

life, when ill-health prevented him from carrying out terrestrial survey work, he went on taking, from a Pilatus Porter aircraft, the aerial photographs by himself.

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### The Ruins of an Early Gurung Settlement

#### Mark Temple

A recent visit to the ruins of a Gurung village provided evidence that supports current views about their origins.

Khola Songbre is one of the names by which the local people know a ruined village which is considered to be amongst the oldest Gurung settlements. The author visited the site in April 1992. The suggestion to go looking for these ruins came from Dr. Alan Macfarlane, a social historian who first researched among the Gurungs 25 years ago (Macfarlane 1976). He has known of the ruins for many years but had not visited them.

The Oral tradition among the Gurungs of many of the villages to the North East of Pokhara, including Thak, Tangting, Khilang and Siklis, is that their villages were founded by forebears who moved down from Khola Songbre. Gurung legends and myths recall long wanderings over forested mountain ridges (Gurung & Macfarlane 1990). The origins of the Gurungs are thought to lie to the North of the current homelands of West-Central

Nepal. Their language is a variant of Chinese and Tibetan. Many thousands of years ago their ancestors may have lived in the high mountains of western China. So the tradition that their villages were founded by people from Khola Songbre can only represent the last chapter of a long story of migration. The ruins were reported to be high on the hillsides above Tangting

Dr. Macfarlane suggested that if the ruined village was visited, the party should note the shape and number of the houses and photograph the ruins. The original shape of Gurung houses, oval or square, has been a question of some controversy amongst those interested in Gurung culture.

At Tangting the help of Damarsingh Gurung was enlisted to act as guide. His earlier interest in hunting had lead him to know the jungle paths well. It took two days of not very hurried walking to arrive at the ruins. They are on the South facing slope of the ridge to the North of the Ganch Khola at a height of about 3300 metres. The area is the highlands to the South of Lamjung Himal but the accurate position is 28 degrees 22.7 minutes North and 84 degrees 11.7 East. To reach the site requires a one day detour from the main trekking routes from Tangting or Siklis to the Namun Pass. The site would

only be normally visited by cattle herds from the Bhujung area who graze the pastures in this part of forest during the monsoon. The site is at an altitude where rhododendron jungle gives way to areas of grass and large pine trees. No terracing or other signs of cultivation were seen around the site. A knowledgeable local guide is needed to follow the minor forest paths. Damarsingh had been there many years before and lead us to the ruins without difficulty.

The ruins are extensive and the most intact walls still stand about 14 feet high. The plan shows the largest and most intact building which lies on its own one hundred yards to the West of the main settlement. The sketch map shows the layout of the main village where a small central square and alleys between the clustered houses are discernible. In the centre of the square is a stone post about three feet tall. All the houses have four sides and the corners are often the best preserved part of the walls. None appeared oval. From the height of the walls it seems clear that at least some houses had two storeys. Large trees grow from within the ruins and it seems certain that the site has been abandoned for several hundred years and perhaps much longer. We did not have time to explore the area thoroughly but the sketch shows about forty houses in the main settlement.

On the Northern edge of the ruins is a "goth". This Nepali word refers to the temporary shelters made by shepherds and cattle-herds. They occupy them in the monsoon for a few nights while their livestock utilise the nearby grazing. A goth consists of a stone base with stakes as rafters over which the shepherds throw a bamboo mat which they carry from site to site as they migrate with the livestock. The forests below Lamjung Himal contain many goths because the pastoral life-style is still actively pursued in the neighbouring high Gurung villages. The proximity of the high mountains mean that they still have access to large forests and alpine pastures. No-one could mistake the ruins of Khola Songbre for a

goth.

Khola Songbre is 1300 metres higher than the highest village occupied by the Gurungs today. Our guide, Damarsingh, explained that it is said in his village of Tangting that the people from Khola Songbre occupied three other sites above Tangting before the present day village was founded. More ruins can be observed in these places but the author did not have the opportunity to see them.

