

THE SIERRA NEVADA DE MÉRIDA

BY SIR DOUGLAS BUSK

THE Andes of Venezuela are not one of the most distinguished groups in that majestic chain, but if there is no justification for organising an expedition to them from Europe at vast expense, there is no reason why those in the neighbourhood should not profit. That opportunity was twice seized in more laborious days by our member A. E. Gunther, as recorded in the *ALPINE JOURNAL*.¹ Some fine climbs were later led by the Italian A. Vinci, but something was left for late-comers.

It was a year before I could make the necessary contacts. Organisation and the collection of accurate and up-to-date information was slow. It was, however, easier to bring together enthusiasts for the venture and, as soon as H.R.H. The Duke of Edinburgh had completed his official tour of Venezuela, the party was ready to start for the high tops with his good wishes. Gunther's maps in *A.J.* 52.70, *et seq.*, remain excellent and should be referred to by those interested.

The equatorial Andes and other similarly situated mountain areas, e.g. Kilimanjaro, are notorious for mountain sickness, and acclimatisation had to be considered. My original proposal was therefore to travel with mules, crossing the range from the town of Mérida in the north (c. 1,630 m.) over the Toro pass (c. 4,270 m.) down to the village of Los Nevados (c. 2,700 m.), and thence up to base camp at the foot of the Timoncito glacier (c. 4,500 m.). This would be a long detour, but it would give exercise to legs and lungs. However, members of Gunther's two mule-borne expeditions had even so suffered acutely from *mal de páramo*, as mountain sickness is known in Venezuela. His remains the classic definition: 'when you feel so lousy that you can only put one leg into your trousers.' Violent exercise would not therefore necessarily save us. It was also clear that no member of the party could afford the extra three days, still less six for the return trip, so we could not reject the obvious advantages of modernity—the highest funicular in the world, extravagantly built during the régime of a Venezuelan dictator who preceded the present democratic government.

This rises from Mérida with three intermediate stations, where cars must be changed, to the neighbourhood of Pico Espejo (4,765 m., some 900 m. higher than the Aiguille du Midi *téléphérique* at Chamonix). From the top station we should be within easy reach of our camp site

¹ *A.J.* 52. 70 and 53. 127.

and porters could be made available. In one day from Mérida we should be established. To hell with acclimatisation; we should have a whole week to climb in and need only plan our very different voyages to Mérida, collect kit and supplies, and argue about them amicably.

At one moment we had one potential member in the U.S.A.; one, who did not know he was going to be asked to join us, in the U.K.; another, who (not expecting mountaineering in the tropics) was kitless and eagerly awaiting a consignment ordered for him by a friend who, he hoped, was about the same size; and two more in Mérida, 500 miles away, with whom communication was only possible by occasional telephone, since a letter took two weeks and a telegram up to three months. As usual all difficulties resolved themselves, with much wifely help in the purchasing, packing and advisory departments. Transport was organised and D-Day fixed for departure from the bottom station of the funicular. Meanwhile we tried to pay some attention to our various duties, including, in one case, how to play the rôle of Ali Baba (and in other acts all the Forty Thieves at once) in a very important local pantomime.

There had been a certain element of cunning in the planning to the extent that some members of the party had to visit Mérida anyhow and could arrive before others. We hoped for the best, nor were we disappointed by the reception from our Venezuelan friends in Mérida, whether they were coming climbing with us or not. In particular we should like to express our gratitude to Señores Rad and Lacruz of the *Dirección del Teleférico* (the latter is an excellent climber; we regretted he could not accompany our party, as had been hoped). They not only arranged our ascent of their funicular on a day not generally open to the public,² but lent us workmen³ as porters for the carry to camp. Without such collaboration we should have foundered.

Our hitherto anonymous party must now be introduced. By far the most valuable member was Franco Anzil, an Italian, resident in Mérida, with whom much of our original contact work had been done and who had even been kind enough to visit me in Caracas when lack of rapid communications had begun to reduce us to hopeless frenzy. Franco ranked by our standards with *los ancianos*, who could no longer achieve the higher flights, but he was a beautiful mover when he moved, which was frequently, an expert photographer and, most important of all, a first class expedition man. First out of bed always; chief cook and liaison officer. The whole trip rested on his broad shoulders, on his cheerful smile and on the hard work he lavished before, during and after our trip.

