

ITALIA PASS IN THE EASTERN KARAKORAM

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IN the eastern Karakoram there are, as we know, six of the largest glaciers on earth outside the polar regions. The most easterly of these is the Rimu, which, nearest the Tibetan plateaus, has the aspect of a tableland glacier as it adapts itself to the underlying topography.

EARLIER EXPLORATIONS

Until the De Filippi expedition of 1913-1914¹ only the snout of the Rimu Glacier, visible from one of the abandoned caravan roads of the Karakoram Pass, was known. The expedition ascended the three large branches that join to form the gigantic tongue of the glacier. Of these branches the southern one appeared to be distinctly enclosed by a well defined mountain circle. The northern branch, however, held surprises in store: some 12 miles above the large tongue whence originates the Shyok River this branch flattens, and across it passes the watershed line of the mountain range. Far from being simply a glacier saddle it is an uncertain watershed on ice, which evidently duplicates and perhaps exaggerates the underlying topography. Beyond, a lateral tongue gives birth to the Yarkand River. Between the northern and southern branches of the Rimu lies a third, intermediary or central branch. The De Filippi expedition climbed this central branch but went little beyond the snow limit, and its head was described and represented on the topographic map (scale 1:100,000) as it appeared from a distance; that is, shut off by the principal watershed ridge of the Karakoram Range on the north, to the west connected by an ample level pass with the Siachen Glacier.

The Siachen Glacier had been explored only a short time previously by Dr. T. G. Longstaff. In 1909 he had ascended the Bilafond Glacier from the Saltoro Valley in Baltistan and, descending the pass at its head, had met an immense unknown glacier. From the Nubra Valley some months later he climbed the tongue of the Siachen Glacier, ascending it until he recognized in the distance the mountains seen earlier enclosing the unknown glacier. In 1911 and 1912 the American alpinists Dr. and Mrs. Workman also visited the Siachen by

¹ The writer was geographer and naturalist on the expedition, making his own excursions independently of the chief and his other companions.

the Saltoro Valley. The second season they remained for a month and a half and brought back a map on the scale of 1:150,000, not all of it, however, equally faithful and detailed, nor complete. At about half its length—which is no less than 42 miles²—the Siachen receives its main lateral affluents: from the west the Lolo fond Glacier, its

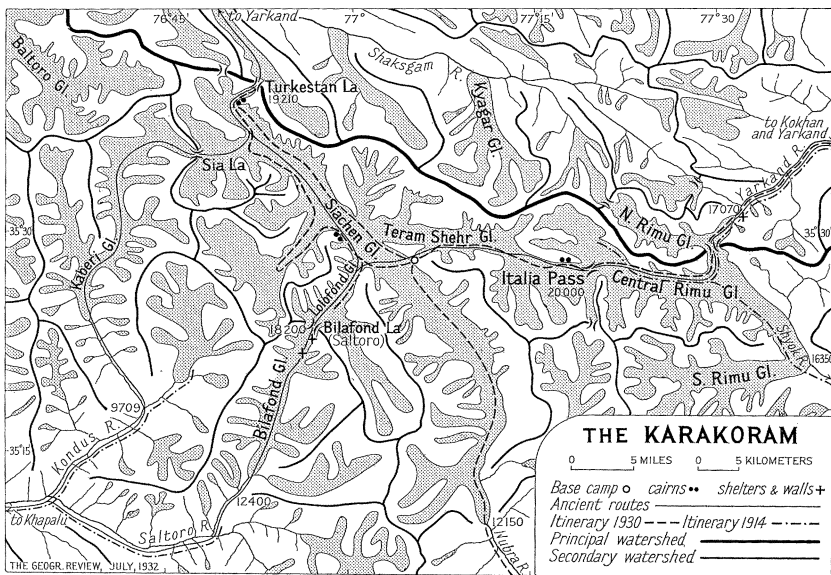


FIG. 1—Glaciers and watersheds of the Karakoram. The author's routes on the expeditions of 1914 and 1930 are shown and the ancient caravan routes, including that from the Saltoro Valley to the Yarkand River by way of the Italia Pass. Scale of map approximately 1:950,000.

head reaching the Bilafond Pass; from the east the Teram Shehr, itself about 17 miles in length. The Workmans thought that the Teram Shehr branch would lead to a pass through which the then unexplored Rimu basin could be reached or to some other unknown glacier basin. In the endeavor to prove this hypothesis they reached a point on the glacier of over 18,300 feet but were unable to reach the pass or indeed to see it. The De Filippi expedition climbing the central Rimu saw to the west at a distance from it of at least four miles, at the top of the central Rimu, a large depression in the ridge line which was presumed to represent the pass. It could not be, however, clearly identified.

