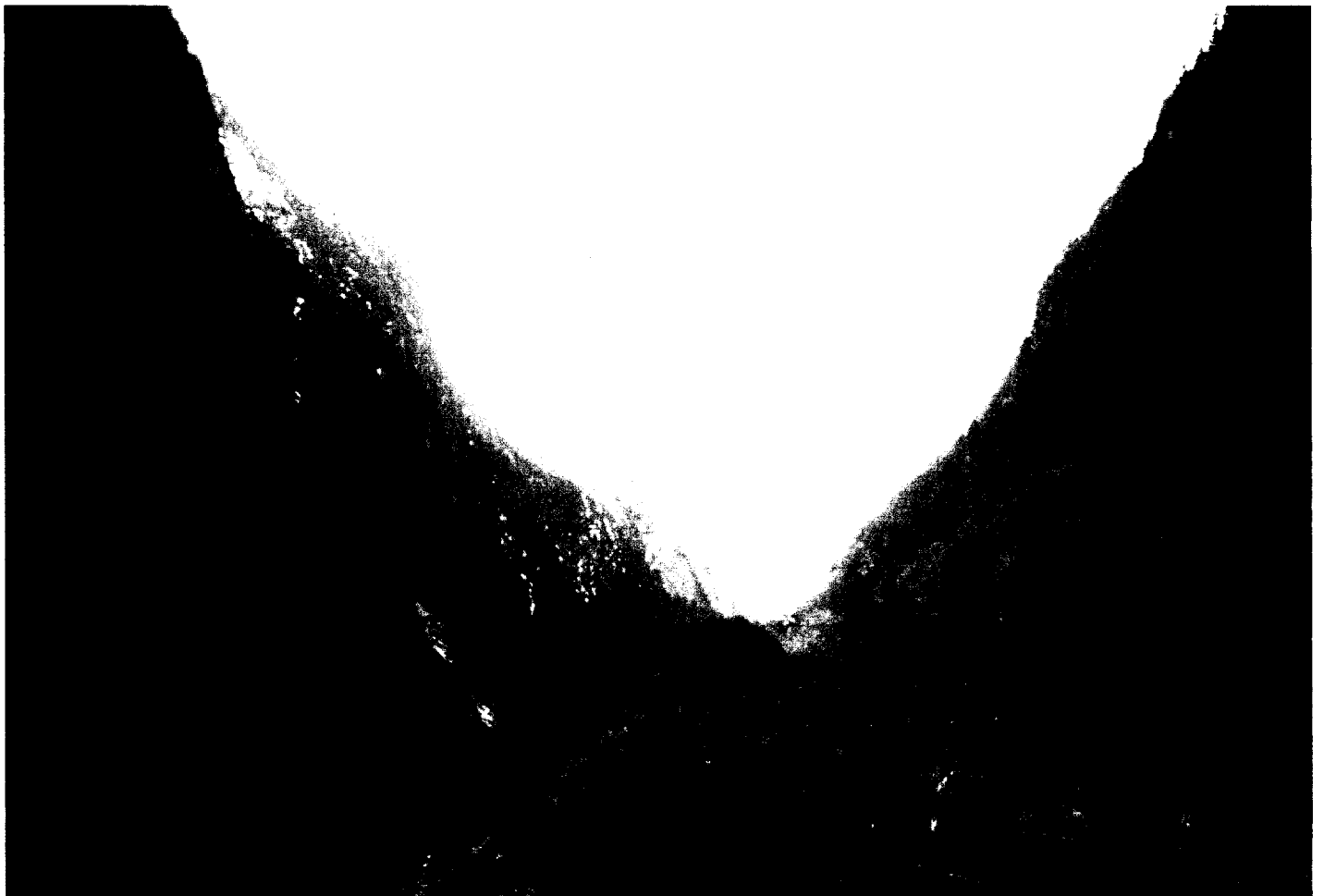
7. Po-Yigrong Pks Pinnacle Group (498/08)



8. Peaks W of Sung Chu from Tongme, Nye (491/29)



9. Palung Gorge (497/13)



10. Tsari - the 'Nightmare Valley' (496/22)

mid-afternoon the road started to descend into a shallow valley system which led us to the town of Atsa (also known as Lhari, in its role as capital of that province.) The town lies at the northern end of the Atsa Lake, on the ancient Gya Lam caravan route from Lhasa into China. Official outposts, however bleak, usually provide good chinese cooking and we feasted gratefully in a sub-zero dining room.

We drove onwards, first over a low pass and hydro scheme, where the road to Chiali branched off to the north, and on into the gentle beginnings of the Sung Chu valley. A beautiful snow peak was lit for by the sunset as we wondered, as so often travelling in Tibet, whether we were ever going to stop.

Relief came in the shape of a small village and picturesque gompa, whose headman was kind enough to give us shelter and whose population found us endlessly fascinating. Foreigners were rare here, though there had been Japanese some years ago, attempting the snow peak. A light snow fell overnight and dusted a bald section of the road just below the village. The vehicle slipped gently sideways here prompting a speedy exodus by all but the man at the wheel.

The gorge gradually got deeper and deeper and we began to be able to plot our progress in detail using GPS waypoints input from Russian maps in the UK. As we descended the air became warmer and the road more and more difficult. Land slides and rockfall were obviously a regular occurrence and it was often necessary to get out and remake the road before we could proceed. As the gorge closed in, houses gradually disappeared and dense forest started to crowd the slopes above. It is said that fewer than 100 vehicles a year make it down this road and it is easy to see why. After eight hours of painstaking driving, we crossed to the right bank by a concrete bridge (its mangled predecessor could be seen in pieces some way down stream) and, despite the rock walls on either side, we knew the end was in sight.