² The normal return fare to Pico Espejo is Bolívares 16 (=approx. 26s.)

³ While the funicular itself functions, buildings and amenities at the higher stations are still being constructed.

Anzil suggested that José Antonio Uzcátegui, a student at the Mérida University, should join us. He proved a good rock-climber and excellent companion. We were most happy to have such a charming Venezuelan to represent his country.

David Nott, *Daily Express* correspondent at Caracas and ex-instructor at the Outward Bound Mountain School at Eskdale, had much to teach some of us about technique and also tried hard to sort our supplies into some order. He fitted gracefully into our variegated pattern.

Nat Davis, of the U.S. Embassy in Caracas, was not only a highly trusted colleague, but had the advantage over all of us outlanders of previous contact with the peaks, since he had made a lightning trip a year earlier to bag Humboldt (4,945 m.), at the eastern end of the range, by a route of different approach from ours. His dogged energy and cheerfulness encouraged all of us. In fact he and Nott had only one disadvantage, and this not their fault. When members of a party have hardly met before, and when they share three languages spoken with various degrees of inaccuracy, it is intensely confusing to have a Nat and a Nott, a David and a Davis.

Later, as will be related, was to arrive George Band, as well and favourably known to the A.C. as he was soon to become to us all. As a dweller at sea level he had more to overcome than the rest of us, who lived normally at heights from 3,000 ft. to 5,000 ft. It will surprise nobody that he passed out top, though not without his share of suffering.

The party thus comprised four nationalities and ages ranged from the gay twenties to the decadent fifty-fives.

Those who arrived early at Mérida could devote time between other engagements to last-minute purchases and re-packing supplies. Early on the morning of Friday, February 23, the party assembled at the bottom station of the Teleférico, less Band, but plus Sidney Whitaker of the British Council in Caracas, who had been helping my work in Mérida. He came for the trip to camp and nobly carried a load. The funicular normally only runs on Saturdays and Sundays, but a 'special train' had been laid on, of which some adventurous tourists also took advantage. The ride up the funicular with three changes of car at intermediate stations took about $1\frac{1}{4}$ hours to the top station at Pico Espejo (4,765 m.) with lovely views on the way. Five stout porters stood ready to ferry loads down from the ridge to camp at the tongue of the Timoncito glacier (c. 4,500 m.). The rough scramble⁴ down took an hour or so and by 11.0 a.m. we were pitching tents on a commodious levelled platform next to the now derelict Albornoz⁵ hut. The porters made two more carries before nightfall and all five spent the night in camp.

Next day we retained two porters who had been selected by Anzil,

⁴ Well seen in the photo opposite A.J. 52. 81.

⁵ Named after one of the earliest Venezuelan airmen.

