Austria because we didn't stand up to the Germans and the Swiss did.' I could not say no, for here seemed to me the final link, the answer to my question, how can the Austrians still smile ? Whatever they may say of the liberty of a mountain people—and a course lecturer strove to assure us, the assembled foreigners, that Tyrol would never submit to dictatorship, be it from north or east—there has been in practice a sad failing. A few years group themselves heroically at the beginning of last century around the name of Andreas Hofer—and then nothing. There was little opposition to the German Anschluss. My friends may have retired to the mountains which the Germans could not take away, for I do believe that since their mountains are a refuge, they will not make a battlefield of them. They prefer shrines to fortresses. It is not for nothing therefore that the paths are strewn with chapels, the Alps with crucifixes that link their green pleasantness to the deeper meanings. But you cannot have it both ways. It is right that the Austrians should admire Switzerland, and their smile here is a wry one but it is still a smile. The core of what was once the most powerful empire in Europe would gladly now change places with the mountain state which has had the courage to preserve its independence, its happy smallness. Poor Austria cannot even preserve her own South Tyrol. The Swiss have deserved their lot. The Tyrolese, politically muddle-headed, have the lovable qualities of Mary. It is perhaps wrong of them in this modern world to practise escapes so openly, to face desperate situations with the equally desperate remedies which they swallow with a light-hearted laugh. But Mary had her good, which was not taken from her. Here in Austria is a good, which all mountaineers will acknowledge. The old guide at the Berliner hut shook his head and longed for the days when the English had engaged him ; if only they could come back, the English, they would save Austria, because all peoples who love hills help each other. I felt suddenly and anxiously a certain responsibility. Perhaps he is right. Perhaps it is for us who see their good to lend first hand in the rescue of this people, so lovable and somehow so childish, to help them to win their mountain independence, to give some of that security which they deserve and which they would be the first to confess they are completely incapable of winning for themselves.

THE ARCH

By E. E. SHIPTON

SOME 25 miles west-north-west of Kashgar there is a small range of jagged peaks. From Kashgar it does not look very impressive, as it is seen end on and is partly obscured by a gently sloping, featureless mass of desert hills. But from the N. or S. the range, which for want of a better name I shall call ' Min-yol Range,' is seen to consist of scores of bold pinnacles stretching in long ranks

from E. to W. The highest peaks are probably rather more than 11,000 ft.

While I was travelling from Kashgar to Tashkent in 1942, I saw from Min-yol (25 miles W. of Kashgar) that one of the peaks was pierced by a hole which appeared to extend from a couple of hundred feet below its summit almost down to its base. From a distance of 10 miles it was difficult to form an idea of the size of this gigantic archway, but I estimated that the vault could hardly be less than 1000 ft. high.

It was not until several years later that I had an opportunity of attempting to investigate this remarkable phenomenon. Greatly underestimating the difficulty of the task, my wife and I set out from Kashgar one week end in January 1947 with this object in view. We took with us our two Sherpas, Lhakpa and Gyaljin. A few miles E. of Min-yol we turned off the road and made our way up a broad water-course which led us in the direction of the highest peaks. The Arch, now clearly in view, was among them. For several miles we made our way across a boulder strewn desert which sloped gently down from the foot of the range. It was one of those days, rare in Sinkiang, when the air was crystal clear and the great ice peaks of the Kashgar range could be seen in every detail.

Reaching the foot of the range we climbed a small spur to prospect for a route. From here we could see that the range was divided into two distinct zones. The first was a region of foothills composed of shale and sandstone strata which dipped to the N. at a general angle of about 50°. Beyond the foothills rose the perpendicular rampart of the main peaks, whose cleancut sides showed, so far as we could see from where we stood, no sign of stratification. A deep canyon ran up into the heart of the foothills and we could see that it had several branches. It was obvious, too, that this canyon was only one of a large number of similar passages which, with their branches, split the foothills into an intricate labyrinth of gorges. Each of the narrow clefts in the jagged skyline by which the peaks of the main range were separated from each other probably represented the continuation of one of the main canyons. The Arch was no longer visible, but we could make a fairly accurate guess at its general direction. Noting that we must take an early branch to the left to maintain this direction we started up the canyon.

