10.15 we reached the Riffelhaus once more, 16¼ hrs. actual going, 18¾ with all halts.

The fresh snow had beaten us, only that and nothing more. With reasonably good conditions we should have saved something like three hours, and included the Nord End comfortably. Farrar, in 1898, had gone in the reverse direction from the Punta Gnifetti to the Schwarzhorn in an hour and a half, a bit that took us nearly four hours, of which only about half an hour would be due to our having more up-hill work. Let no one think of it as a monotonous 'grind,' to be performed merely for the sake of adding peaks to one's record. There is a very fair amount of good climbing, the alternation of up and down, and the constant changes of view give variety even to the snow-walking, and the mere feeling that one is traversing one of the loftiest ridges in Europe, with the superb visions of Italy below, are enough to make the expedition one of the very first order. Combined with the other three days, it forms as fine a tour as can be found in the whole range of the Alps.

We thought we had earned a real off-day. But to the Riffelhaus came a message from Fynn that he was back in Zermatt and had just time for one more climb with us. The train took us down in the morning, but our legs had to take us up to the Trift Inn in the afternoon. Next day we made a leisurely and delightful traverse of the Rothhorn to the Mountet Inn, and the day after Farrar and I—the others going down the valley homewards—went back to Zermatt over the Trifthorn, shirking the Gabelhorn because we had not brought our crampons. So at least we said, but we might have found it a little long in any case. Farrar remained to take further advantage of the perfect weather. I had to return, feeling that I had 'done' more peaks in thirty days than anyone has a right to expect, and that though all of them were near the old centres, a climber who had slept in eighteen different places could not be called a 'mere centrist.'

In the Caucasus—1914.

WHOEVER once visits the Caucasus mountainland, that region of sublime beauty and strange half Oriental charm, must for ever long to return.

If he has been favoured with glorious weather and consequent great success of the travel and climbing plans, the longing may prove irresistible.

In the summer of 1913 I was entrusted by three friends with the organization and leadership of an expedition to the Caucasus. Mr. W. N. Ling, my sole comrade on many an ascent in the Alps and Norway, has related ('A.J.' xxviii. 131–44) the general account of how we fared that season. In 1913 I travelled out ahead of the party to Vladikavkaz, and had three days of fairly arduous work interviewing would-be dragomen, interpreters, and cooks, and organizing equipment and commissariat. Through a young Frenchman, I was introduced to a young Russian cadet of Danish descent—Mr. Rembert Martinson. His eyes sparkled when I unfolded the plan of campaign, and after obtaining the permission of his parents he came as interpreter and climbing companion.

Of small experience—he had visited the lower ends of some Balkarian glaciers and had ascended Kasbek, a climb of the order of Mont Blanc by the Grands Mulets—he proved an apt pupil in both rock-craft and icemanship. He was very useful in dealing with the frequently dilatory, erratic, and extortionate horse-owners and porters.

In 1914 another expedition was organized. To his and my great regret Ling found later that he was unable to join. Messrs. Johns and Young, the other members of the 1913 party, had calls in other directions. The party eventually consisted of three—Mr. R. C. Richards, Mr. H. Scott Tucker, and myself.

I was this time able to arrange beforehand by correspondence with my young friend Martinson many necessary details. He again came with me as aide-de-camp. We were this time able to engage a much better cook and a much better man than the lazy Imeritian of last year. Our cook this season was a Russian soldier of reserves named Alexander Miranoff. He was a small, quiet man, but a dandy in his way, and I was obliged to make him leave behind at St. Nikolai about half the large supply of bedding, extra clothes, and luxuries he (or his wife) had thought necessary for a mountain campaign. His shaving mirror, however, sometimes came in useful, as we had none of our own.

The party travelled out together from London by the quickest route, *via* Flushing, Berlin, Kalisz, Warsaw, and Rostov, and reached Vladikavkaz in exactly 4 days 8½ hours. Thus the Caucasus is actually nearer in time than is Norway's climbing ground. Fortunately for the success of the expedition we arrived just after, not before, a terrific burst of rainstorms which had swept Europe from France to the Caucasus. At Mineralnia Vody we heard tales of trains and bridges swept away.

All the great rivers of Cis-Caucasia were out over the flat country for miles, and we had to proceed very cautiously over the undermined embankments.

One curious result of this flooding was the presence along the railway of millions of frogs—probably the same species as imitated by Aristophanes—their 'croaking chorus' almost drowned conversation whenever the train stopped.

July 8, the day of our arrival in Vladikavkaz, was a day of heavy wet, and little was done. On the 9th it cleared and I ordered three lineikas for the following morning. The lineika is a light, low vehicle, something like an Irish jaunting-car on four wheels. It is usually in the last stage of debility and senile decay, and the harness has probably seen many generations of the small and slight, but active, docile, and enduring horses.

We had been told at Vladikavkaz that it was quite impossible to reach St. Nikolai, the Cosak Post or Kazarma on the Mamison road, where we were to take to the hills. Roads and bridges had alike completely gone, and several villages as well. These last statements were an exaggeration, but not a great one after all.