In 1926 Mason made his exploration of the Shaksgam Valley, immediately north of the main Karakoram watershed. The topographic results of his expedition figure in the new edition of the Survey of India map on the scale of 1 inch to 4 miles (sheet 52 E, Karakoram Pass). But the position of the pass between the two

² For a time the Siachen Glacier was believed to be the largest glacier outside the polar regions: Rickmers' Alai-Pamir expedition found the Fedchenko Glacier to be 48 miles long.



FIG. 2—The upper half of the Siachen Glacier. The Lolofond Glacier enters on the left (1), the Teram Shehr in the center; 2, Mt. Hawk; 3, Mt. Rose; 4, hollow in which the base camp (Fig. 8) was situated.



FIG. 3—The Italia Pass, seen from the north. The pass is just to the right of the crevasses in the center.



FIG. 4—A caravan en route to establish a supply depot.



FIG. 5—The Bilafond Pass seen from the east, from the Lolofond Glacier. This col was crossed by the old route to the Yarkand Valley from the Saltoro. Compare Figures 2 and 9.



FIG. 6—The Italia Pass, seen from the east, from the author's first camp on the central Rimu.



FIG. 7—On the Italia Pass looking east. The mountains to the left are those on the left flank of the central Rimu.

great glaciers was still indefinite, because no expedition had certainly seen it. Indeed, from what I remembered of the topographic conditions of the Rimu, in spite of unfavorable conditions of visibility, the representation of its head on the new Survey of India map seemed improbable.

PROGRAM FOR 1930

Thus, when I planned an expedition of my own³ to the Siachen glacier, the geology of whose immense basin was absolutely unknown, I included in my program the exit towards the Rimu, to ascertain the position of the connecting pass and the actual conditions at the head of this glacier.

My program did not present itself as an easy matter, to judge by the experiences of the others who, as Longstaff has expressed it, "have knocked at these closed doors." And in fact if my foresight had not led me to convey to the snout of the Siachen the food supplies needed by my entire caravan of more than 70 men for more than three months, I might have failed completely.⁴ On June 6, 1930, I was at the foot of the Siachen. About twenty days after I had ascended the glacier the Nubra became unfordable and thus shut me off completely from the outer world.

My base camp was established in the central part of the glacier on the low junction ridge of the Teram Shehr affluent, near the Workmans' old camping place, at 15,676 feet elevation. During two months' stay there the Siachen was covered almost completely, and rock and fossil collections were made. Of special interest are the fossils, numerous though not well preserved, which probably represent the Rhaetic Period and which no one had ever collected before—not even myself during the De Filippi expedition—in the region between the Karakoram and Himalaya. Miss Kalau, a member of my expedition, made an interesting botanical collection, at altitudes above 15,750 feet. Not only does it present the richest collection of Karakoram alpine flora, but the greatest part of it, coming from the immediate neighborhood of the base camp, is from a real "island" amidst glaciers: the nearest locality in which there is any vegetation, the front of the Siachen Glacier, is 22 miles distant.

After a two months' stay on the Siachen I had to think of leaving, because the persisting Nubra flood had prevented me from obtaining further food supplies. Moreover, as I did not intend to give up my plan of leaving by the unknown pass towards the Rimu Glacier, it was most important not to run the risk of delays by conditions of weather or ground.

³ Giotto Dainelli: La mia spedizione nel Tibet occidentale, *Boll. Reale Soc. Geogr. Italiana*, Ser. 6, Vol. 7, 1930, pp. 865-882.

⁴ For details of the expedition see the author's paper "A Journey to the Glaciers of the Eastern Karakoram," *Geogr. Journ.*, Vol. 79, 1932, pp. 257-268.

In reality I did not find great difficulties in the ground. Where the Workmans had been obliged to give up there is indeed a great fall of large *séracs* with deep crevasses in every direction, which might have formed a serious danger and perhaps also have proved an insuperable obstacle for a caravan of laden porters. But I could avoid it by following the middle of the glacier where crevasses were less numerous and less dangerous. But what made my position really difficult was the bad weather that reigned for nine days running, with dense fog, nearly continuous snowfalls, and violent windstorms.

CROSSING THE ITALIA PASS

However, at my last camping place below the pass the weather finally cleared. The crossing of the pass was made on August 15 under a perfectly serene sky that allowed me to study the topographic surroundings. No traveler had ever crossed or reached the pass before or even seen it. The elevation is about 20,000 feet. I named it "Italia Pass."