For a short distance a broad, flat floor wound between cliffs cut square out of level alluvial deposits. As we entered the foothills, the gorge narrowed abruptly, and the walls rose to a height of several hundred feet above us, often sheer and sometimes overhanging. The strata, composed of alternating beds of sandstone and shale and variously metamorphosed examples of each, stood out in extravagant relief, dipping at a high and uniform angle. The whole structure appeared alarmingly unstable, an appearance amply confirmed by the frequent masses of landslip debris with which the gorge was choked. The gorge was dry, except here and there where small masses of ice clinging to the walls marked the position of springs.

We turned up the first branch passage to the left. It was steep and choked with debris; so steep indeed that after a couple of hours scrambling we found ourselves only a 100 ft. below the crest of its confining walls and it showed signs of petering out in a fan of shallow cwms. We climbed to the brittle crest of a ridge to see where we were. The surrounding country presented a remarkable appearance. It seemed as though we were standing in the midst of a stormy sea, its crested waves poised to break over the plains to the S. The wave on which we stood was one among thousands, each indistinguishable from the rest. The island peaks of the main range appeared no closer; of the Arch there was no sign. To our right we looked down into a deep canyon, which was obviously a continuation of the one we had started up, or a major tributary of it. It had curved round to the N.W. since we had left it and now seemed to lead in exactly the right direction. We had obviously been too hasty in our decision to abandon it for its promising but feeble tributary.

When the direction of these valleys was at right angles to the strike of the strata their sides were almost vertical and frequently overhanging. Although such was their general direction, their sinuous courses placed some portions of them parallel to the strike. The S. slope of the valley then followed the angle of dip, often right to the top of the flanking wall. This was the case where we found ourselves and we had little difficulty in finding a route down into the canyon. The view which we had seen from the crest of the ridge, though spectacular, was depressing, and we realised that we could not hope to reach the foot of the main peaks that day. However, we had time to prospect a bit further, and we followed up the canyon for another hour or so. On the whole there was no difficulty in doing this, but there was a frequent tendency for bands of comparatively hard strata, less easily eroded than the rest, to form overhanging curtains across our path. Eventually just as we had reached our self-imposed time limit we were confronted by one such curtain over which it was impossible to climb. But here again we were lucky in that it occurred at a place where it was possible to climb out of the bottom of the gorge and along one of its flanks. So we returned to Kashgar confident that we had not yet been baffled by this line of approach.