My friends had ample opportunity of witnessing, not without a certain measure of admiration, what the ramshackle-looking vehicles were capable of coming through without disintegration, and what feats of equine acrobatics the little mares could perform with the cool ease of professional equilibrists.

This year's plan of campaign was complementary to that of last. In 1913, after a period of centrism from a base camp in the Adai Group, we traversed the Asiatic slopes of the chain, crossed to Elbrus and returned to rail at Naltshik. In 1914 the first part of the scheme was repeated. We were then to traverse, in a similar manner, the northern slopes and valleys. As Messrs. Richards and Tucker had only a limited time at their disposal, we were to drop down to railhead at Naltshik on August 4. Here I expected one or two others to join for a farther western campaign, including a raid by a new pass into Suanetia. The outbreak of the war, of course, found only half this plan accomplished.

On our way up the Mamison road we encountered our friend of last year, the handsome Cosak in charge of the St. Nikolai Kazarma, fishing the Ardon for trout with a net. He was delighted to meet us and placed three excellent rooms at our disposal for the night.

We pitched our tents on July 12 on exactly the same spot as last year. It could not easily be improved upon. Close beside us raced by the turbulent torrent of the newly glacier-

born Tsaya River. Opposite towered enormous cliffs tufted with pines—

> 'Rooted aloft on the rock,
> Type of the North and of valour.'

Not far off a clear stream from the recesses of the Tsaya aiguilles prattled past. It furnished good drinking water and most refreshing baths. A few minutes' walk above the camp gave a beautiful tree-framed picture of the name peak of the group Adai, with its great N.E. hanging glacier. The Tsaya glaciers and their encircling peaks are not visible. Only the débris-covered snout of the united ice streams filling the bottom of the valley appears from round a corner to the left.

From this base camp several expeditions were made. The first, starting directly from the base (6300 ft.), reached the Tsaya-Karissart Pass—about 13,000 ft.—over the ridge of the Tsaya aiguilles between Tsaya and Dunti (Kamunta). This is an easy pass up a steep little 'glaciette,' on this occasion deeply covered with soft, bad snow. The lower part of the route is the same as that for the Tur Pass of July 10, 1913.

Fine views of a party of Tur were got, the sentinel buck outlined against the sky, on the extreme spike of one of the jagged aiguilles characteristic of the N. side of the Tsaya Valley.

One of the objects of the expedition was the discovery of a pass between the Tsaya glaciers and the great névé of Karagom. The topography shows that such a pass would have been a great convenience to the natives. No native pass exists. The inference was that any passage must be difficult. The nearest way—and Mr. Freshfield has suggested this as a possible route in his work on Caucasian exploration—lies between Adai itself and Songuta, the peak bounding the Karagom névé on the E.

On July 14 we pitched high camp on grass at about 9000 ft. below the terminal ice-cliffs of the hanging glacier of Uilpata.

Next morning, leaving at 3.5 A.M., we ascended the right moraine and got on the glacier above the formidable bulge of the snout. An easy ice-fall was then passed and we entered the lower basin.

This glacier is formed in a peculiar manner. I have not seen any exactly parallel in the Alps or Norway. Between Adai's (Uilpata) ice-clad N.E. face and the S.W. ridge of Songuta sweeps round a deep névé basin. Part of the ice from this pours over a great lip of rock stretching across between Adai's S.E. spur and Songuta's S. buttress. Another portion escapes through a deep gap cloven between Adai main peak

and its S.E. spur and flows down S.W. to join the N. Tsaya glacier. The great ice-crowned cliff forms, of course, a complete barrier to a direct ascent of the Uilpata glacier.

We attacked the steep S. rocks of Songuta to our right. The climbing was interesting, though hardly more difficult than the ordinary route of the Gabelhorn. Higher the angle increased. Just as the rock became somewhat hopelessly steep, a neat traverse along a ledge to the W. was discovered, which led under an overhanging edge into an ice and snow couloir coming down from the upper snow basin. Under present conditions this was not difficult and we ascended it. The direct Adai-Songuta col now became visible. Its appearance was not at all attractive. Steep snow-slopes, furrowed by many avalanche grooves, led up above the bergschrund to vertical-looking rocks, over which loomed threateningly huge cornices. We therefore turned to the right (E.) and made for a snow-plastered rock-rib which ran down for some way from one of the pinnacled rock arêtes of Songuta's S. face. The distance to these rocks was short, but the struggle to reach them was one of the stiffest I can remember. The angle was just about as steep as that on which large masses of fresh soft snow will lie, and it did. We had literally to wallow a trough upwards. We all, of course, took it in turns to lead. It was amusing to note how each one of us developed a critical impatience of the absurdly slow progress of the man in the fighting line, until he found himself there. The rock-rib, plastered as it was with ice and snow, was none too easy, but was a relief after the slope below.

At the top we found ourselves on a corniced gendarmed ridge on the other side plunging sheer down the south wall of Songuta. Passing along this ridge we gained the watershed somewhat on the Songuta side and higher than the Adai-Songuta col at 2 P.M. (about 13,300 ft.).