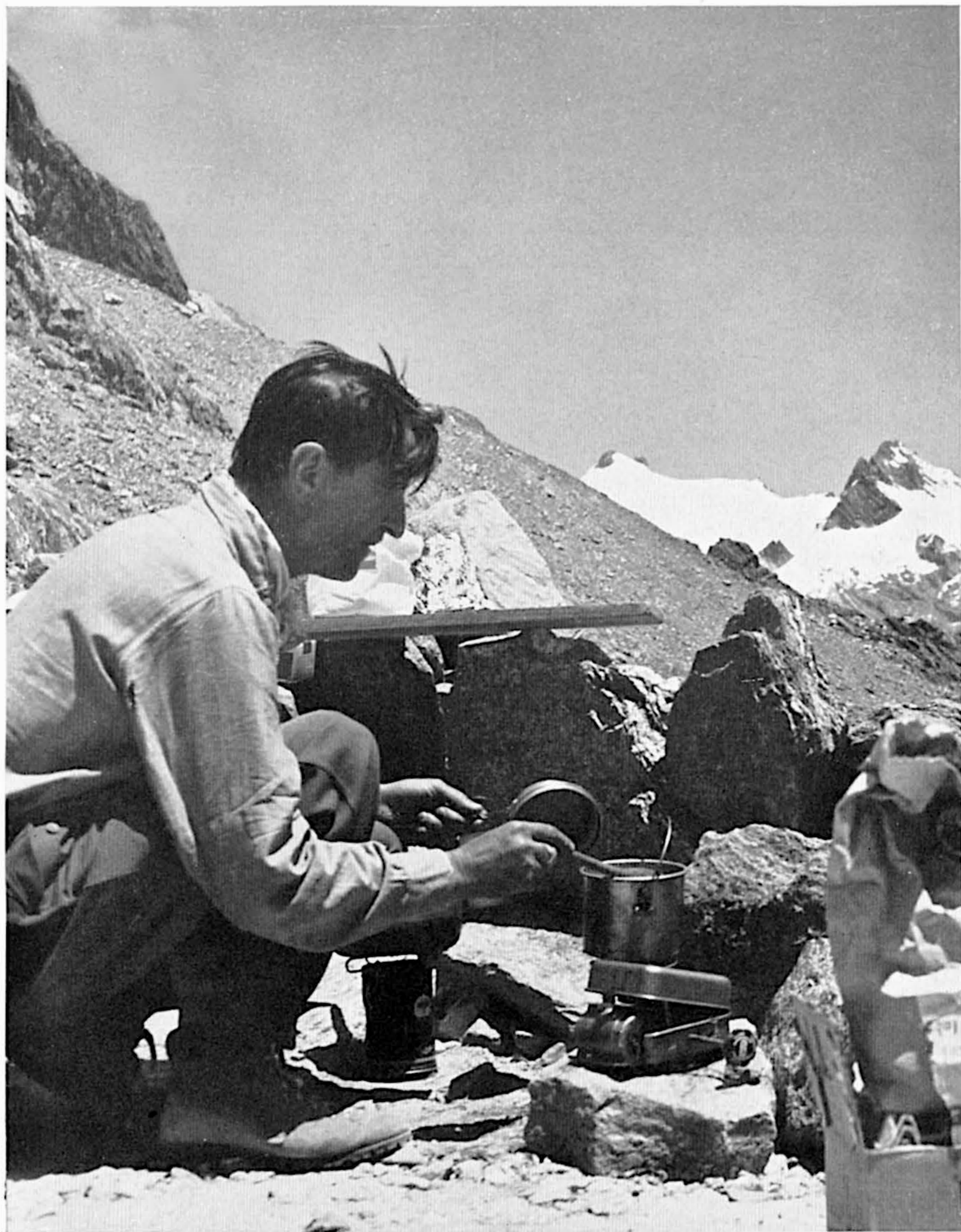


Photo: F. Anzil]

D. L. BUSK MAKING COMPARATIVE TESTS OF STOVES. PICO HUMBOLDT AND PICO BONPLAND
IN BACKGROUND

To face p. 282

Cupertino Zerpa⁶ and Desiderio Castillo; they were both admirable throughout.⁷ The former is *jefe* (headman) of the village of Los Nevados, three hours down to the south. He was an old friend of Anzil's and a full member of the party. He shamed us by a turnout that would not have disgraced Bond Street and better manners than ours. Davis found him a first-class guide and companion on their separate jaunts, and more humbly I was most grateful to him for carrying my movie and other cameras.

The whole party was pretty shaky after the abrupt rise in altitude and indeed with the exception of Davis, no one ever really acclimatised on such a brief trip. Headaches and sleeplessness were frequent, but easily countered with pills. Lack of appetite and nausea were weakening, and at one time or another almost everyone rendered up his breakfast shortly after starting. I personally experienced Cheyne Stokes breathing for the first time in my life and found it very tiresome when trying to get to sleep. The direct rays of the sun also seemed to drain energy. Band's panama hat was the envy of all. Nott, after severe sunburn, invented the practice of wearing a pyjama top draped over head and shoulders with the sleeves tied under the chin, a pleasantly bedouin addition to the party's very mixed costumes. The temperature contrasts were great, a low of -10°C and a high of 28°C being recorded. The disadvantage of the camp site is that though the sun strikes it at 6.30 a.m. (the temperature at 7.30 a.m. was nevertheless still at freezing point), it leaves it at 4.30 p.m.; in half an hour the temperature then dropped as much as 20°C . By 5.30 one could not sit with comfort outside even in down jackets; on some nights water froze inside the tightly shut tents.

Owing to the high altitude of the camp as compared with the peaks no dawn starts were necessary. In the days of early enthusiasm we were sometimes off by 8.30 but 10.0 a.m. soon came to be regarded as adequate, since one could still get back for the evening meal timed for 4.0 p.m. after we had realised how cold it became later.