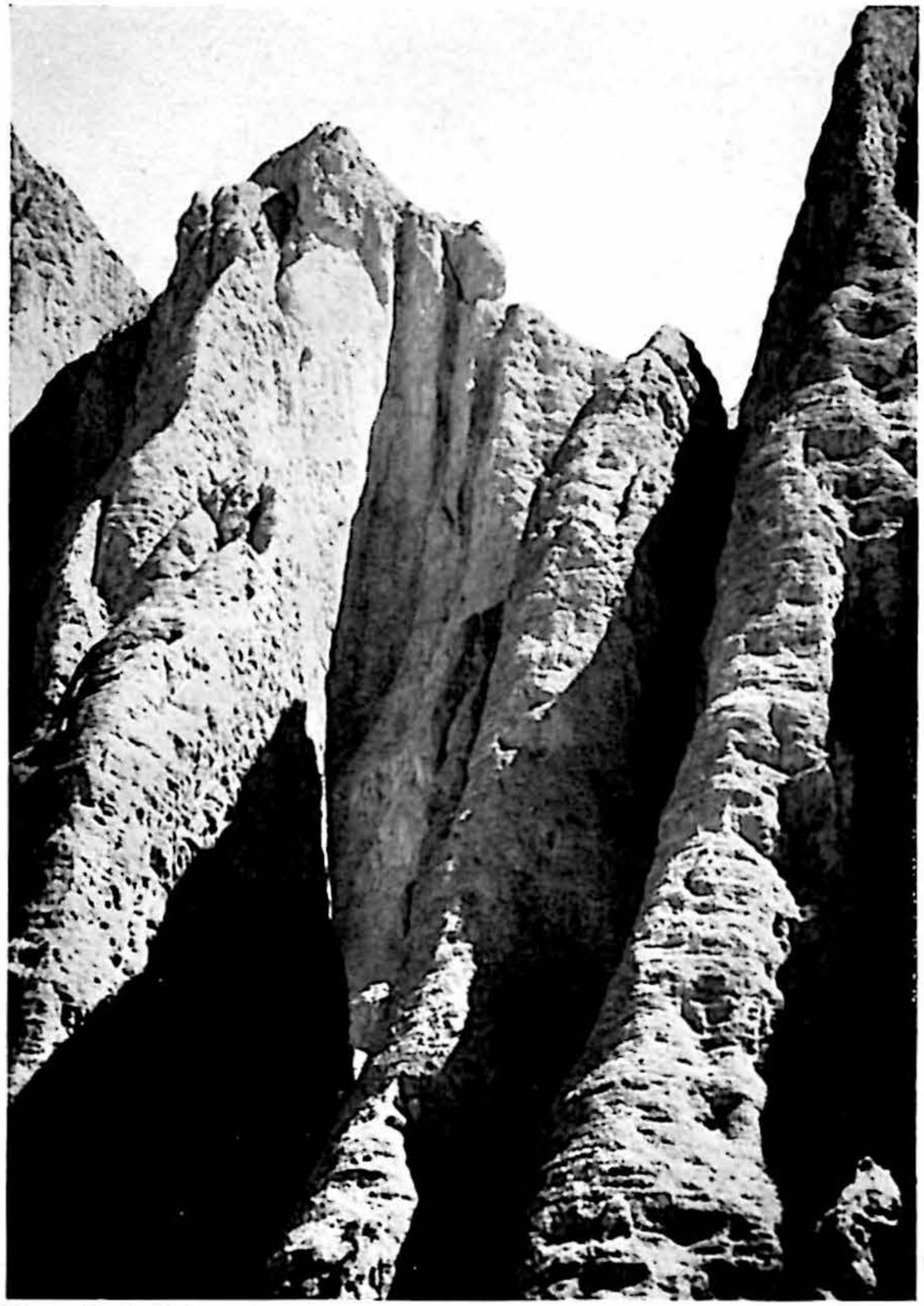
About a month later we decided to devote another week end to the problem of reaching the Arch. This time we camped in the mouth of the canyon. We had left Kashgar in a severe dust storm which continued throughout the journey. Fortunately the wind was from the N.W. and eventually it blew the usual dust haze away, so that by Sunday morning the air was again clear. We breakfasted in the early light and watched the dawn break over the ranges to the S. Framed by the walls of the canyon, Kungur and the great ice saddle of Chakragil gradually emerged, flooded in the soft sunlight, from the liquid purple shadows of the plains.

We reached the overhanging curtain in little more than 2 hours, and had no difficulty in climbing round it. Beyond, the going was

again easy and such glimpses as we had of the peaks showed that we were getting appreciably nearer to them. But soon the floor of the gorge began to steepen ; the valley split repeatedly into several branches and it was difficult to decide which to follow. In any case it seemed clear that they would soon peter out and deposit us again like flotsam on an isolated crest in the sea of foothills. But this time we emerged on a fairly wide gravel plateau, so far as we have seen, a unique feature in that landscape. At first we naïvely hoped that it might lead us without further trouble to the foot of the peaks, which now seemed fairly close. They were a remarkably fine array, rising in smooth unbroken sweeps of prodigious steepness, 3000 or 4000 ft. (that is little more than a guess) above their foothills.