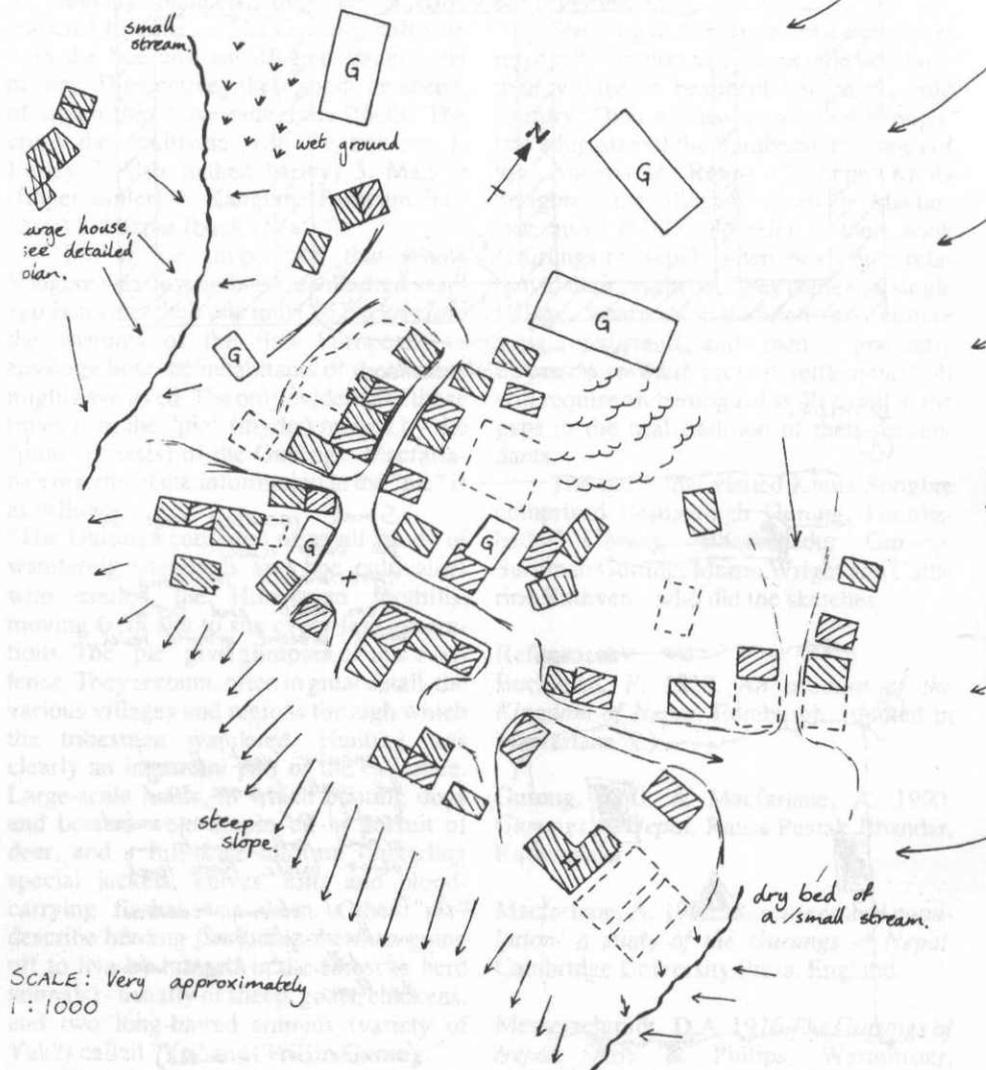
What do the ruins of Khola Songbre imply about the origins of the Gurungs? The fact that this village was settled in an era when there must have been a lot of available forest at lower altitudes suggests that its climate and resources were preferred by the early Gurungs who founded it. They presumably moved in from a similar or higher area and so their livestock, life-style and perhaps even crops led them to select this site. This is consistent with the view that the early Gurungs were primarily a pastoral and hunting community (Macfarlane 1976, Temple 1991). They could have moved West or East along the Annapurna Range but the proximity of the Namun Pass makes a migration from Manang or Tibet an interesting possibility.

Of course, the existence of an oral tradition that the Gurung villages lower down were founded by the inhabitants of Khola Songbre is not in itself conclusive proof that events followed that course. One could theorise that the Gurungs having arrived from some other direction would have come to know the ruins because they were out and about in the forest so much. Over a long period of time the ruins in the jungle might have become incorporated into the account of their origins. But this is mere speculation. Nor does it explain why villagers from Khilang and Siklis, who do not frequent the forest around Khola Songbre, should have the same tradition. The best working hypothesis is to take the folk memory at face value.