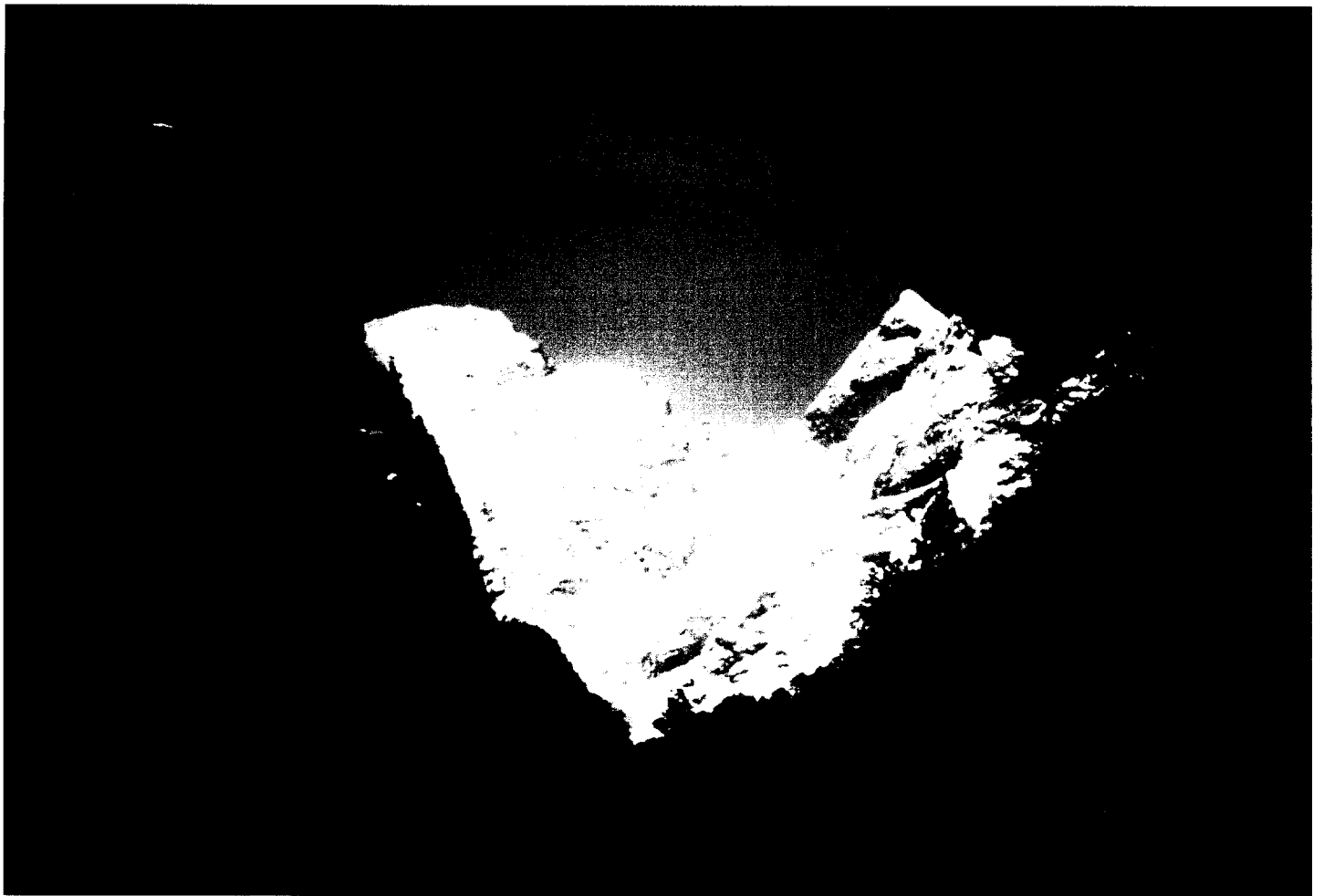
### **Exploring the Palung and Tsari Gorges**

Shortly afterwards the gorge suddenly opened into the wide sunlit Nye valley, surrounded by high mountains, where a series of substantial villages nestled amongst extensive field of barley and potatoes. The eastern end of the valley framed some impressive snow peaks, which rise to the north of the Po Yigrong Gorge (plates 3 –7). Nikki later visited this eastern end, where the Dakson (Alado) Chu issues from a massive cleft to join the Nye Chu (plate 23), and then, as the Po Yigrong, falls eastwards into an even more impressive gorge.

At Nye the road ended and we would continue our explorations on foot. The mayor provided us with single room guest accommodation – electric light courtesy of the valley's hydro station and we set about finding horses. Our plan was to hire pack animals and travel up the Nye Chu to Nyeto Samo. The next day, while arrangements were being made, we explored the approaches to the Palung Valley (plate 9). This runs seven km south from Nye to the Palung Glacier, and then a further ten km to the main watershed and a possible view of the elusive N69. The Palung Gorge was not for the faint-hearted. There may be a route to the glacier and its upper regions but it would need local help to find it. We became hopelessly lost in the dense bamboo forest clothing the side of the gorge and retired in disarray .

Our main hope was that we would gain a view of N69 by a relatively modest climb into the Tsari valley, which branched south from the Nye Chu at De-ba (plate 22), about a day's journey west. We would then continue on up the Nye Chu to the