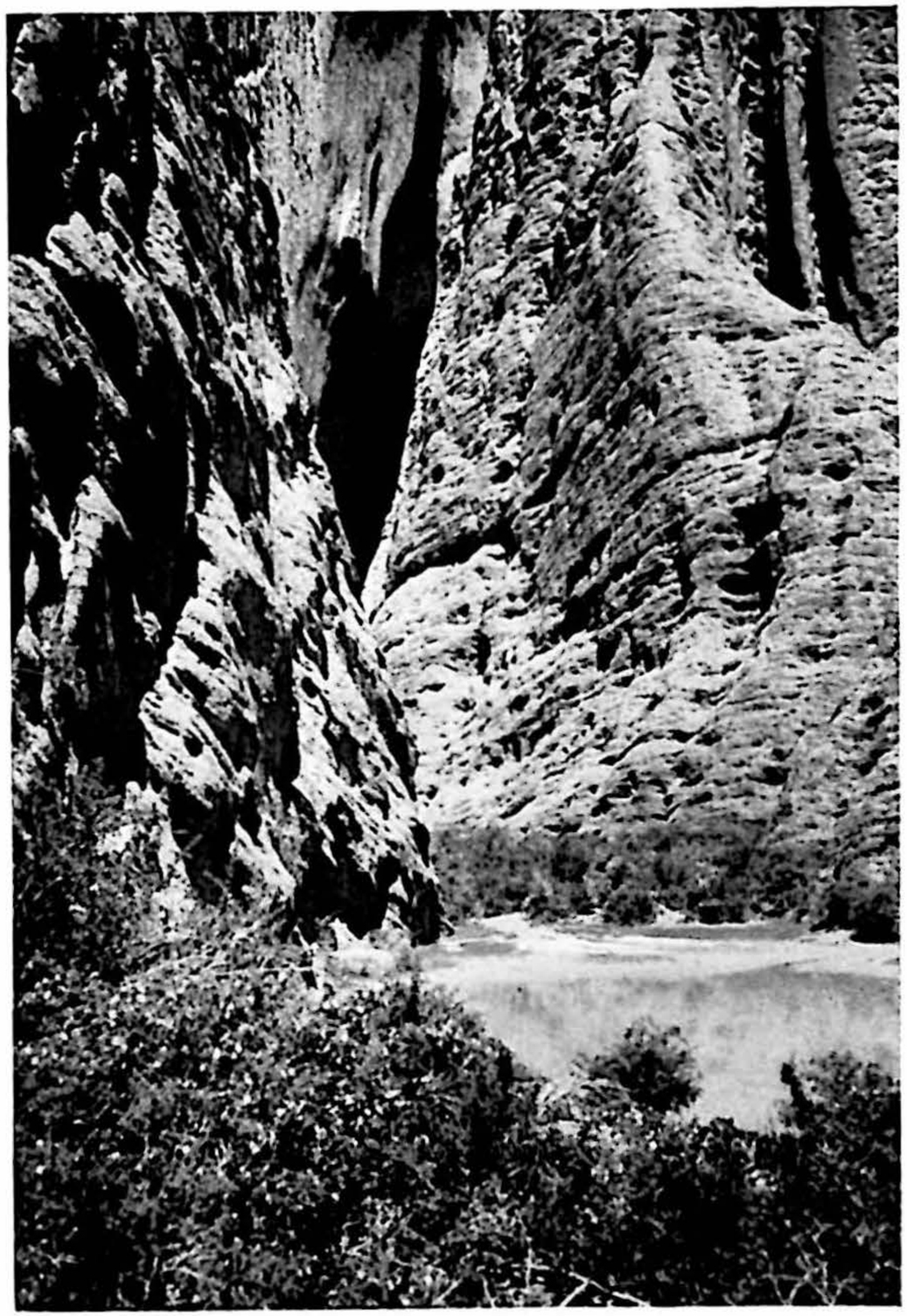
We had not walked more than 200 yds. along the gently sloping plateau before we were brought up on the brink of a sheer drop, down which we looked into the gloomy recesses of another canyon. From its size, structure and direction it was obviously the main valley of a system entirely separate from the one which we had left ; it drained to a point some way further along the range to the W. At the point where we overlooked it, it was joined by a large tributary canyon which bounded our tableland on the N. It was obvious that before we could progress another yard towards our objective we had to climb into this new system. There was no feasible way of doing this from where we were and we made our way along the brink of the tributary canyon. Soon the tableland gave place to the usual series of wavelike ridges which made progress very laborious. It was a long time before we reached a point from which we could climb down into the gorge.