Splendid views from here were obtained of the ice-plastered E. and N. facets of the pyramid of Adai Khokh. To the E. the almost vertical—on the S. overhanging—rock towers of Songuta rose above our snow saddle. Every pinnacle not practically vertical was buried in ice and new snow. The discussion of a meal and of the question of attacking Songuta's final peak was brought to an end by the downrush of a fierce cold wind, accompanied by mist, thunder, and very heavy hail, and we turned for the descent at 2.50. I had previously, however, by descending a couple of hundred feet on the N., ascertained that the col is easy on the Karagom side. Owing

to care necessary to avoid avalanches, we did not get back to high camp till just before dark.

The next expedition was designed for the complete traverse of the N. Tsaya glacier, whose difficult ice-fall had repulsed last season's party. At the western extremity of this glacier rose three unascended mountains between Adai and Tshantshakhi. We hoped, if conditions allowed, to make the first ascent of one of these. A search for the elusive 'easy' Tsaya-Karagom pass was also included in our plans.

My friend Dr. Ronchetti had sent me a marked photograph showing his route of ascent of Adai (the third ascent and the *first* from Tsaya side); it also showed how he avoided the ice-fall and got over the central ridge into the upper névé of N. Tsaya.

Provisions for three days were collected and two hunters engaged as porters, and the party left at 7.10, a lovely morning as usual after the heavy thunderstorm of the previous afternoon.

Ten to fifteen minutes' walk through the thinning forest brought us to the 'Great Kosh' under the smoke-blackened overhang of a great cliff. Opposite are the high—100 ft.—terminal ice-cliffs of the Tsaya glacier. A good track up the left moraine leads in fifty minutes to first good water. Five minutes further 'Chough Nest' Kosh is reached, and just over the hour 'Tur Junction,' where a slight track breaks off for Tur and Tsaya passes. At 10 some fine meadows are reached, a first-rate site for a hut, just behind the moraine below the first ice-fall.

Before reaching this spot, another Kosh, 'The Doggeries,' is passed. We bestowed this name because it was guarded by a pack of particularly vociferous and bellicose, big, mastiff-like dogs. Though it is annoying and even disconcerting to some people to be surrounded by a number of wild beast-like animals, plunging in an apparent ecstasy of mad fury, with dripping jaws and bared white fangs towards one's calves, I think the danger of an actual attack is small.

There is a story of a Russian officer who, having shot one of these threatening dogs with his revolver, had to shoot its master as well, who attacked the officer in revenge. I cannot help thinking the officer must have got unnecessarily flurried. I have studied these dogs at many remote places and have never seen or heard of anyone being bitten by them, though they will snap at the heels or tails of horses readily enough. The dogs of a 'Kosh' or sheep or goat drove have well-defined

frontiers; they will not come to attack over these frontiers, nor will they pursue an intruder beyond them.

Calm indifference is the usual best defence. If very obstreperous the argument of the 'heaved half brick' is considered by them quite sound and unanswerable. Ridicule answers with those possessed, as so many dogs are, of a keen sense of humour. They hate making themselves ridiculous. At a pinch an ice-axe thrust suddenly down their throats is sure to cause a disgusted withdrawal to the background. The men of the 'Koshes' rarely interfere to quiet the dogs, and in the absence of orders from those 'head dogs' of the pack, the 'under dogs' are merely faithfully performing the duty of harassing and driving off possible enemies. They are handsome beasts, usually with thick, bushy tails, and two of them would be a match for any prowling wolf.

Above the meadows the valley narrows suddenly, and the glacier pours down the fall—about 800 ft.—in fine séracs. The fall is passed on this side by ascending and crossing a rubble and ice gully, somewhat dangerous from falling stones, to a snow-slope above the steeper part of the fall. I was interested to observe how our hunters managed.

Last year we had two herdsmen here to whom we gave the loan of nailed boots. As the snow was hard I nicked steps for them. The Caucasians with their 'gloved' feet are accustomed to place the whole foot flat in order to obtain the best grip. Of our herdsmen, father and son, the older man still tried to follow out the old plan in his novel footgear; the boy watched us carefully and imitated quite successfully our method of digging our toothed boot-edges into the slippery substance. These hunters, however, refused the loan of nailed boots. For the passage of the ice-fall they put on crampons made of knotted rope. As the surface was not too hard, these seemed to answer wonderfully well.

On our return, one of the men volunteered to show me a secret road through the rocks avoiding the dangerous part of the couloir. It was not exactly quite easy for a loaded man as he was, and I relieved him of his rifle. He seemed greatly scandalized and alarmed at what he evidently considered my unorthodox method of descending chimneys, face out, and jumping whenever a foothold appeared.

Above this ice-fall on the right is a steep bench of grass, the last grass here, rising to the wilderness of aiguilles forming the termination of the great S.E. spur of Adai.

Here we pitched tents on the levels cut out for our tents in 1913 (height 9300 ft.). By odour and other evidence, this is

H. Woolley, photo. *Swan Electric Engraving Co., Ltd.*

VOLOGATA: KARAGOM MASSIF.

a favourite haunt of Tur, and our hunters disappeared in pursuit of the big goats when relieved of their load.

I employed a couple of hours in the afternoon in looking for a short cut to the N. Tsaya névé through the rocky walls on the left (E.) of the N. Tsaya ice-fall. The climbing was by no means always easy, and I always found myself cut off from the ice by vertical walls one or two hundred feet high. A passage here would be very useful.