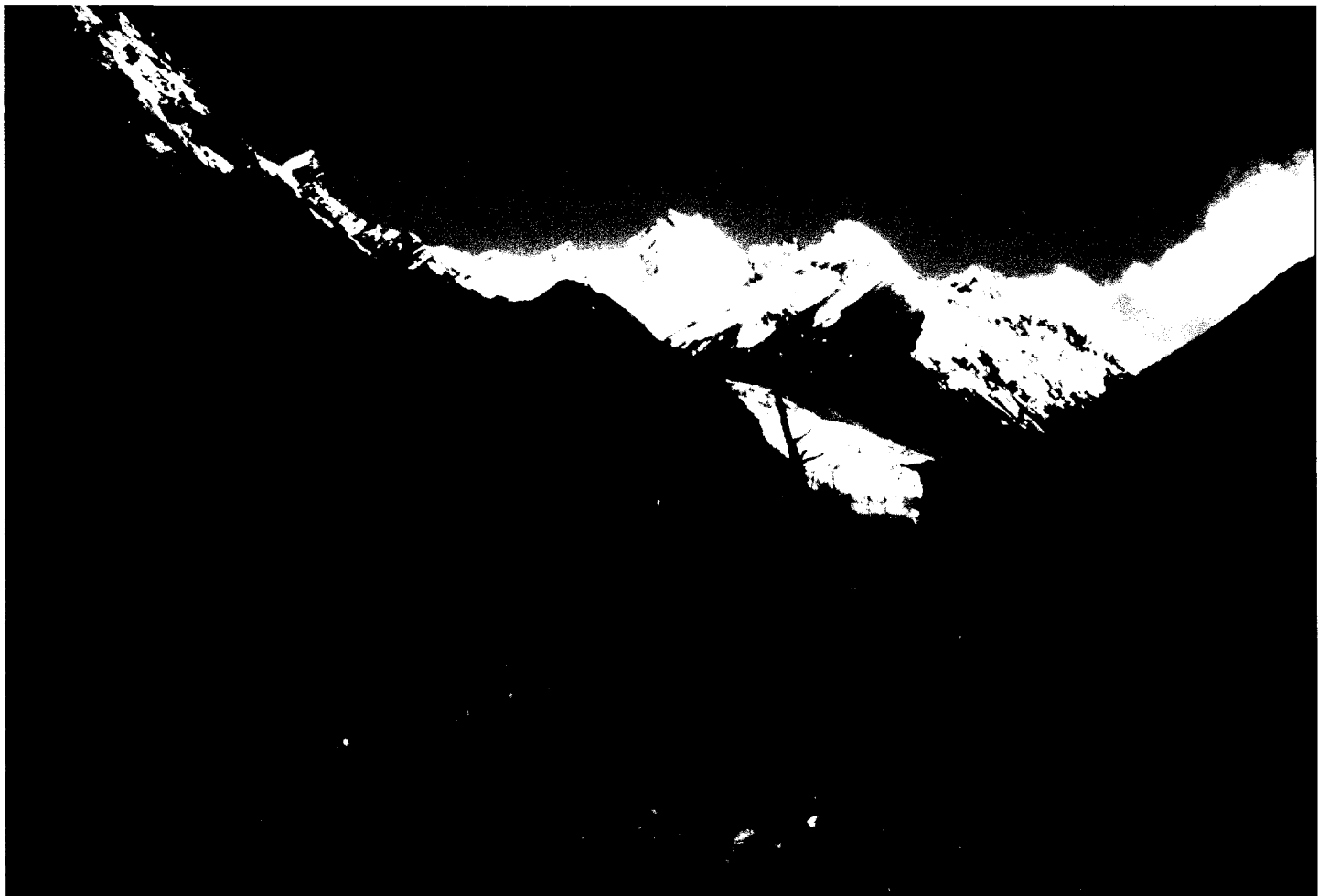
11. Peaks N63 and 6170 at the head of the Tsari Valley (496/26)



12. Rock Peaks forming W flank of Tsari Valley (496/25)



13. Three Horsemen (493/08)



14. Ekar Pks and Ekar Glacier from Nyeto Samo (493/26)

villages of Kongma and Nyeto Samo, which promised access to Nyenang and other major peaks.

As our horses and horsemen assembled on the morning of departure, it was clear that they had little or no experience of expedition transport (or any other kind, one is tempted to say). After an hour, a leisurely lunch was taken, together with the opportunity to shoe a horse or two. The mules in the party did not like the airy and precarious cliff track which followed and an extended traffic jam ensued. We left them to it and were rewarded by a peaceful stroll through idyllic woods of oak and pine to De-ba

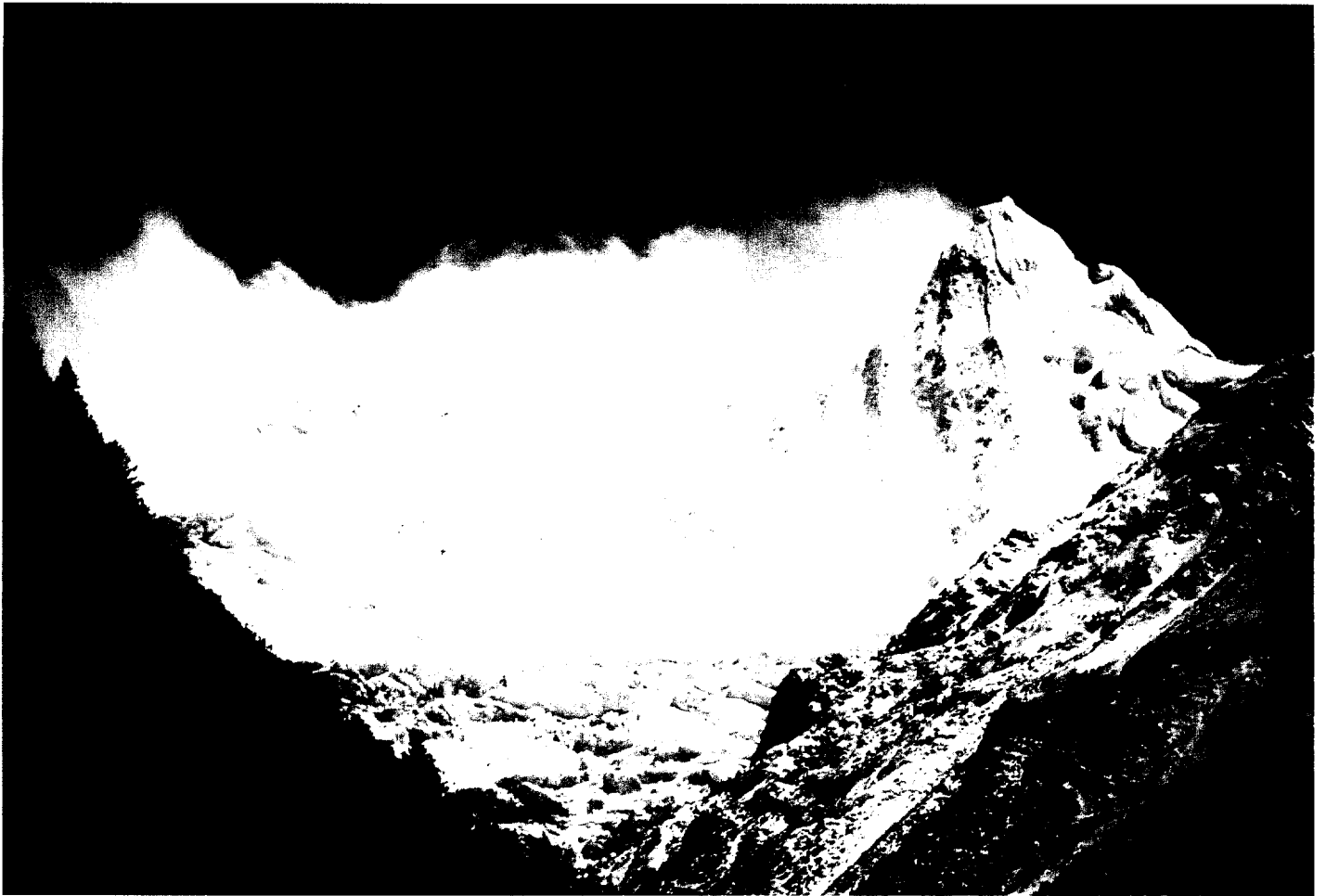
The two of us set off before dawn in determined fashion for our exploration of the Tsari Gorge (plate 10). After being misdirected by two locals through the thorn bushes of the river banks, we eventually found the real path and began to experience what it had to offer. For a while it climbed pleasantly enough up and along the valley side, but then it hit the remains of a massive landslide. The path disappeared amidst a chaos of brambles and smashed trees from which we eventually emerged an hour later. When we regained the path far above, it had been so undercut by the landslide that anyone coming the other way would have plunged unwittingly to their doom. Not far beyond was another landslide, this time barred at the far side by a continuous line of cliff. More in hope than expectation I aimed for a tree which had fallen diagonally across part of the cliff face. On inspection it appeared one balanced out along the trunk until a lunge gained access to the relative security of a turf ledge. Nicky seemed impressed I had spotted this – so was I.