The earliest written English account of the Gurungs is that of Francis Buchanan.

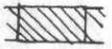
### KHOLA SONGBRE - A Rough Plan of the Settlement.

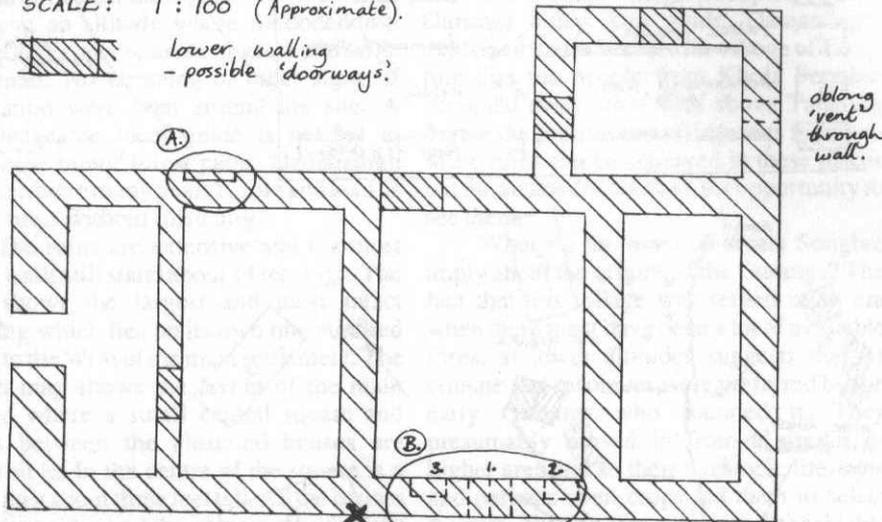
	building foundations.	X	stone post.
	raised ground - probable foundations.		downward slope.
	herdsman's hut, a 'GOTH'.		rubble.
	possible 'entrance'.		rectangle set into floor (1 x 0.75m).



**KHOLA SONGBRE - Plan of Large House to the West of the Settlement.**

SCALE: 1 : 100 (Approximate).

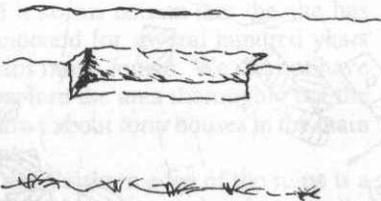
 lower walling  
- possible 'doorways'.



Highest point measured  
3.5m of wall still standing.

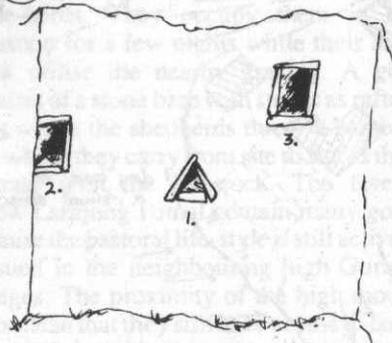
DETAILS:

(A)



Small recessed ledge in the outer wall.  
Approximately 1m long,  
15cm deep and 0.5m above present ground level.

(B)



1. Triangular 'vent' through the wall, (approx. 30cm in height) 0.5m above outside ground level; about 1m above inside 'floor' level.
- 2./3. Pair of oblong recesses in the inside wall, - set at different heights above the floor.

(DETAILS NOT TO SCALE)

Based on information collected in 1802-3 he wrote: -

"Near the Magars was settled a numerous tribe named Gurung, whose wealth chiefly consisted in sheep, but whose manners are, in most respects, nearly the same with those of the Magars, except that, in the course of their pastoral life, they frequent the Alpine regions in summer, and return to the valleys in winter. The men also employ themselves in weaving blankets; they are a tribe addicted to arms..... The Gurungs cultivate with the hoe and are diligent traders and miners. They convey their goods on sheep, of which they have numerous flocks. The crops they cultivate with the hoe are 1. Barley 2. Uya (naked barley) 3. Maniya (finger millet) 4. Kangum (Panicum Italicum) 5. Phapar (buckwheat)."