We got under weigh at 1.5 on July 20, descended on to the glacier and worked over to our left to avoid the maze of séracs and huge crevasses caused by the falling-in of the N. Tsaya ice-fall. Contouring back we reached the foot of the 'Couloir Ronchetti' in 1½ hours.

This led easily up scree, ice, and snow—earlier probably all snow—to a col at 3.40 A.M., whence leads an easy and slight descent to the N. Tsaya névé above its formidable ice-fall. The couloir is just behind the sharp rock, the end of the spur of Mamison or the 'Curtain,' which, as it is the pivotal point in Mr. Woolley's panorama of the Tsaya peaks, might be called 'Woolley's Rock.'

The glacier is flat at first; in fact small lakes, as on the Argentière, form in the afternoon. It then steepens and the peaks at the head were slow in nearing. The scenery is very fine. The walls are everywhere steep. Not a single col that could fairly be termed easy could be seen. The most promising, but it would be a pass of over 14,000 ft., leads up the S.E. flank of Adai itself to the dip between that peak and its 'shoulder.' This col was easily gained from the Karagom side by the first party to ascend Adai, Messrs. Holder and Cockin with Ulrich Almer in 1890. The beautiful Grand Combin-like mountain of Tvilisis Mta attracted attention, but it is almost entirely a snow peak, and the snow was already getting heavy and crusted. To its right shot up very steeply a twin rock peak, the Double Peak of Mr. Freshfield's work, cleft by a vertical-looking snow and ice couloir fully 3000 ft. high. Its south-east ridge is adorned by a huge rock obelisk, whose boldness of contour is exceeded by nothing on the ridges of the Chamonix aiguilles.

But it was to the left of Tvilisis where our gaze turned oftenest. Here the N.E. face of Tshantshakhi, our conquest of 1913, presents itself as a rock face of a severity not easily surpassed on any other mountain in the Caucasus or the Alps. At 7.15 we reached the rocks at the foot of the S.E. ridge of Bubis (Double Peak). These rocks soar almost vertically upwards in great slabs of granite, and the ridge is here unclimbable.

Our plan was to ascend the couloir, utilizing a considerable patch of rocks breaking its surface, to our left, and gain the ridge above the great gendarme which we called the ' Prong.' The snow was good and sufficient on ice at about the holding limit—52 degrees–55 degrees—and the 2000 ft. went easily. The ridge, however, proved impracticable, the rocks almost vertical, and the structure very insecure. We were soon forced to leave it for the couloir. The snow up here was thin and the angle close to the limit of adhesion. While crossing a space between two rocks the whole layer under the feet of the two central climbers on our 100-foot rope slipped off. The end men were ready however and the slide was easily checked. The col was reached without further incident ; then turning to the left—South—half an hour or so up a corniced arête and through a small cross-cornice placed us on the summit of the South peak of Bubis. On my copy of the Russian One-Verst map the peak has neither name nor height. Mr. Freshfield, from preliminary sheets sent him, has credited it with the figures 14,874 ft. It is therefore only second in height to Adai itself in the group. Its only possible apparent rival is the magnificent ridge of the Karagoms on the N. side of the long arctic trough of Karagom névé.

The peak is normally a very sharp rock peak, but two feet of powdery soft new snow had to be dug through to obtain the stones for the necessary cairn. On the N. side the great couloir is repeated, but in a shorter and easier fashion, down to the Karagom névé, but the S. peak turns one edge to the head of the Bubis glacier and must appear the dominating peak from that glacier.

Owing to the bad and tiring state of the snow on the upper N. Tsaya glacier, we did not turn in to our comfortable tents at the high camp till after dark.

The following morning the hunters came up and we shifted baggage to base camp again. That afternoon, as I was absorbed in demonstrating to Miranoff our cook the art of making ' Dropped Scones,' our camp was invaded by a bevy of young ladies. They were full of interest and admiration (?) for our domestic arrangements, and I could not help noticing that they eyed the scones as though not unwilling to make closer acquaintance with *them*.

I regret if we may have seemed inhospitable, but the ladies were many, young, and doubtless hungry ; the scones were few, small, and very tender. It would have taken a miracle of the loaves and fishes order to meet the case. We therefore decided not to show partiality and did not offer them anything. They presently set off down the valley for their supper and night quarters at the ' Sanatorium.'

I asked Rembert about the ladies. It appears they came from the large cities of Russia. The route was over the Mamison Pass, with a side trip up the Tsaya Valley to the glacier. If they stayed at Tshantshakhi Kasarma they could reach that glacier in an easy half-hour from the road. Descending the Rion Valley they were to proceed to Kutais and Batum. Thence home across the Black Sea to the Crimea. The ladies were accompanied by one or two gentlemen and a few natives and horses, but most were on foot.

We met several of these parties on or near the Mamison Pass road in both 1913 and 1914, and their presence shows that the splendid air and magnificent scenery of the Caucasus are becoming gradually known and appreciated by the inhabitants of Russia's great cities.

The time had now arrived for us to set out upon our travels and to shift our base camp to the N. side of the range.