The landslides seemed to be at an end but we now started to encounter a series of frozen streams, which proved time consuming without axes or crampons. Finally a larger torrent blocked the way - it had cut a deep unstable trench whose sides slipped away at the first attempt to descend. At the second try a large boulder gave way leaving me hanging by my hands. After eight and a half hours and just 3 km of horizontal progress, it was time to give up on 'Nightmare Valley' and hope we made it back to camp without serious injury. This put paid to our hopes of seeing N69, but on a clear day on our return journey down the Nye Chu, we had spectacular views of the north faces of N63 and Peak 6170 glittering above the far end of the 17 km gorge (plate 11).

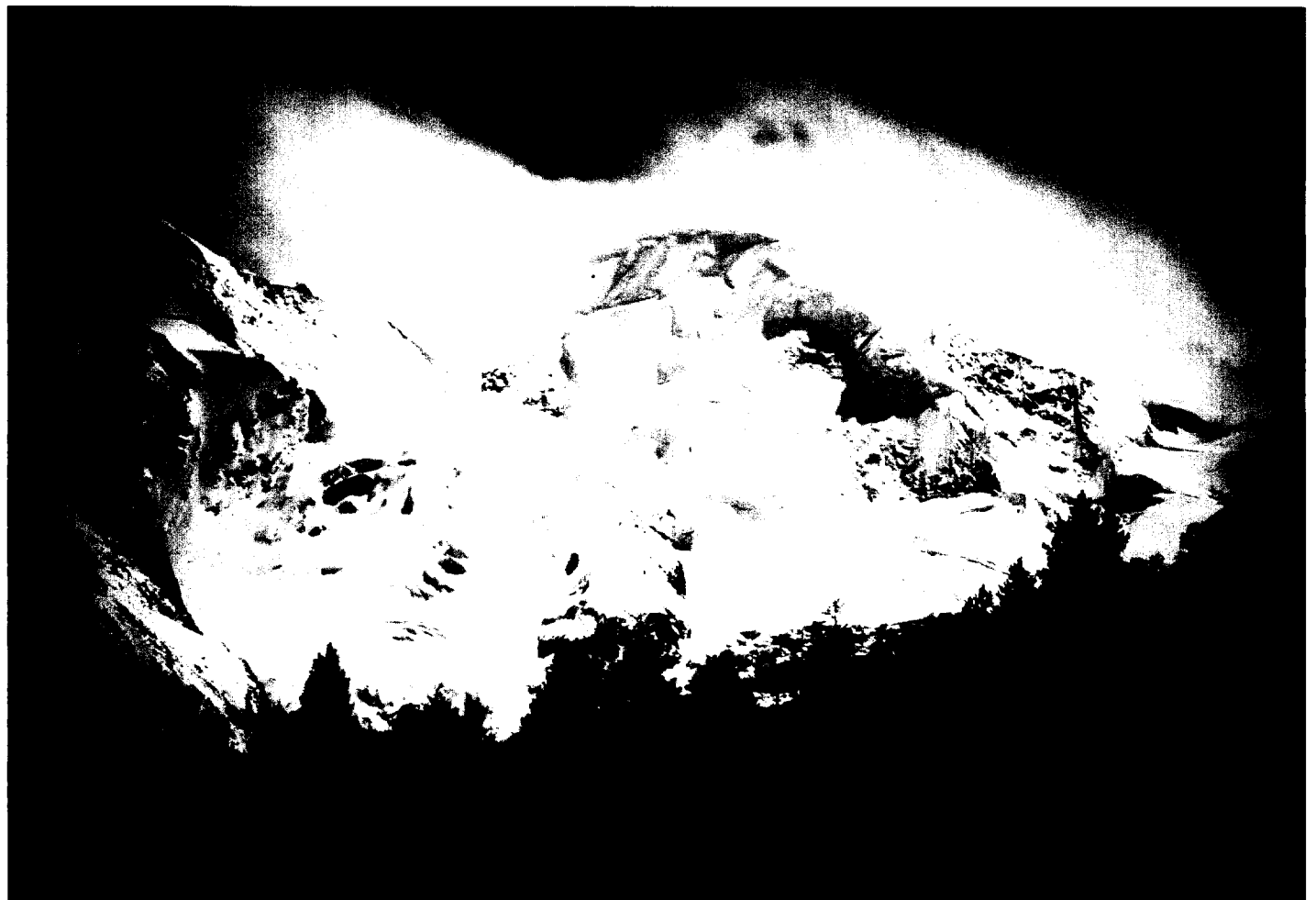
### **Nyeto Samo and the Kalu Peaks**

The following morning we continued on up the main valley, climbing gradually through unspoilt woodland to camp at the point where the valley narrows before turning southwest towards the next settlement of Kongma. This was the poorest of the hamlets we had encountered, with the inhabitants eking out a meagre existence in the perpetual shadow of the peaks towering above. We had reason to be grateful to these people before the trip was out.