In originally planning the expedition I had four objectives in mind, apart from the ascent of Pico Bolívar (5,005 m.); this is easy (II with a final chimney III) by the Ruta Weiss or ordinary route. The mountain was bare of snow and many used rubber shoes.⁸ Four of the party

⁶ We had jokingly talked of the 'expedition sherpas' and it was some time before we grasped that Cupertino's name actually was Zerpa.

⁷ We paid them Bolívares 25 (£2) and Bs. 20 a day respectively and fed them. They required no bedding other than their *chamarras* (known elsewhere in South America as ponchos). They had good boots and were lent crampons, snow glasses and ice-axes as necessary.

⁸ It is a common local practice to wear light crampons over rubbers when on brief stretches of ice. It was tempting to think of the comments that the last editor but three of the *A.J.* would have made on such unheard-of barbarism.

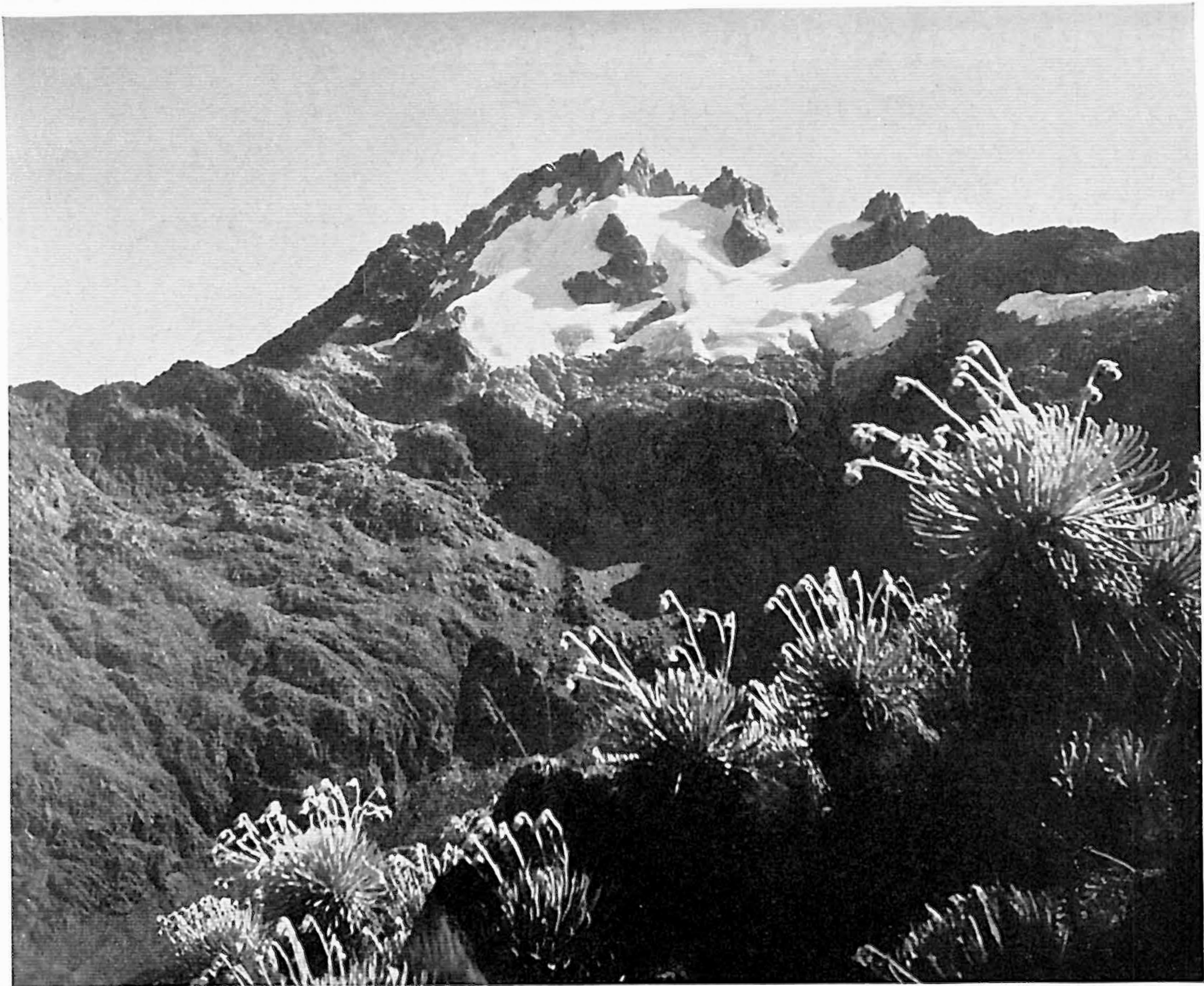


Photo: F. Anzil]