We planned to do this personally over the top of Tsaya Khokh and down the Karissart or Dargom Glacier to Kamunta.

Meanwhile the camp, in charge of the cook, was to proceed *via* St. Nikolai, the Sadon village and pass to the same rendezvous.

About 1 P.M. on July 22, after a morning of intermittent rain and packing, all the baggage was loaded on horses and despatched down the valley. We four now homeless wanderers turned up the track towards Tur Junction to seek some high hole of refuge for the night.

When we reached the 'Great Kosh' the rain, which had again set in, became very heavy, and a halt was called which turned out to be one of over two hours. Rarely if ever have I seen such rain. We looked out from our dry recess while Niagaras roared on the rocks above, and poured in solid sheets from the far-overhanging eaves of the Kosh. I was interested in watching some of our fellow refugees already here—the goats. Especially quaint was one cheeky little kid. It occupied, fully occupied, like an overgrown Mephistophelian dog in a too small kennel, a stone-built oven in one of the Kosh's enclosures. From the oven entrance protruded its profile, the jaws working steadily, the big brown eyes fixed in an introspective stare, doubtless going over the garnered fruits of past acquisition and study and preparing them for future use.

In a lull of the deluge we made a move and reached 'Boulder Kosh' just below Tur junction. There we stopped. Richards, after a gallant and long-sustained fight against the all-pervading wet, had at last succeeded in persuading some logs to burn,

when the horse leader parted with in the morning appeared. I am convinced that man has missed his vocation. His rôle is really the tragedian of melodrama. He was apparently almost fainting with exhaustion; his chest heaved, and he seemed quite unable to speak. We discovered afterwards that he had come up almost all the way on horseback. Nobody offered any vodka, for the very good reason no one had any to offer. He however accepted, with little enthusiasm indeed, a cup of 'chai' Richards had just succeeded in producing. He then delivered with dramatic tones and gestures his terrible tale of the 'Flood.' At first it seemed as though he must be referring to the old event, in connection with the South Caucasian group, of Ararat. That was, it appeared, however, a small and local affair compared with the present catastrophe. Then we gathered that horses, baggage, cook, all had been swept away; our informant was sole survivor.

That was perhaps a slight exaggeration, all were not exactly to say drowned. Owing to his courage and resource some, in fact all, had been rescued from a watery grave. The actual details of the rescue he seemed at first too modest to describe. For a long time we could not gather what had really happened or the extent of the disaster. Gradually it appeared that nothing at all had occurred. The party had started from the 'Sanatorium,' probably late, had soon met a small stream in flood across the path and had at once returned. Our plans for crossing Tsaya Khokh were, of course, now defeated. It was evident our cook was not a strong enough man to handle these 'children of Nature' with sufficient tact, or to be in sole charge of the pack train. We therefore descended to the 'Sanatorium' in the dark and obtained the loan of one of the little wooden open-air huts for the night.

Next morning the sun shone brightly on the beautiful berry-carpeted pine woods already dry again, and we left for Sadon.

The cloud-burst had been a heavy one and much damage had been done. The bridge over the Tsaya below the great gorge near Rekom had been swept away by the uprooted pine trees. We had to take the old track, which keeps the left bank and climbs up an irritating height to the very dirty village of Tsaya. The men of Tsaya were engaged in a shooting match. The children are numerous and less shy of strangers than in most mountain villages. They are in the habit of going across by the lower bridge into the Tsaya woods to gather wild strawberries. We met many on the track near the bridge. They were most persistent merchants of the delicious fruit.

H. Woolley, photo. Swan Electric Engraving Co. Ltd.

Laboda and Bogkhobashi Peaks, from the East.

Stopping for a meal at St. Nikolai, we descended the Ardon and turned up the Sadon Valley to the mining village of that name.

Our cloud-burst had been quite a local one. They had had here in the beginning of the month a much bigger one. All the bridges except the one high up near Sgid were gone; the engineer's house and pretty garden at the foot of the valley quite destroyed; the turbine pipe track torn up and dispersed; and the valley floored with boulders from 20 to 40 ft. deep in places.

The village itself was as though bombarded. Many houses partly destroyed. Domestic work was going on as usual in some of these. The effect at a distance was as of a doll's house or, closer at hand, a theatre set piece.

We camped for the night in a disagreeable drizzle of rain below Sgid. On July 24 we walked over the Sadon Pass (8000 ft.) to Kamunta. It was a pleasant easy walk and a pleasant cool day. On the South the granite aiguilles of Tsaya were mostly cloud-concealed. On the North rose the great dolomitic-looking precipices and bastions of the limestone range of Kion Khokh and its neighbours. As marks the limestones everywhere, the grass was particularly green and rich. We got on the shales again at the pass and descended a long crumbly ridge to the fortress village of Kamunta.

Here we spent the night with two other travellers (from Vladikavkaz).

I was surprised to discover here among a few books in Russian one on a subject in which I was particularly interested—Aviation!

The inhabitants keep their dead above ground—the fact is obvious to more senses than one—in small stone houses near the top of the hill on which the village is built.

The following morning was very fine. We hired fresh pack-horses, and walked ourselves to Dsinago, the highest village in the Urukh-Karagom Valley.