From Kongma the valley begins to open out again, houses re-appear and the path ascends to a white-washed shrine marking the boundary of the upper valley. Nyeto Samo lies in the centre of a plain about ten km. Another large village lies at its eastern end and the hamlet of Ekar marks its western boundary. Beyond Ekar a large glacier spills directly across the main valley, blocking it entirely and forcing the track onto its northern slopes (plates 14, 21). The route to the west follows the headwaters of the Nye Chu up to the 5300m Lochen La, giving access to Pungkar and the upper



15. Jomo Taktse 6582m (494/08)



16. Kalu ('Elephant') Peak 5983m (494/04)

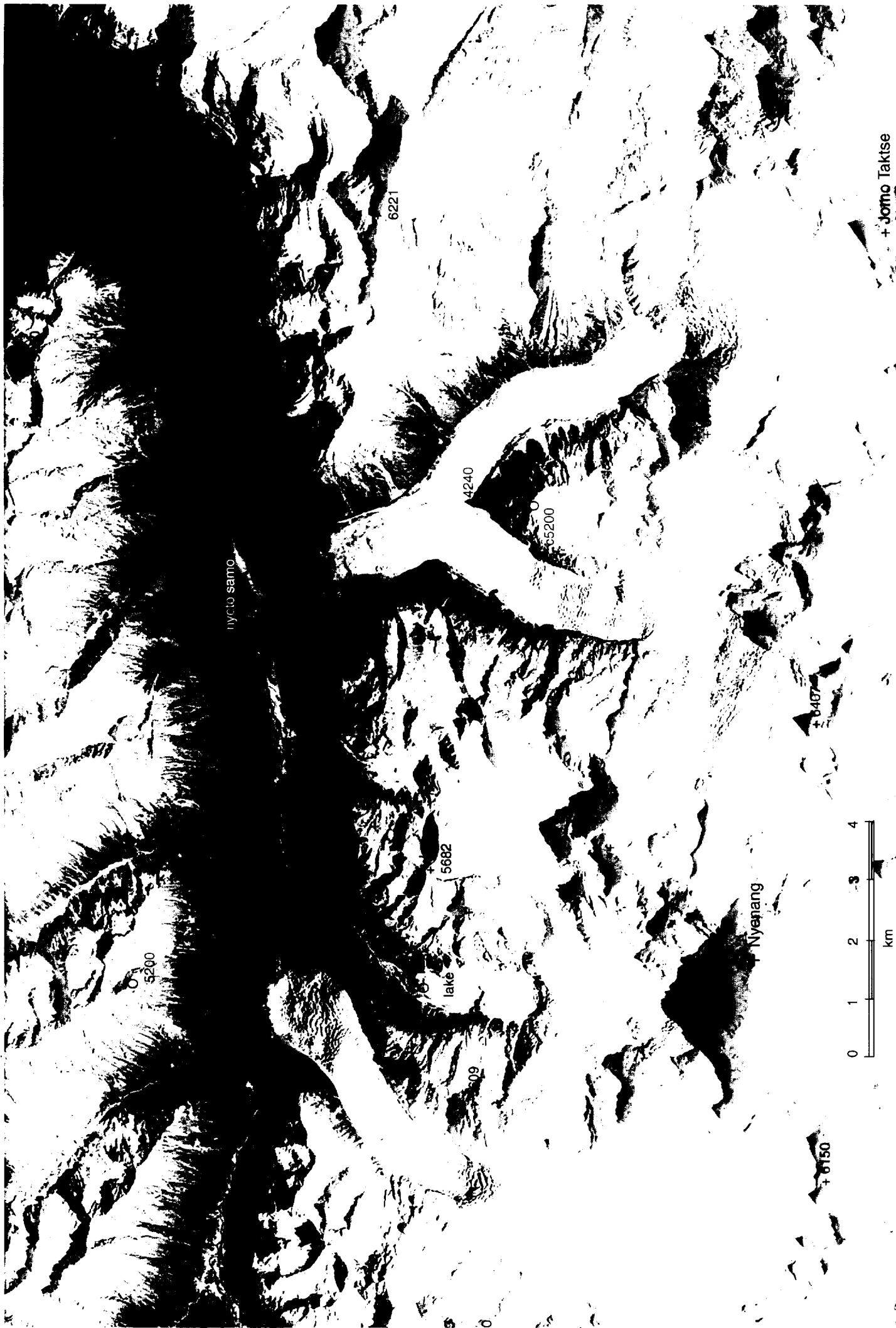


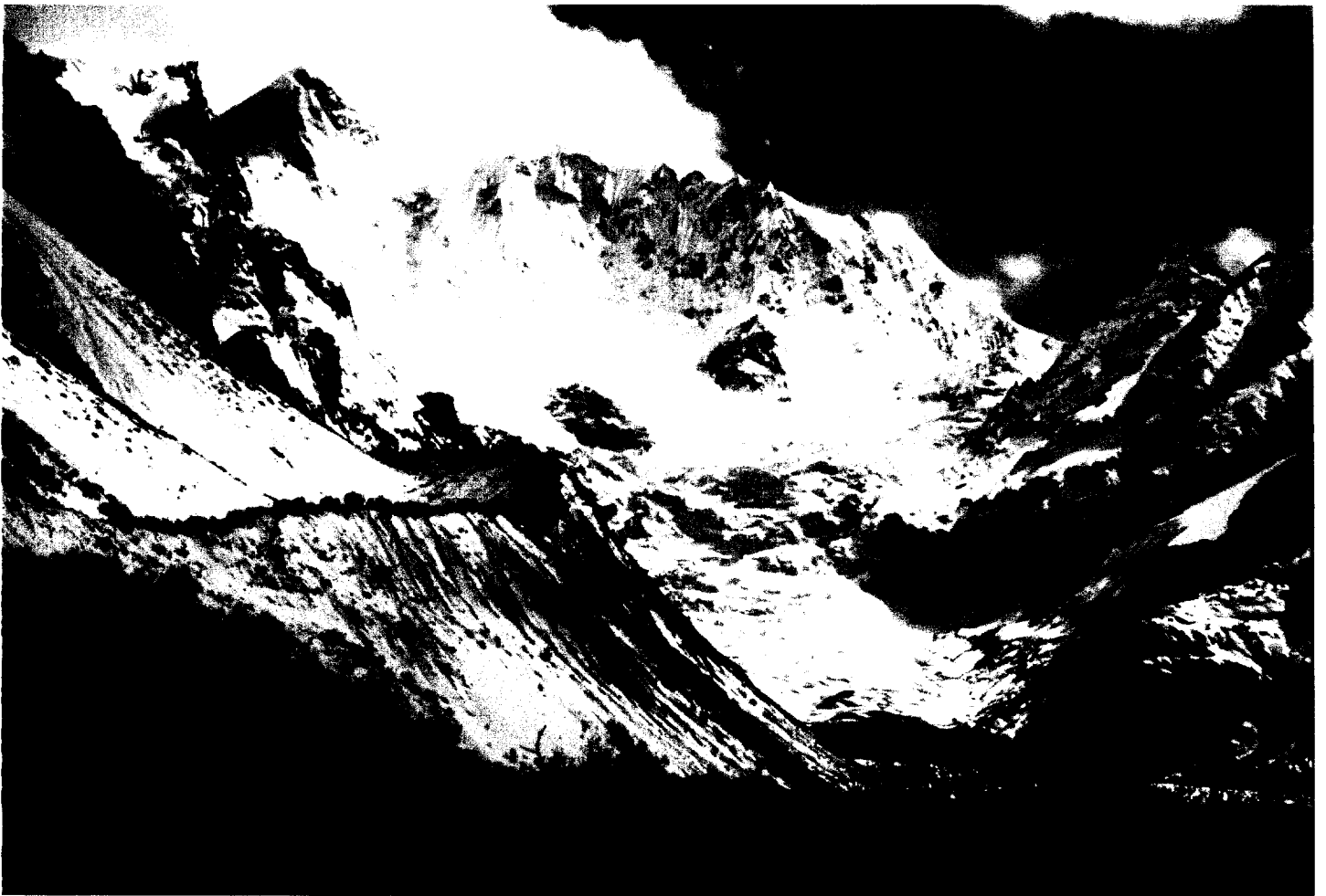


17. Bad weather at Ekar (494/15)