It was already getting late, so my wife and Lhakpa waited on the ridge while Gyaljin and I went on as fast as we could. We were now very close to the foot of the main peaks and could see the point where the tributary canyon disappeared into one of the slit-like ravines that split the main massif. But I could not yet see of what rock the peaks were composed. Their smooth faces and the apparent absence of stratification suggested a massive limestone, though the boulders in the gorges contained a large proportion of crystalline rock as well as of limestone. We went down to the junction again and turned up the main canyon. Here we found thickets of tamarisk, briar and coarse grass watered by a stream which was only partly frozen. We raced along the gently sloping floor. But before we had gone for half an hour from the junction the walls of the canyon converged above us and we entered a circular cavern. The floor was covered with a sheet of ice ; at the far end a frozen waterfall, about 16 ft. high, hung from a V-shaped cleft which represented the continuation of the gorge. Supported by Gyaljin on its lower portion I cut steps up the waterfall, climbed through the cleft and emerged into a second recess, also floored with ice, but this time open to the sky. A second frozen waterfall a good deal higher than the first confronted me. I did not attempt to climb it, and doubt if I could have done so if I had tried. A jutting stratum of rock which formed part of the roof of the lower recess, sloped



Photo, E. E. Shipton.]

IN THE REGION OF THE ARCH.



Photo, E. E. Shipton.]

VALLEY APPROACH OF THE ARCH.

[*To face p.* 230.

back along the wall of the canyon at the prevalent angle of about 50°. It was formed of hard conglomerate and was easy to climb. It took me right to the top of the 300 ft. wall and once more I looked across that incredible tangle of sharp ridges that formed the foothills. There was no obvious way of climbing on towards the peaks nor of regaining the floor of the canyon above the second waterfall, but I did not make a thorough search as it was already an hour later than the time I had decided to turn back.

It was the middle of April when we made a third attempt to find the Arch. This time we went to the village of Min-yol, where we consulted the local population. In my experience Asiatic peasants are usually quite uninterested in the natural phenomena around their homes, unless they happen to have some economic significance; the most majestic mountain is left unnamed; the advance of a glacier will pass unnoticed unless it should happen to destroy their houses or encroach upon their grazing grounds. We were surprised to find therefore that the villagers of Min-yol took the keenest interest in the Arch. They and their fathers before them had explored the labyrinth of gorges that led through the foothills, usually in quest of game, but often during the perennial revolutions and civil wars that sweep this unfortunate country, when it provided them with welcome refuge from the storm. Never once had anyone seen the Arch from close to, let alone reached it. Its curious disappearance as soon as one reached the foothills had long been remarked upon, and some of the more adventurous spirits had even set out to find it. The circumstance was fertile for legend. It was said that somewhere among the lofty pinnacles there was a beautiful garden of flowers and fruit trees, inaccessible to the ordinary mortal.

It had occurred to us that the Arch might prove to be an optical illusion. But we had studied it very carefully with a telescope from various points along the road and from a distance of 25 miles to the S., and were positive that this was not so. Moreover, we had seen a similar, though less spectacular arch above the Artush plain at the eastern end of the range. We had no difficulty in persuading two of the villagers to join in our quest, though they were quite confident that it would not succeed. One of them, Usman Akhun by name, was obviously the J. A. Carrel of the village. He had a splendid physique and the easy rhythmical movements and self-assurance of an Alpine guide.