The horse-owners would not take the short cut which climbs up over the Gular ridge and descends past Gular to Dsinago, as they said the track had been rendered impossible by the recent storms.

We went the long round down the Agimugidon to its junction with the Urukh, and up the Karagom Valley to Dsinago.

The latter part of the journey is a vast improvement on the first. We quit the bare, barren, ugly clay slates for the pine-clad slopes, the towering aiguilles, and the gleaming glaciers

and icefalls of the granites. The Karagom is a noble valley, and its mighty icefall, approaching 4000 ft. in height, which burst through the almost vertical walled gap cut down for 2000 ft. between Karagom and Nokausakhtseine massifs, is excelled in grandeur by no Alpine icefall.

At Dsinago we merely halted for a couple of hours. Here is a Government veterinary post, as it is here where falls in the much frequented glacier (Native) pass of the Gurdsizvek, between Gebi on the Western Rion and the N. side of the range. Dr. Sergius Iokelson, the officer in charge of the post, informed us that in 1913 more than 15,000 sheep had crossed this pass. Mr. Freshfield has described how he saw sheep jumping the bergschrund when his party crossed the pass from Glola in 1868. We obtained four donkeys here to convey the tents to the pine wood above the right moraine of the glacier.

Mr. Dent has described an animal he christened 'Cayenne' as so named because 'she was very strong, and a little of her went a long way.'

Our four were sturdy little beasts. There are many in this valley. Unfortunately, they seem to fancy themselves as nightingales and as cocks, and at sunset and dawn Dsinago is rendered an aural inferno by their rasping brays.

Base camp was placed at 6000 ft. on a small pine-covered flat, on the glacier's right bank, just above the snout.

Next morning, leaving the others busy with correspondence, washing, or other affairs, I took a walk up the glacier for two or three miles to the middle of the first icefall.

Here the crevasses became very numerous and large, and the connecting passages by ice flakes so thin and tottery that I cut a passage out to the right moraine (about 7400 ft.).

Owing, no doubt, to the heat at this level, the surface ice of the flakes was very treacherous. I had to cut down one 2-ft. thick wall for fully 6 ft. before reliable foothold could be made. On the ice I found the remains of a hooded crow.

I returned by the top of the moraine, by which there is quite a decent track in places. We engaged two porters and settled to throw forward a high camp and attack Skatikom. If that proved too distant, then another peak of the great mountain massif which, running from Skatikom to the eastern portal of the 'Mickledoor' of the Karagom Glacier, walls its névés on the North.

We left the low camp at 7.45 A.M. on July 27. First on the moraine, then by the glacier itself, then up a rubble gully to quite a good track along the steep walls above, we gained in