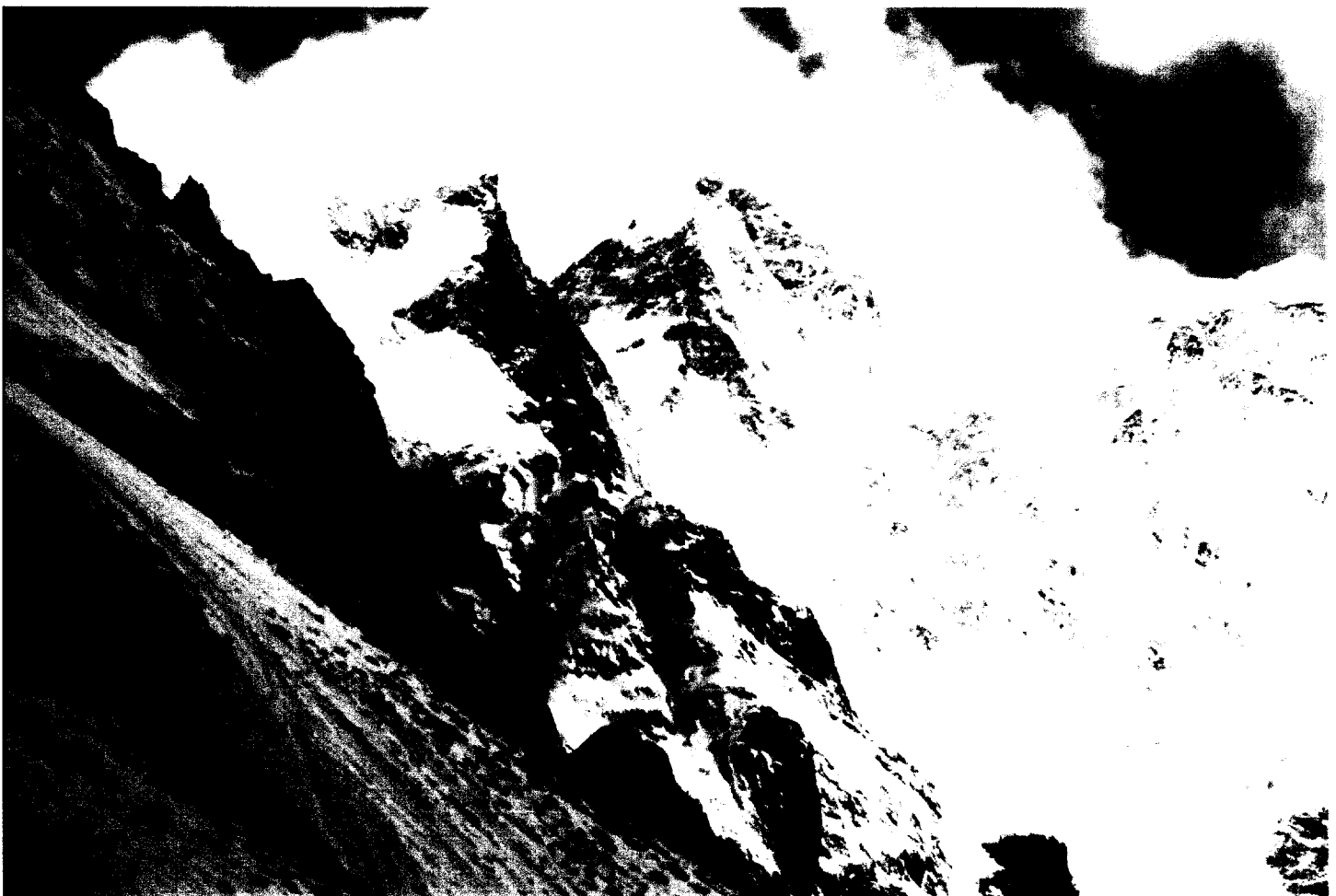


18. Route to Chung Tso climbs to cross the shoulder just left of pointy peak (495/27 )

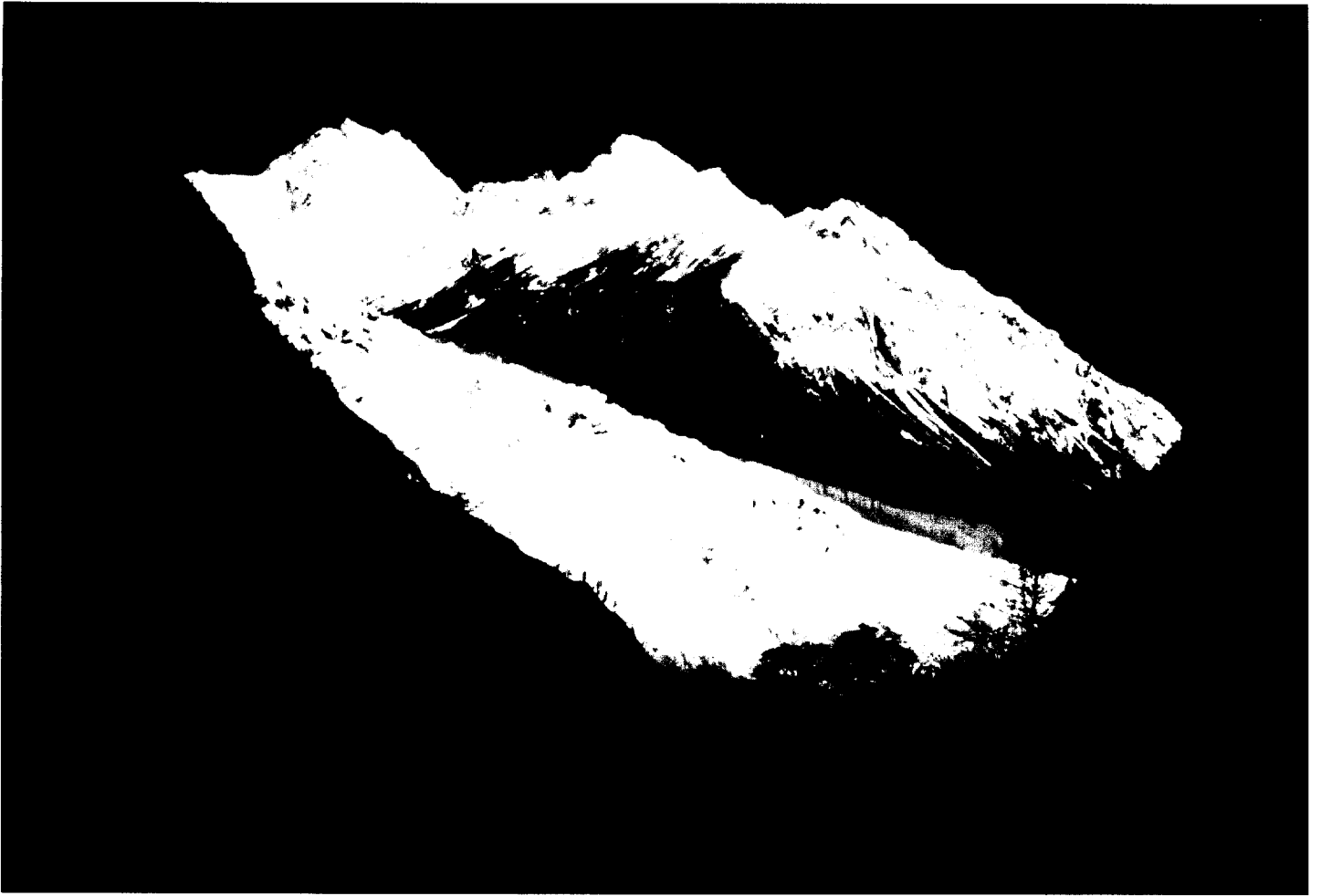




19. Nyenang 6870m/6730m, Chung Glacier & Chung Tso from moraine (495/10)



20. Nyenang, with N peak to left (495/14)



21. Ekar Peaks & Glacier (495/26)



22. S Flank of Nye Chu looking W from Deba (497/12)

part of the Drukla Chu, and on over the Tse La to the Gya Lam. This was the route followed by Kingdon Ward in 1936.

As we approached Nyeto Samo, a dazzling area of snow peaks appeared to the south above the broken terraces of the Kalu Glacier (plates 15, 16). Most spectacular of these was a blade of ice and snow - I gradually realised, with some incredulity, that this must be the northern