NORTH FACE OF COLUMNA GROUP FROM ABOVE MÉRIDA. PICO BOLÍVAR IN CENTRE, EL VÉRTIGO TO RIGHT OF DEEPEST NOTCH. *Frailejones* IN FOREGROUND.

climbed Pico Bolívar in the very slow time of four hours, which gave some indication of lack of condition. Band, who joined us on February 25, later did it in two hours from camp with Uzcátegui.

The main objective was El Vértigo (*c.* 4,950), first attempted by Gunther and Weiss in 1939. This is a formidable rock spire⁹ of imposing steepness, well worthy of its independent name. A reconnaissance by Nott and Uzcátegui reached within 100 ft. of the summit and returned confident. Next day Band joined the team. Nott could not force his line, so Band led through on an alternative and, after what seemed to Anzil and myself below an agonizing struggle, managed the last few delicate feet; the other two followed. The final, short lead required $1\frac{1}{2}$ hours. (See 'Expeditions' for technical notes on new climbs). We were all pleased that a Venezuelan was a member of the party to gain this summit, which has resisted all attacks for many years.

The second objective was an ascent of the peak now known as El Abanico¹⁰ (=the Fan, *c.* 4,900 m.) by the ice-ridge from the col at the head of the Garganta (=gully) Bourgoïn. This was accomplished by Band and Davis. Instead of following the difficult ridge direct from the col an elegant, steep ice-traverse was made for a short distance on the North-east face. Thence by the upper ridge to the summit there were no difficulties. This was the third ascent of El Abanico, the first having been made by Gunther in 1940 by the East ridge. His record was found on top. The second ascent (though we had overlooked this at the time) was by the Swiss Mr. and Mrs. Marmillod in 1942.¹¹

The third objective was the ascent of a prominent rock peaklet (*c.* 4,850 m.) unclimbed and unnamed, immediately on the other (north) side of the Col Bourgoïn and at the foot of the South-east ridge of Pico Bolívar. This was achieved by Nott and Band. We propose for it the name Pico Jahn, in honour of the Venezuelan professor Dr. Alfredo Jahn, who did so much to explore the Venezuelan Andes in the early days and who made the first ascent of Pico Humboldt as long ago as 1911. (Pico Bolívar was not climbed until 1936.) Pico Jahn was a short and pleasant rock climb (III). The actual summit was too exiguous to accommodate a record.

The fourth and minor objective was to test equipment (particularly tents and stoves) and a variety of food supplies. Even in the brief days of the trip much was learnt. Conclusions are set out in an appendix.

This did not conclude the climbing activities. Band and Nott were hankering for a 'good Welsh rock climb' and on our last day, while Anzil and I packed up as much as we could and despatched some loads

⁹ See *A.J.* 52, map p. 83 and photo facing p. 84. On p. 85 footnote 11, *Piacho* is a misprint for *Picacho*.

¹⁰ This peak figures as 'Columna S. Peak' in Gunther's narratives and maps.

¹¹ *Berge der Welt*, Vol. III, 1948, p. 343.



Photo: F. Anzill

EL VÉRTIGO (CENTRE) WITH G. BAND JUST VISIBLE ON THE SUMMIT. PICO BOLÍVAR ON THE RIGHT, TIMONCITO GLACIER IN FOREGROUND



Photo: F. Anzil]

PICO JAHN (LEFT), COL AND GARGANTA BOURGOIN (CENTRE), EL ABANICO (RIGHT) SHOWING SOUTH-WEST FACE ROUTE. CAMP IS JUST OUT OF PICTURE (BOTTOM RIGHT).

of unused supplies to the top of the teleférico to reduce the carry on the morrow, they set out for the fine South-west wall of Abanico. This was duly accomplished (fourth ascent of the peak); descent by Col Bourgoïn.

Meanwhile, Davis had been far from idle. When the rest of the party were occupied elsewhere he and Cupertino undertook the hard slog to La Concha¹² (=the Shell, 4,922 m.) and returned in triumph after a long day, much of it on trackless scree and rubble.