We set out across the desert to the N. This time the weather was more normal, and a thick dust haze obscured the mountains until we were within a mile of the foothills. Then the peaks began to appear in ghostly outline; there once again was the Arch. We entered a canyon which at first I thought was the one that Gyaljin and I had reached on the previous occasion. But it soon became obvious that it belonged to a different system, probably the next to the W. We camped about 2 miles up the gorge, and set out again next morning at 7.15. We soon came across fresh tracks of ibex, which had descended

from their crags for their morning drink at the intermittent springs on the floor of the canyon. We would certainly have surprised some of the creatures had it not been for the loud and continuous chatter of our guides which echoed far up the surrounding cliffs. After about an hour, still following the game tracks, we turned up a steep side nullah to the right, intending to continue the exploration of the main canyon later. Very soon the nullah ended in a little cwm surrounded by vertical cliffs. A small terrace ran diagonally across the right-hand wall. We climbed this to the outer edge of the cwm, and round the corner we found that it continued across a big south-facing buttress. It was an impressive place and commanded a fine view over the foothills. There were large deposits of ibex droppings, and here and there those of ram chikor. Soon after we had turned the corner two of these birds came sailing over our heads from the opposite side of the main canyon. We made our way along the terrace for about half a mile, hoping to find some way round the vertical cliffs above. Eventually, however, it petered out high above a system of gorges which was evidently the one which Gyaljin and I had reached on the previous occasion. There seemed to be no way of getting down into this from where we stood, so we began to retrace our steps.

A couple of hundred yards back along the terrace the wall above was cleft by a crack which, higher up, widened into a chimney which in turn ended under an overhanging block. A suggestion of mine that we might try to climb this cleft was turned down peremptorily by Usman Akhun who had hitherto nursed the party along like a guide with a bunch of incompetent tourists. I ignored his protests, however, and tying myself on to the end of our 100 ft. rope started to climb the crack. This was obviously regarded as a piece of gross impertinence and but for Gyaljin I think he would have pulled me down again. The chimney was not particularly difficult and just as I had run out the length of the rope I reached a wide recess below the overhang. Usman Akhun's blood was up. He removed his boots and started up after me. He was a good climber on slabs, being quite fearless and very agile ; but though he managed the lower crack, the idea of backing up a chimney was evidently new to him and he could make nothing of it. He struggled valiantly for some time before he was forced to bury his pride and clutch the rope. By this he managed to haul himself up to the recess where he arrived, winded and obviously impressed.

It was decided that the others would remain on the terrace and await our return. We did not expect that to be long delayed. The overhanging block was pierced by a hole, through which we climbed and so emerged at the top of the cliff. Following the uniform structure of the foothills the ground beyond dipped steeply down into a wide notch beyond which was another formidable cliff. But by following the exposed strata diagonally to the right we climbed down about 400 ft. to the floor of the canyon beyond. Here I found that we had at last penetrated through the foothill zone and were right up against the walls of the main massif. I was astonished to find that these,

which stretched in almost vertical sweeps for thousands of feet above our heads, were composed entirely of conglomerate. Although, looking at the smooth faces of the peaks as a whole, there appeared no sign of any bedding planes, examination of the sides of the ravines by which they were cleft showed that the strata dipped to the N. more or less in conformity with that of the foothills.

We made our way along the canyon. The floor where we reached it was about 10 yds. wide. Presently it plunged into the vertical wall of the main massif. Here it had a maximum width of about 3 yds., though often it was so narrow that we had to edge along sideways. For a long way the floor was flat and though it was often deeply covered with snow we could get along rapidly. Usually the skyline above us was so narrow that we could see nothing but the ravine ; but sometimes it widened sufficiently to enable us to see, far above, a great amphitheatre of peaks that we were entering. It was obvious that this fantastic passage could not go on indefinitely without interruption. After surmounting two small steps in the floor we reached a third, about 10 ft. high. I managed to chimney up this and went on alone. About 200 yds. further on the walls of the ravine began to close above me, the light faded and I was soon in complete darkness. Eventually my groping hands came up against a cold slippery surface. I struck a match and saw that a great column of ice descending from the darkness above marked the end of the ravine ; at least so far as I was concerned, for I did not contemplate climbing it in the dark. I estimated that I had reached a point directly below the wall of the amphitheatre.