The pass, which is a typical tableland pass—although the whole Siachen basin and even the Teram Shehr Glacier leading towards it represent a system of deeply excavated valleys—is situated about two miles farther east than appears on the Survey of India map. The line of maximum height, however, may vary, it being, a large and level pass entirely filled with *névé*: the placement of the divide probably depends on the snow conditions of the basins leading to it. The head of the more western of the central Rimu affluents reaches towards the north that main ridge of the Karakoram whose position has been determined by Mason; therefore the long glacial basin, represented on the Karakoram Pass sheet of the Survey of India map (1 inch to 4 miles) as a northern Rimu affluent does not exist. The whole vast snowfield flows from the north as a gigantic snow fan to the Italia Pass, and thence in part to the central Rimu, in part even into the Teram Shehr, that is towards the Siachen Glacier. The Survey of India map also shows a deep valley, running from east to west, in the rocky northern side of the pass;⁵ but in reality it does not exist: its presence simply results from the fact that the map is here based on those of De Filippi and of the Workmans, in which the same rocky ridge on the right of Teram Shehr has been assigned two different and parallel positions.

From the pass, going eastward, I descended the whole central Rimu; then passed on to the northern Rimu and left it by the lateral tongue that constitutes the source of the Yarkand River, as I had already ascertained during the De Filippi expedition. I found the

⁵ See the comparative sketch maps of the upper basins of the Rimu and Teram Shehr glaciers from the Survey of India map, 1928, and Dainelli surveys of 1930, Filippo de Filippi: *Himalaya Karakoram and Eastern Turkestan*, 1932, reviewed in this number of the *Geographical Review*.

Rimu in an evident state of advance, considerably more swollen than it was sixteen years ago: the moraine between the central and northern Rimu, which at that time dominated the glacier, was now smothered in ice; the glacier tongue in the Yarkand Valley, quite flat sixteen



FIG. 8—The base camp on the junction ridge of the Teram Shehr and Siachen glaciers. See Figure 1.

years ago, now ended in an insuperable wall about three hundred feet high.

ANCIENT ROUTES ACROSS THE KARAKORAM

I had previously collected testimony and traditions on the basis of which it was possible to reconstruct the ancient caravan routes across the Karakoram. One of these ancient ways coming from the Saltoro Valley in Baltistan ascended the Bilafond Glacier, crossed the Bilaphon La, descended onto the Siachen Glacier, and traversing it climbed the whole of its Teram Shehr affluent up to a col leading towards the lateral tongue that gives origin to the Yarkand River. This would have been, in fact, the most direct way between Baltistan and Sanju in Chinese Turkestan. I shall recall briefly the evidence on which my conclusion was founded before giving the confirmation afforded by my recent journey.⁶

⁶ See Giotto Dainelli: *Le condizioni delle genti, Spedizione Italiana de Filippi . . . 1913-1914. Ser. 2, Vol. 8, Bologna, pp. 190-229.*



FIG. 9



FIG. 10

FIG. 9—The Lolofond Glacier opens into the Siachen. The ancient route followed it, thence crossed the Siachen; see Figure 2.

FIG. 10—The lower part of the Teram Shehr Glacier.

It is quite likely that this route was used in the first half of the sixteenth century by Mirza Haidar, prince of Kashgar. More positive indication we owe to Mir Izzet Ullab, in the account of his travels in central Asia, 1812–1813.⁷ He makes mention of the Khafalun (= Khufelang) locality on the north side of the Karakoram Range, whence there was a short road to Baltistan. In 1835 the English traveler Vigne, being in the Saltoro Valley, heard of the existence of a way which, after crossing a col at the summit of some glacier, descended to the head of the Nubra Valley. He imagined it might lead to Kokhan and even attempted to explore it, starting to climb the Bilafond Glacier, without, however, reaching the pass. G. W. Hayward, during his explorations in the region north of the Karakoram Pass in 1868, having climbed, from Khufelang, the western branch of the Yarkand River up to that small lake which he believed to be the source of the river, was told of a very difficult way over a col “probably not less than 19,000 feet above the sea” leading into Baltistan. T. E. Gordon (1873) also was informed of the existence of such a way, followed in ancient times by invaders on horseback penetrating from the north into Ladakh and Baltistan, but then used only occasionally by Baltis on foot. At the same time also R. B. Shaw was told that, from near the Karakoram Pass, Khapalu in Baltistan could be reached in about a dozen stages—a feat which could only be achieved across the Rimu and Siachen glaciers and by the Saltoro Valley.