Davis was anxious to complete what are known locally as the Five White Eagles, i.e., the five main groups. These are Humboldt/Bonpland (the Corona group), of which he had climbed the former on an earlier trip; La Concha; the Columna group (including Pico Bolívar); and far to the west, El Toro; and, beyond again, El Leon.

Two days before we left he therefore departed with Cupertino, taking a light tent, stove and emergency rations for testing purposes. They descended the funicular to the third station and from there climbed 'the Bull', camping at the foot of it before climbing 'the Lion' next day. These rock peaks are not difficult, but the distances are great and the double was a stout effort with heavy packs. It was rewarded by a superb certificate from the Club Andino recording this rare feat.

Meanwhile, too, the days at Timoncito had been filled with diverse activities. Some members of the party had little or no experience of modern belaying methods on rock. Outward Bound instruction had thus scope and much was learnt. Others, while skilled on rock, had little knowledge of ice or even the use of crampons. The diminishing Timoncito¹³ glacier and the Bourgoïn gully provided most useful practice grounds for this. We were thus occupied one day when voices were heard from another couple poised on the very steep ice-slope on the (true) left of the gully. We counselled a descent and traverse to join us on the easier side. This was rapidly accomplished by two acquaintances from Mérida, who had not told us of their intention to spend such an energetic Sunday. They were extensively roped, with a granny knot at each waist and one, *faute de mieux*, wore the ankle-length, loose, smooth-soled Venezuelan riding boots. Their enthusiasm was encouraging, because it augured the possibility that students from the University at Mérida might soon be started on the upward path under the guidance of their lecturers and professors.

In this record must also be mentioned the arrival in camp of a copy of the local newspaper, one whole page of which was devoted to a

¹² First climbed by Gunther in 1939, and frequently since.

¹³ As elsewhere in the world the ice is in retreat in this range. Photos of twenty (e.g. Gunther's) or even ten years ago show the rapid retraction or disappearance of glaciers and permanent snow.

translation of the article on p. 365 of the November, 1961, *A.ȝ.* As no member of the party had supplied the original, the circulation of the *A.ȝ.* must be as wide as it merits. The compliment to the *A.ȝ.* was the higher, because the President of Venezuela was visiting Mérida that day and his activities were perforce crowded into a column of type. The President made, however, no complaint to me when we were later discussing our varied trips.

It was with deep regret that on Saturday, March 3, we packed camp and moved everything, with only one relay by two of the five porters, to the upper station, where we were rejoined by Davis and Cupertino. As we descended to the valley the clouds closed in and the perfect weather we had enjoyed for eight days faded into a happy memory.

Good companionship was revived down in Mérida, where Nott and I still had our different tasks to complete. We therefore stayed on for a couple of days and this allowed time for a call on Domingo Peña, the *doyen* of Andino guides, who accompanied, among others, Gunther and Weiss in earlier days. It is good to know that his house in Mérida was a gift from the Government for his services and that he draws a modest pension. He received Franco Anzil and myself with the perfection of manners, to which the traveller becomes accustomed in the Andes and with the pure Andino Spanish. His delight was evident as he recalled earlier ventures in every detail. He sent greetings to the A.C., which I ventured to reciprocate.

BIBLIOGRAPHY

Since Gunther's articles of 1940 and 1941 the following should be noted on the Andes of Venezuela:

1. *Berge der Welt*, Vol. III (1948), p. 341 (one illustration). Copy in A.C. library.

2. *Expediciones a la Sierra Nevada de Mérida*. Dr. Carlos CHALBAUD¹⁴ Cardona, Caracas and Madrid, 1959 (illustrated and pictorial map).

This is a Venezuelan history of climbing in the main group. The first attempts at ski-ing are also mentioned. Copy in A.C. Library.

3. *Cordillera*. Alfonso VINCI, Bari 1959 (in Italian).

This book deals not only with the Venezuelan Andes and other links in the chain west and south, but also with travels among Indian tribes in the jungles of the Orinoco (illustrations). Vinci is a very competent mountaineer and cheerful traveller.

4. *Itinerarios Turisticos—Alpinisticos en la Sierra Nevada de Mérida*. Carlos LACRUZ and Franco ANZIL, Mérida, 1961.