When I got back to Usman he showed me, with some display of excitement, a number of dead leaves, which he had found on the floor of the ravine. He evidently regarded them as indisputable proof of the existence of the legendary fruit gardens, and he preserved them carefully in his hat. We made our way back along the ravine until we reached the point where it widened out at the junction of the main massif and the foothill zone. From here we followed another passage which climbed steeply along the line of junction to the W. and led us into a wide cwm filled with tall grass and briar trees. As we emerged into the cwm we startled a pair of ibex which bounded up a sloping ledge to the left and stood gazing down at us, silhoutted against the sky. Beyond the cwm a line of overhanging cliffs once more barred our way and effectively disposed of one more line of approach.

It was now high time to retire. Usman was strongly opposed to going back by the way we had come as he did not like the idea of climbing down the chimney. He had no faith in the rope. He argued that we could find a way of traversing across to the terrace where we had left the rest of the party. I was rather doubtful, but the possibility of avoiding some upward climbing was attractive : we had been going extremely fast and I had become uncomfortably parched. A little way below the point where we had entered the canyon we managed to climb on to a ledge which looked as if it might serve our purpose. For some way all went well ; but then it began to narrow rapidly and ended

above a 12-ft. drop to a parallel ledge below. Usman proceeded to jump down this without much apparent consideration either of the unpleasant landing or of the consequences, thus shaming me into following suit, though I would very much have preferred to beat a retreat. Our new ledge took us on for barely 100 yds. before it too ended. This time the drop to the next ledge was more like 50 ft. I was relieved that my companion showed no inclination to leap down this, though at first there was no obvious way of climbing down, nor was there any means of roping down. I began to feel rather foolish until a few yards back along the ledge we discovered a diagonal scoop down which it was possible to climb. We rejoined our companions on the terrace at about 2.30, about 4 hours after leaving them for a tentative reconnaissance up the chimney. The melon, without which no one in this country is suitably equipped for travel and which is a very passable substitute for a pint of beer, tasted unusually sweet.

We had now seen and heard enough to realise that the chances of reaching the Arch from the S. were extremely slight. We had already had several views of the range from among the foothills of the Tien Shan to the N., but had seen no sign of the Arch. Nor had any of the Kirghiz nomads of that district from whom we had made enquiries ever heard of it. Nevertheless we decided to explore the range from that direction, and some weeks later we camped among its northern foothills. The weather was stormy. A good deal of rain had fallen and we had some doubts about the wisdom of penetrating those unstable gorges when the hills were wet. Fortunately we found that, owing to the continued northerly dip of the strata, the canyons did not develop until the hard conglomerate of the main range had been reached. This too made the approach considerably easier. Wide watercourses led gently up through low hills to the very foot of the peaks.

But a close view of the range was far from promising. Individually the peaks were not so spectacular as they had been from the S. From here there seemed to be several parallel ranges, each with countless jagged summits. It was easy to see why the Arch was not visible from the N. The shape of the skyline bore no resemblance to the one we had seen from the S., which we had taken particular care to memorise. We could not now be certain even which was the highest peak of the range, which had seemed so obvious from there. The maze of ravines by which the range was split was correspondingly complex. It looked as though we would have to devote many more long week ends to a systematic exploration before we could hope to find a way through to the Arch.

We chose a point on the crest of the range which seemed most likely to correspond to the place where we had seen the Arch, and selected a ravine that seemed most likely to lead in the direction of that point. We were immediately swallowed up in the twisting labyrinth, where we had no choice of direction save where our chosen passage way divided. The walls and spires above us, though composed

of the same hard conglomerate, were quite different in appearance from those we had seen on the S. side of the main range. In place of the smooth almost polished surfaces, the faces here were deeply pitted and honeycombed so that the pinnacles often resembled gigantic beehives ; some were carved into remarkable fretwork patterns ; all were excessively steep.

The going was considerably easier than anything we had met on the S. side of the range. Mostly the floor of the canyon sloped gently upwards, and when it was interrupted by steps, these were comparatively low and easy to climb. This difference was, of course, again due to the northerly dip of the strata. We were making height steadily and we began to hope that at least we might reach the watershed and be able to look down into the amazing country to the S. A variety of large shrubs grew among the mounds of scree, particularly at the valley junctions, and higher up we were surprised to find a number of firs. The floor of the ravine was generally about 12 ft. wide though for short stretches it would narrow to about 2 ft.