In 1889, Younghusband, after climbing the Shaksgam Valley, sighted a pass that he was informed was the “Saltoro.” It was believed at first to be identical with the pass of this name at the head of the Baltistan Valley. But the tradition of a way across it did not seem to meet with great favor, and later corrections introduced by Younghusband into his own itinerary negated the idea. Between his “mysterious Saltoro Pass” and the true Saltoro Pass there intervened a blank unknown region—the upper basin of the Siachen Glacier, effectively discovered by Dr. Longstaff in 1909.

Longstaff also heard of the tradition that an abandoned route existed between the Saltoro and the Turkestan valleys. When climbing the Bilafond Glacier he found on a moraine just beneath the pass at the summit traces of low stone walls evidently constructed in ancient times as temporary shelters; however, if they offered proof of the ancient practicability of the pass, Longstaff did not believe that it was used except as a short cut to the neighboring Nubra Valley. Moreover, Neve had confirmed the ancient tradition, adding that the old way, abandoned some hundreds of years, had gone by the Bilafond Pass and then by the Siachen and Rimu glaciers.

The Workman expedition found new evidence. On the upper

⁷ Izzet Ullab: *Travels Beyond the Himalaya*, *Journ. Royal Asiatic Soc.*, Vol. 7, 1843, pp. 283–342.

Bilafond glaciers they discovered besides the low walls indicated by Longstaff the remains of eight rough stone shelters and a stone circle about three and a half yards' diameter and evidently of man's handiwork at the junction of the Siachen and Teram Shehr. They also found the remains of two cairns on the upper Siachen near the Turkestan La—a col on the main watershed range. Their report, however, was not available to me when I went into the field with the De Filippi expedition (1913-1914). I was not then acquainted with the old literature on the region: hence my observations were entirely independent and uninfluenced.

When I was in the Saltoro Valley I heard that until about 1865 a route to Yarkand was in use which climbed the Bilafond Pass, crossed a large glacier, and then led over a second elevated col called the Gayanri Pass. In the neighboring Kundos Valley also it was reported that the Baltis used to go to Yarkand by a col, surely the Sia La leading to the Siachen, then traversed a large glacier, and finally also crossed the Gayanri Pass. I was told that Seid Ali Hamdani—who, about 340 years ago, converted the inhabitants of Baltistan to Islamism—came twice into this region from Turkestan, following the ancient routes: once by the way that leads into the Saltoro Valley, the other time by that leading into the Kundos. I was also told that Yarkand plunderers used to follow these ways to invade and plunder the Baltistan villages. My toponomastical researches led me to think that the village of Korkun, in the upper Kundos Valley, was originally a settlement of Yarkand people. I was therefore convinced that the old ways had really existed and were traveled up to recent times—as I was told by my informants, chosen from the most trustworthy of the elder natives.



FIG. 11—Cairn (on the left side of the rock slope at the top of the photograph) below the Italia Pass.



FIG. 12—Another cairn (on rock slope at extreme right) below the Italia Pass. Seen from the camp on the upper part of the Teram Shehr Glacier.

FIELD EVIDENCE OF ANCIENT ROUTES

When I then stepped down from the northern tongue of the Rimu into the Yarkand Valley, I discovered near the tongue itself a rock shelter evidently improved by the work of human hands but also evidently long out of use. On my recent expedition I did not find the stone circle of three-and-a-half-yards' diameter at the junction between Siachen and Teram Shehr reported by the Workmans. I saw only the traces of two small adjacent and very irregular half-circles, which I prefer to consider as natural formations rather than attribute to the work of human hands.

However, I saw the remains of a cairn on the slopes to the left of the upper Siachen, about three miles from the Turkestan La; and I found two other cairns, clearly recognizable though badly preserved, on the right side above the junction between the Siachen and its glacier affluent from the Bilafond La—sure signs of an ancient route from the Saltoro Valley, up the Siachen, and into the Shaksgam Valley.

But it is equally certain that this was not the only way. Probably it was an off-branch of a main route that went across the Siachen, climbed the Teram Shehr affluent, crossed a pass at its head, and then descended the Rimu to the Yarkand River. On the right side of the upper Teram Shehr, just below the Italia Pass, I found two cairns, one of them perfect in construction and preservation. Again, on the alluvial plain of the Yarkand River, a short distance from the glacier front and the shelter already observed during the De Filippi expedition in 1914, I found a human jaw of evidently ancient date, a souvenir of one of the ancient wayfarers.

Thus I have had the satisfaction of confirming my hypothesis on the use of this ancient way across some of the greatest glaciers on earth: a satisfaction which has not diminished that other one, namely to have crossed with laden caravan and with no small difficulties of ground and weather the heretofore unknown pass between Siachen and Rimu—the Italia Pass.