aspect of Jomo Taktse (6582m), which we seen from Kongpo, to the south, the previous September. Seldom can a mountain have been blessed with two such spectacular and contrasting aspects.

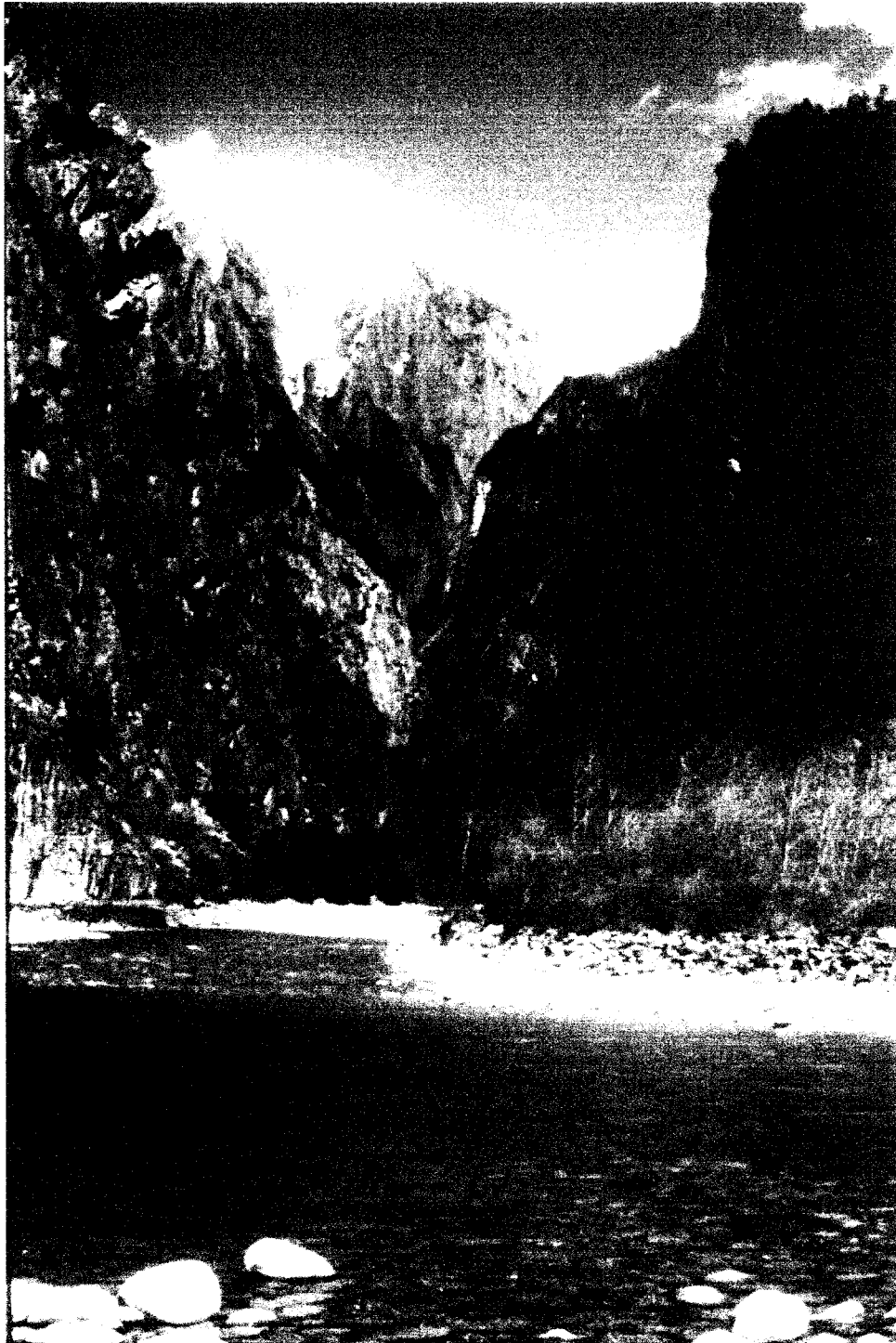
A series of other unnamed peaks ran south from Jomo Taktse down the eastern side of the eastern branch of the 'Y' shaped glacier, which has such a characteristic appearance on maps and satellite photos. No doubt there were others bounding the western side, but time prevented us from exploring. Our main aim now was to explore the northern approaches to Nyenang, called Kangla Karpo by the local people, where a high lake, the Chung Tso, promised to offer a grandstand view. We therefore hurried on to Ekar and pitched camp just beyond the village.