¹⁴ In Spain and some Latin American countries the last name is often the mother's and not the father's name. Sometimes an initial is used for the former. I have used capital letters for the patronymic by which a person is addressed.

This roneoed brochure was produced for a Convention on Tourism. No illustrations, no map. The better known climbs, walks, very limited ski-ing possibilities and trout-fishing lakes and streams are dealt with in detail. Valuable. Copy in A.C. Library.

A revised sketch map of the range is in preparation. It is hoped that it will be published in *The Mountain World*.

APPENDIX

NOTES ON EQUIPMENT

The expedition, if it merits the name, was designed not only for the mountaineering objectives already mentioned but to test various equipment and foods. Such a brief trip with such scant acclimatisation can provide little guide elsewhere, but may be helpful to those who visit the Sierra Nevada de Mérida.

Tents

A very small Finnish tent proved so excellent that four more were ordered by members of the party. A particular feature of these tents is the duralumin poles. At the joints these poles are connected by springs so that a pole, say, 6 ft. long in three sections can be folded compactly and flicked out in a second, almost with one hand, when erecting the tent. Neither these poles nor the tent fabric have, as far as I know, been tested at really high altitudes, but having seen them used in extreme conditions of low temperature in Finland, I think their ease of erection, durability and practical design make them worth considering. Certainly as ordinary 'camping tents' they far surpass anything I have found elsewhere.¹⁵ They are lighter than comparable English tents, and cheaper C.I.F. Helsinki, but I do not know what the U.K. customs duties would be. Fly sheets (which we did not use) are available and can be pitched separately as shelters if required. There are several sizes of tent.

Above all the spring-loaded poles are excellent and I had procured some for a British tent of igloo shape, which I had used in African mountains. The original English duralumin poles had to be fitted together, itself a maddening process, and they always came apart when one sought to withdraw them from the four sleeves. This particular tent is, in fact, thoroughly badly designed. The material is excellent and light, but the zips jam and there is not enough padding at the juncture point where all four poles meet. After a strong gust of wind several poles pierced the covering (the original English poles, which I had with us as reserves, would have done the same). Fortunately this was before nightfall and the solution was found of fitting all four pole tips into a pair of sealskin slippers (one forced inside the other) *inside* the tent. All then held together after a guy-line or two had been replaced.

¹⁵ The address of the firm is Telttaliike Söpu, Tehtaankatu 27, Helsinki, Finland.

This particular tent was of commodious size (7 ft. $\times$ 7 ft. floor and high enough to stand up in). I had had it fitted with an inner lining which took a bit of time to clip into place. This made it extremely warm in comparison with the single-layer Finnish tent, but little warmer than a double fly (down to the ground) Italian tent also used on the expedition. This took very long to erect. We also had a good Camtor tent, the fly of which could have been erected separately as a cooking and store shelter if the weather had been bad. The porters slept in the derelict hut.

There is no reason why a competent firm in the U.K. should not produce an igloo-shape tent with four poles of Finnish design, sewn in floor, and either double or single texture as required, the inner 'skin' being built inside, so that it did not have to be pitched separately over the other with separate pegs and guys. The inner lining must be provided, as all Finnish and other good tents are, with strings on which to hang clothes, hooks for lanterns and pockets for delicate objects. Tubed ventilators to be closed if necessary should be standard. As we were not cooking in tents we closed everything and rejoiced in the fug. Sleeve or zip entrances (with tapes in case the zips broke) should be offered as alternatives. For lower altitudes mosquito netting doors (always provided in Finnish tents) can be invaluable.

Cooking Stoves

Two petrol pressure stoves of different models were used and two French 'Bleuet' gas stoves with small expendable containers. The two former functioned well. With the latter we had initial trouble owing to the jets clogging. It was advisable to prick them out before each meal. Thereafter they worked well and the only disadvantage was that the gas containers had a very small duration and it was difficult to know when they would run out. The Bleuet stove container provided good shelter from wind.

The gas stoves, being silent, gave an impression of less efficiency than the pressure stoves, but in fact a test at this altitude (c. 15,000 ft.) showed that the gas stove boiled water slightly faster. As it was instantly in full blast after lighting, the time gained over a pressure stove which had to be primed was considerable.

Continental expeditions to much higher altitudes have used gas stoves (perhaps with jet adjustments). Comparative tests with pressure stoves in a decompression chamber would be interesting.