But if the supposition that Khola Songbre was deserted several hundred years ago is correct then one must go back before the writings of the first Europeans to envisage how the inhabitants of these ruins might have lived. The only evidence of those times is in the "pie" (myths) recited by the "poju" (priests) of the Gurungs. Macfarlane's resume of the information in the "pie" is as follows: -

"The Gurungs consisted of small bands of wandering shepherds and hoe cultivators who circled the Himalayan foothills, moving from site to site every few generations. The "pie" give glimpses of this existence. They recount, often in great detail, the various villages and regions through which the tribesmen wandered. Hunting was clearly an important part of the existence. Large-scale hunts, in which hunting dogs and beaters were employed in pursuit of deer, and a full-scale uniform (including special jackets, knives, kilts and blood-carrying flasks) was worn. Other "pie" describe herding (including the man going off to live by himself in the forest to herd animals) - usually of sheep, goats, chickens, and two long-haired animals (variety of Yak?) called "Yo" and "Pri" in Gurung."

That is about the present state of

knowledge of the people who inhabited the ruins of Khola Songbre. Macfarlane (1976) and Strickland (1984) have documented the changes of the Gurung economy in the last two hundred years and the author (Temple 1991) has described the economic forces at work that transformed the farming systems of most Gurung villages to one of sedentary multi-cropping with fewer livestock. The process of change has been demonstrated to be still going on.

Standing in those ruins one cannot but respect the hardiness of the people who built their village in beautiful but tough, cold country. Their successors went on to populate a big area of the Southeastern slopes of the Annapurna Range. Perhaps Khola Songbre is the village to which Dr. Macfarlane and I.B. Gurung refer in their book "Gurungs of Nepal" when they say in relation to their origin hat "they came to a single village, where their traditions and culture were confirmed and then gradually dispersed to their present settlements". It will require archeological skills to fill in the gaps in the oral tradition of their descendants.

The party that visited Khola Songbre comprised Damarsingh Gurung, Lekhbahadur Gurung, Bhesbahadur Gurung, Surjiman Gurung, Martin Wright and Catharine Ruthven - who did the sketches.

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### An Investigation of the Intensity of Weathering of Soils developed from Glacial and Glaciofluvial Deposits and their Relationship to the Glacial History of Central and Eastern Nepal

Martina Kemp, Annegret Siebert, Rupert Bäumler, Wolfgang Zech and Helmut Heuberger

An investigation of soil genesis on glacial and glaciofluvial deposits was carried out in order to quantify the intensity of soil development. The degree of weathering was for a relative estimation of the age of the deposits and subsequently for an interpretation of the glacial history of the landscape. In addition we want to reduce the great lack of information on soils and soil development in the areas mentioned above.

Our working areas included the Langtang Valley, the Helambu-Gosainkund region in Central Nepal and the Solu-Khumbu region in Eastern Nepal.

### INTRODUCTION

The present study is based on work by Heuberger (1956, 1984, 1986) and Heuberger & Weingartner (1985) on Pleistocene and Holocene glaciation in Eastern and Central Nepal.

Former glaciations in the Langtang Valley have been discussed by various authors. Franceschetti (1968), Vivian (1971) and Usselman (1980) described several moraines and associated terraces in this main valley. Heuberger (1984) first identified several glacial advances in the valley and assigned them to main- and late-glacial stages. Ono (1985, 1986) also differentiated three terrace systems with the associated moraines, which he thought to be of

Temple, M.L. 1991. *Population, growth and labour shortage in Nepali agriculture*. Unpublished paper given to the "Himalayan Forum" at SOAS

late-glacial origin. In addition, after his calculations the age of the maximum advances of the Little Ice Age in the Langtang Valley should have been 1815 AD, and he identified neoglacial moraine ridges probably dating from about 2800 yr BP.

Shiraiwa & Watanabe (1991) published the most recent work on glaciation in the Langtang Valley. By means of relative dating methods and  $^{14}\text{C}$ -datings, they classified the moraines into five stages. The Ghora Tabela Stage is defined by the deeply weathered so called Lower Till extending down to 3200m a.s.l. The Langtang Stage (3650-3000  $^{14}\text{C}$  yr BP) corresponds, according to Shiraiwa & Watanabe (1991), to the greatest advance in the Holocene, followed by a series of smaller advances in the Lirung Stage (2800-550  $^{14}\text{C}$  yr BP), and finally by the two smaller Little Ice Age advances (Yala I and II Stages).