### **Nyenang and the Chung Tso**

The weather closed in for the next two days (plate 17) but on the 4th April, after early morning snow fall, we made a damp crossing of the main river and a group of wood cutters showed us onto the good path which climbed steeply for 600m up through the woods (plate 18). Fresh snow had filled in the line of the path making it hard going as it zigzagged precipitously high above the Chung Chu and onto the shoulder above. From here it was a short descent into the upper valley and then a slog through new snow towards its head. Nicky ploughed a heroic trough through waist deep powder up onto the moraine and we could then look down onto the lake itself. The 2500m north face of Nyenang/Kangla Karpo was laid out before us in a stunning panorama. The main peak rose sheer above us at the left, dropping rightwards into an icy comb whose flutings formed the headwall of the glacier basin. From its foot the Chung Glacier fell in a series of icefalls into the waters of the lake (plate 19). The north peak and north ridge fell vertically towards us from the main peak in an angry series of rock walls and seracs (plate 21).

### **Down and Out**

It was too cold to stay long but, as so often, these few moments made all the efforts of the previous days and weeks worthwhile. On our journey back our guides and pack train managed to lose us entirely and but for the good people of Kongma finally understanding our situation, we would have spent a cold and hungry night out. The police discovered us in Atsa and assigned a nice young man to accompany us to the Public Security Bureau office in Nakchu. Sensitivities over the Panchen Lama had been heightened by a recent visit to Chiali by his parents. We received an hour's lecture in Chinese on the evils of travelling without a permit (we thought we had one) followed by a promise in English that we were nevertheless very welcome in Tibet and would be provided with a police escort to 'the best hotel in Nakchu'. The Nakchu Hotel desk staff wear down jackets in April and the restaurant is the only one I know where they give butter tea to tourists, but he was nevertheless correct. Ming Ma appeared out of nowhere - he had driven the six hours from Lhasa that morning and had taken tea with the police inspector before we arrived. Apart from the odd car wreck passed on the road to Lhasa it was all downhill from there.



23 Looking NE up the Dakson (Alado) Chu towards Alado,  
from its confluence with the Nye Chu

# Sources

## Books

1. Chan, Victor, 'Tibet Handbook – A Pilgrimage Guide', Chico CA, Moon Publications, 1994, ISBN 0-918373-90-5,
2. Kingdon Ward, F., 'Assam Adventure', London, Jonathan Cape, 1941
3. Clarke, Charles, Report of the British Tibet Expedition , 2001, Alpine Club Library
4. Bonington, C.J.S & Clarke, C.R.A, 'Tibet's Secret Mountain – the Triumph of Sepu Kangri', Weidenfeld & Nicolson, London, 1999, ISBN 0-297-819844
5. Dorje, Gyurme, 'Tibet Handbook', 2nd Edition, Bath, Footprint Handbooks, 1999, ISBN 1-900949-33-4

## Satellite Imagery

6. Declassified Intelligence Satellite Photo Ref: DS1112-2152DA042  
(purchased from US Geological Survey Eros Data Center and photoenhanced by author)
7. Chinese Edition of Landsat Images of Tibet (RGS Library)

## Maps

8. USDA Tactical Pilotage Chart
9. High Mountain Peaks of Tibet, Chinese Map, (RGS Library)
10. Russian Military topographic map 1 : 200 000 Sheet N-46-XVI 'Chao'

# Expedition Budget

## Expenses

Arrangements in Tibet & Nepal including hotels, meals, guide, road transport, horses, permits, flight KTM - Lhasa etc.	\$4,050	£ 2,888.72
Flight to Kathmandu		£ 2,509.00
Train to London		£ 62.00
Commision		£ 15.00
KTM Airport Tax	4400	£ 40.00
LHA Airport Tax	180	£ 18.00
Trek Food - Bluebird Kathmandu	7510	£ 68.27
Trek Food - Lhasa		£ 100.00
Other Misc Supplies/Expenses		£ 300.00
Batteries		£ 29.96
Food - Nottingham		£ 11.53
Medicines		£ 44.00
Satellite Phone Calls		£ 46.25
Nepalese Visas	\$110	£ 78.46
Chinese Visas		£ 52.00
Insurance (BMC)		£ 250.00
Satellite Phone Rental/Insurance		£ 317.26
Film		£ 240.00
Satellite Photo	\$67	£ 48.15
Maps - Fedex		£ 26.85
Maps	\$150	£ 106.99
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		<b>£ 7,252.44</b>

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## Income

Personal Contributions		£ 6,552.44
Mt Everest Foundation		£ 700.00
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		<b>£ 7,252.44</b>

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analysis excludes personal equipment spend of about £3,000 total