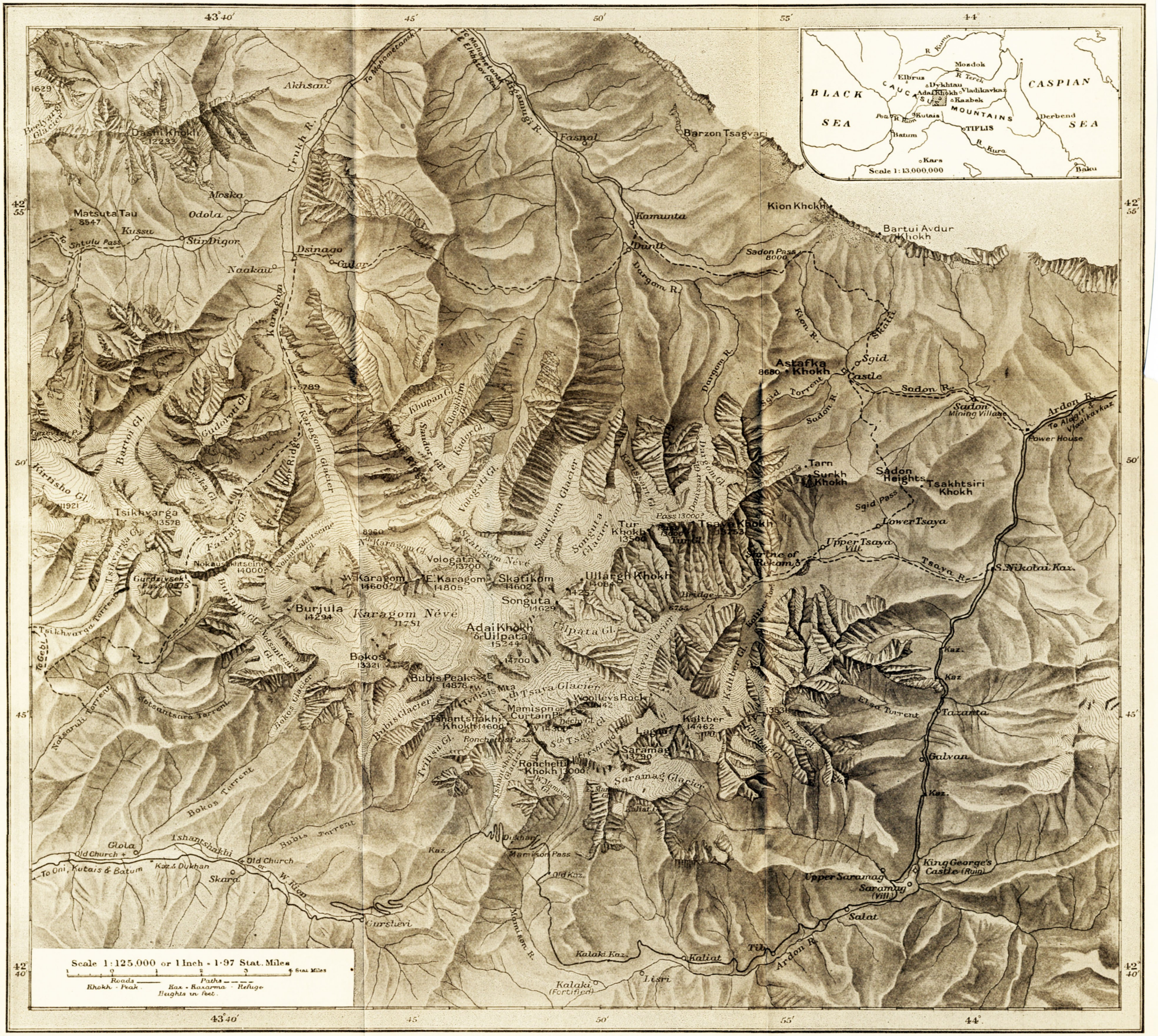
CAUCASUS

THE ADAI KHOKH GROUP

From the 1 verst to 1 inch Russian Surveys, with corrections by

HAROLD RAEBURN.

1914.



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2½ hours a lovely little tarn. Well is it named the 'Blue Lake.' It lies pent between the 150-ft. high old moraine of the glacier and the steep rock slopes of the Saudor Ridge.

Beyond the lake the valley opens to a great grassy flat, with many long parallel ridges of old moraines now covered with turf and rhododendron. This is about 8000 ft.

We climbed to 9000 ft. up steep grass slopes in a due E. direction, and there placed the high camp.

From this camp, starting at 1.15 A.M. on July 28, we climbed two peaks of the northern Karagoms, Vologata, about 13,700 ft. and the highest peak—third of the Adai Group—Karagom East, triangulated as 2115 S. on the 1 Verst Map = 14,805 ft. I do not propose here to go into details of this expedition, which took almost the twenty-four hours. The other Alpine Club member of the party, Mr. H. Scott Tucker, has agreed to give his impressions of the scenes and events of the day, a most repaying one in every sense. The storm sunset over Dykhtau and Koshtantau, seen from 12,000 ft., was of awe-inspiring splendour. I have seen nothing in my life to equal it.

It is necessary to make a correction in the title of one of the peaks in Mr. Young's photograph, illustrating the view of these peaks published in the 'A.J.' for May 1914, in the paper 'Some New Climbs in the Caucasus,' by W. N. Ling. The one marked Skatikom is really Karagom East; the summit is not visible. The black peak in the nearer position is Skatikom, and the rocky peak in the centre Vologata. I was misled by Merzbacher's Map, which is unfortunately of minus value in this part of the range.

On the 29th after our great day we felt somewhat lazy, but lack of provisions drove us down a leisurely but rather heavily burdened walk to the lower camp, where we were heartily welcomed by the faithful, perhaps somewhat lonely, Miranoff. The fatted or fated (there is small difference) sheep had been killed two days before, and Miranoff soon served up an excellent and wonderfully varied meal, ending with pancakes, for even milk was flowing in abundance at Koshes not far off. We had a delightful reposeful afternoon, the weather splendid and the scenery most beautiful. Time was now, however, running out, and though Skatikom pulled, I felt it would not be fair to the others not to give them the chance to see at least something further west.

We therefore arranged to try the still unascended highest peak of the Laboda Group, which lies just S. of the Shtulu Pass between Digoria and Balkaria. On the 30th we shifted

camp down to Dsinago, and put up in Dr. Iokelson's enclosure, and on the last day of the month did some 'Travels with a donkey' up the Stir-Digor Valley and the Tana torrent.

There is a most picturesque gorge here, the rounded pine-clad hill of Kubus rising high above the stream on the N. An excellently engineered track, used for bringing down wood and hay, leads up through the steep part to meadow clearings above. The angle proved too much however for our small quadruped, and the bipeds, ourselves and a couple of porters engaged at Stir-Digor, had to do the packing the rest of the way.

At the haymakers' chalets—troglodytes' holes under huge boulders—we were invited to the inevitable sour—very—goat's milk by an old man and youth. The latter seemed about twenty. I do not know if I have ever seen, certainly not in Caucasia, a face of so perfect and classical a type. He could have sat for the head study of a Greek god of old.

The Tana glacier is more débris, smothered than any other I know in the Caucasus. It appears also to be in strong retreat.

We camped on soft moraine—quite comfortable though dusty—at 8100 ft. under the steep rock wall on the N. side.

Here our men told us a big drive in spring had resulted in the death of twelve tur.