The main difference between the authors concerns the dating of the glacial advances. Heuberger (1984) and Ono (1986) correlated the moraine remnants near Kyangjin to late glacial events, whereas Shiraiwa & Watanabe (1991) dated them to Neoglacial or Little Ice Age. All authors are of the opinion that the maximum extent of the last main glaciation reached down to 2400-2600 m, marked by a clear bending point of the valley. There the glacial trough configuration ends.

The glacial history of the Khumbu region has also been discussed by several authors. The first observations were published by Heuberger (1956), with reference to the valleys of Nangpo Tsangpo and Imja Dranka. He found that in the Nangpo Tsangpo valley the main valley glacier stopped a long distance upvalley during the

late glacial period. Therefore the moraine ridges at Thame were deposited by tributary glaciers of the Thame Valley from Kongde Ri. Fushimi (1977, 178) investigated the moraine ridges near Pheriche (4243 m). He distinguished between three moraine systems corresponding to different advances: After a minimum date of 1200 years BP at the top he supposed the moraine to be of Holocene age. Heuberger (1956) estimated the same wall system to be late glacial, whereas Röthlisberger (1986) supposed that it corresponded with the advances of the main glaciation. Further, Heuberger & Weingartner (1985) give an overview of the extent of the last main glaciation in the Khumbu area. The maximum advance reached the village Ghat (2500 m). In addition, Heuberger (1986) found several signs of a second and perhaps third main glaciation in this area.

### WORKING AREAS

#### Langtang valley

The Langtang Valley is located about 60 km north of Kathmandu. It is surrounded by mountains ranging in elevation from 5000 to 7200 m and belongs to the Inner Himalaya. The Langtang Khola drains the area to the west and flows into the Bhote Kosi at 1480 meters.

The geological conditions are largely uniform. The parent rock of the whole valley are gneisses (Shiraiwa & Watanabe 1991).

A monsoon climate is predominant with the highest precipitation from June to September. In the winter and spring season further important rainfalls are registered. At Kyangjin annual precipitation is about 1220 mm, the mean annual temperature is  $+2.7^{\circ}\text{C}$ . The climatic snow line is at about 5300 m (Miehe 1990).

Because of intensive pasturing and the cutting of firewood, the forest vegetation in the upper part of the valley has been destroyed, and the vegetation cover now consists of dwarf bushes.

A small population of about 570 people lives in the valley. Agriculture (barley,

buckwheat, potato) reaches heights of 3540 m, but the main source of living consists of pastoralism (dairy farming) and tourism.

#### Helambu and Gosainkund

The Helambu and Gosainkund regions are situated to the south of the Langtang Valley. They are separated from the Langtang Valley by a mountain range with peaks of between 5000 and 6800 m. With respect to the geographical situation and the climate, Helambu and Gosainkund belong to the 'Himalayan South Side'.

#### Helambu

The investigation area extended over the upper part of the Melamchi Khola valley. The uppermost part of the valley is formed by a geest called Pemdang (3550 m) and it was dammed by a huge moraine in the south, consisting of big boulders. Downvalley the Melamchi Khola becomes more narrow. The steep slopes are partly interrupted by small terraces between 2500 and 2900 m.

Acid gneisses are dominant. The climate is humid with an estimated annual precipitation of about 3500 mm. The highest precipitation is during the monsoon period in the summer. The mean annual temperature is  $+4.5^{\circ}\text{C}$  at Pemdang with a temperature gradient of  $0.58^{\circ}\text{C}/100\text{ m}$  (Miehe 1990). The highest permanent settlement is the monastery of Neding (3000 m). The region is covered by forest vegetation. In the lower parts *Abies spectabilis* and *Rhododendron spec.* are dominant. Places which have been destroyed by fire have a bamboo-vegetation. In the upper part (Pemdang) *Betula utilis*, *Juniperus recurva* and *Rhododendron campanulatum* become more abundant.

#### Gosainkund

The area of Gosainkund consists of three stepped cirque lakes at an altitude of between 4080 and 4380 m. The surrounding peaks reach altitudes of between 4800 and 5100 m. Each lake is dammed by a moraine ridge. Additional moraine ridges can be