At last, emerging from one of these clefts, we were confronted with a sight that made us gasp with surprise and excitement. The valley widened out and ended a quarter of a mile away in a gentle grassy slope leading to a U-shaped col. Above and beyond the col stood a curtain of rock, pierced by a graceful arch. Through the arch we could see nothing but the clouds of a stormy sky. This sudden end of our search was almost an anticlimax. My wife remarked upon the amazing chance that had led us to choose exactly the right canyon, and at each branch the right alternative so that we came direct to our objective at the first essay. I preferred to think of it as the result of sound mountaineering instinct ! We hurried up to the col. There was nothing of an anticlimax about the Arch itself or the view beyond.

Before we reached the col we had seen only a very small portion of the Arch ; now the whole vast structure opened before us. On the other side of the col the ground dropped vertically into a profound abyss, so narrow in its lower portion that its floor was for the most part invisible. The Arch was about 150 ft. from where we stood, a quarter of its height above us, three-quarters below. Its supports were beautifully curved in their upper portion, smooth and vertical below, and remained, for a long way down, standing out in sharp relief from the sides of the canyon with which they eventually merged. It was impossible to estimate its total height, but I do not believe that this was far short of 1000 ft. Its span was about one sixth of its height. The canyon was no ordinary product of fluvial erosion. It looked more like a rift caused by some titanic earthquake. And yet the vast blocks by which it was enclosed had a strange symmetry ; for all the incredible confusion of the whole, each feature was clean cut, sweeping and without blemish ; below the walls were some slender buttresses slanting this way and that, quite irrelevant but smoothly curved. It was like some wild design of modern sculpture. Nor was the fantastic scene moderated in distance, for, a mile away, the canyon

was blocked by a massive tower of similar design. Probably this was one of the line of peaks whose outer edge we had reached from the S. To pass it on either side or in either direction looked impossible.

A cold wind blew and for the most part the sky was overcast, though an occasional shaft of sun would light up part of the weird scene before us. With some difficulty we climbed a small peak above the col from which we saw beyond the canyon into another, scarcely less remarkable than its neighbour.

The next morning, before starting back to Kashgar we followed another gorge, and again, though with considerably more difficulty, succeeded in reaching the watershed at a minor peak, some 10,500 ft. high. The storm had passed, and though the wind was still strong, the air was very clear. The same terrific rockscape lay to the S. at our feet, again enclosed by an outer line of towers. Beyond, stood the great peaks of the Pamirs looking incredibly high and sharp. Northward across a wide expanse of desert hills, red and gold, the western ranges of the Tien Shan were arranged in a vast arc, mauve below, dazzling white above in their mantle of freshly fallen snow.

CZECHOSLOVAKIA 1947

By BRYAN DONKIN

It was significant of their fortitude and their faith that, within nine months of the end of the Second World War of this century and eight years under the German 'Protectorate,' this Club received from these friendly and industrious people an invitation to send a party of mountaineers to the Tatra. That the invitation was not accepted in 1946 was perhaps because many of us were still in the Services while those who, for the first time in many years, had the opportunity of going overseas were mostly wooed and won by the thought of threading once again the valleys and glaciers and scaling the peaks of the Swiss and French Alps which we know so well and had thought of so often during the long dark years of war.

But it was not until 1947, when the invitation was generously and courteously renewed, that Huntington and I decided that it would be interesting to see a people, a country and a mountain range we had never before visited. So on Saturday, July 5, after a comfortable air passage of only three hours from London, we landed at the Prague airport and found ourselves the guests of Mr. Josef Pilnaček, President, and Dr. Otto Jelinek, Secretary, of the Svaz Československych Horolescü (the Federation of Czechoslovak Mountaineering Clubs). At the risk of confusion with earlier writers, proper names and place names are herein given in their Czechoslovak spelling. It will be readily under-