We left camp at 3.45 A.M., the morning windy and misty. Rain threatened but none fell up here. Ascending a long ice hollow leading up N.W., we crossed to the left or S. and got on the Tana-Laboda glacier above the very steep wide ice-fall. The cliff over which pours the ice-fall is in places exposed. Above the steepest part the glacier is still subjected to great tension and the crevasses are numerous, long and wide, the connecting bridges thin and very narrow. We got a good line, perhaps the only one, and then gained the easy upper glacier.

At any rate the going was easy for those who did not have to walk first, for as usual this season the snow was in bad order. The rocky and icy E. buttress of Laboda looked steep—there is no deception: it is—but it was the shortest way and offered a prospect of some good rock work. We had a most enjoyable climb with a variety of interesting passages. The ice-slopes were steep and the snow thin, but it was just sufficiently holding to serve and little cutting was required. We did not move fast, but kept going fairly steadily, and at 12.45 quitted the last rocks and reached the top—14,169 ft. This was a corniced narrow ridge of ice 60 to 80 ft. above the last rocks. There were driving mists and only partial, but very fine, views, mostly confined to the neighbouring peaks

H. Woolley, photo. Swan Electric Engraving Co. Ltd.

Laboda from the N.W.

of Bokhobashi on the other side of the Shtulu Pass. Leaving the top at 1.15 we got back to camp again by 5.30. Owing to the goodness of the bread this year, our Dsinago supply had already run out, and we therefore decided to shift camp the same night down to the entrance to the Tana Gorge, a rather heavily loaded march mostly in the dark.

Heavy rain came on at night. Next morning was fine and we intercepted a wood-cutter, whose donkey had most convenient panniers, to convey the baggage to Stir-Digor.

In Stir-Digor on our way up we had inquired for porters. A man came forward, the usual typical Ossete mountaineer, holding out his hand and grinning genially.

His polite greeting from a Caucasian was unusual. He said 'Hullo, Johnny, what the hell you here for?' It appeared he had worked on the railway in Vancouver for two years. His acquisitions of anything except of English had however been small and he had returned.

It was this day, August 2, when bidding farewell to him at Stir-Digor that we got the first hint, though we did not recognize it as such, of the World War. He said 'You know—my brother he soldier—he go 'way—I do' know.' That evening at Dsinago the horse-owner, from whom we had previously hired horses to ride to the railway at Elchatova, came and said—we were to leave at four next morning—that we could not get any. All horses must go to certain places to be examined by the Russian authorities. We did eventually get horses, but on the way it was evident that horses were being collected for some purpose.

The limestone gorge of the Urukh is very fine. The road crawls in places in a none too wide or high nick, cut under overhanging cliffs above the dimly seen boiling torrent which roars some 200 ft. below. The pines give place to fine beech forests as the hills open out, and at Mahometansk one is already almost on the steppe, but a fertile and richly cultivated land hereabouts. We were too late for the ferry over the Tcherek, and only on the morning of August 4, after a disagreeable night, disturbed by flies and horses on the sandy bank of the river, reached Elchatova station. The station was in the hands of the military authorities, Rembert reported; 'It is war. Austria has declared war on Serbia, and because Russia has intervened in Serbia's defence, Germany has declared war on Russia.' The speedy and easy journey home was now out of the question. It took us, for of course we all kept together, practically the rest of the month. Martinson

and the cook we last saw jumping on one of the numberless troop trains rolling *south*.

Our route from Naltshik lay *via* Rostov, Sea of Azof, Kertch, Feodosia, Yalta, Sevastopol, Odessa, Varna, Constantinople, Piraeus, Patras, Corfu, Brindisi, Venice. Richards and Tucker left me at Milan. Here I called to see Dr. Ronchetti and was pleased to find that, though he lost half his foot on Adai, he is still able to climb. From Milan I proceeded by way of Zermatt and Geneva to Paris, leaving that city and arriving in London on September 2 (Sedan Day).

The naval squadrons passed through were of nine different nationalities—Russia, Bulgaria, Turkey, Germany (*Goeben* and *Breslau*), Great Britain and France (outside Dardanelles), Greece, France again, Austria (four torpedo boats off Pola), Italy, and, finally, a powerful British squadron sliding into the sunset off Folkestone.

I have been asked several times with regard to my opinion of the healthiness and the climate of the Caucasus Mountains. On both these points our experiences have been most favourable. None of our 1913 or 1914 parties suffered from any form of illness whatever. A medical and surgical outfit was of course taken, and I occasionally dosed natives who asked medical aid with something strong and tasty, yet comparatively innocuous, such as quinine. We, however, never touched it ourselves. Some difficulty was experienced in 1913 with the terrible leather and putty scones which pass for bread in the more remote parts. In 1914 we always managed to obtain good Russian bread (raised) or made pancakes and dropped scones ourselves.

The weather in 1913 was heavenly and far superior to all my Alpine or Norse experience, while in 1914, though we had violent storms of rain, these never lasted long. As a rule, a wet day means that the next and perhaps the next again will be perfect.

The Highest Peak of the Adai Khokh Group, Central Caucasus.

By HAROLD RAEBURN.

THIS is the peak called on the Russian 1-Verst Survey Map Adai (or Uilpata) and triangulated as 2177·7 sazhens (15,244 feet). It must be clearly understood that I only submit to the name Adai for this peak under protest. It appears on the Russian Government Map, and we must therefore accept