The 'Superbleuet' with a much bigger expendable container (3 or 4 times the duration of the Bleuet) is probably preferable. This stove can also be mounted on refillable gas containers of various sizes, suitable for longer and larger expeditions. It has, however, no shelter from wind.

Both these gas stoves can be fitted, as an alternative to the burner, with a mantle to provide a lantern. These are excellent; we did not use one on this occasion.

It should be noted that gas has the immense advantage over petrol¹⁶ or

¹⁶ It must also be stressed that petrol as opposed to paraffin stoves have a most dangerous and potentially fatal characteristic. When the fuel runs out there

paraffin of giving no taste to food, nor soiling fingers. On the other hand gas containers are likely to prove heavier than petrol or paraffin (in units of calorific value). Here again comparative tests in a decompression chamber, with different sizes of container, would be valuable.

For cooking, our porters used wood brought from the funicular station on their supply journeys. This was supplemented with dung locally collected (mules can reach the camp from Los Nevados and some adventurous cows had also come up as far—they must have been sorely disappointed by the pasture).

Loads

The ideal for porters is a carton box, stoutly tied with cord and weighing not more than 25 kg. We used cartons in which motor-oil tins are delivered to Service Stations. Pack frames are invaluable and failing them large frame rucksacks. Porters cheerfully and casually carry an additional package in one hand. One must not expect loads to exceed 30 kg. for long carries.

Rations

In this as in other matters we fared luxuriously. A far lighter expedition could have been arranged. Our 'overweight' was partly due to the difficulty of concerted planning and partly to the wish to try out special foods and report on them to the manufacturer.

If a party only camped where we did it would be possible to exist entirely on fresh food sent up by arrangement on the 'works cars' of the funicular, which function every day, and collected by porter from the top station (if weather were bad, porters would naturally be less enthusiastic). We did indeed bring much fresh food, including whole-meal and rye bread, eggs, and cooked steak and pork. This was supplemented by more eggs, meat and bread when Band arrived two days later.

In addition Horlicks supplied a variety of compressed rations. These proved excellent when cooked, and were palatable raw, in emergency. We did not have time to try a consignment of Batchelor compressed foods. I am most grateful to these companies for their friendly efficiency. Davis and Cupertino tried the '1-man-2-days' Horlicks emergency ration for two days on their detached trip. They felt this contained too much carbohydrate and not enough protein. They also deplored the lack of tea. The latter lack has seemed on subsequent trial to be a very serious omission. In planning I had assumed that only the three British would insist on tea at all hours and had provided coffee for the others.

remains for a considerable time a volume of gas in the container. This is not merely inflammable but highly explosive; if the cap of the container is opened with a naked flame in the vicinity the result is shocking. Having seen this happen once in the Ruwenzori I have been wary of petrol stoves in unaccustomed hands. Paraffin is much less volatile and gas stoves are safer because, when the gas has run out, the container is empty. Nevertheless no stove should be refilled near a naked flame.

It was no substitute. We should have run out of tea if the British had not gone all continental and drunk some coffee, which only the porters really relished.

'1-man-1-day' army rations (3 different packs) supplied by the War Office were also tested. They were very popular with the porters, who, however, could and did eat more. Owing to lack of acclimatisation I found I could not consume a whole pack in one day. Though well balanced and light in weight, these rations are very bulky to carry. War Office 'Pemmican with veg.' was also relished.

Tinned cake, tinned peaches and some excellent local pineapples were welcomed as luxuries. Pineapples and limes, being armour-plated, are invaluable if weight is no objection. Two gigantic avocados presented by the Minister of the Interior were much appreciated as an addition to salads. To the non-British the great discovery was Cooper's marmalade spread on anything appropriate—or inappropriate, including much of the rock enclosure we built round the cooking area.

We tended to exist on an ample breakfast (even if later lost) and a substantial evening meal. Only towards the end was Bündlerfleisch¹⁷ appreciated; it then became very popular for lunch. After a longer stay we should have consumed half a packet a day each for lunch with whole-meal wheatbread or ryebread, cheese and chocolate.

Horlick's glucose lemon powder was much appreciated, but we also used much freshly-squeezed lime juice.

On reflection, we should probably have been wiser, in our unacclimatised state, to have reduced breakfast and provided frequent small snacks for use during the day. Those who acclimatised fast could have spread themselves.

On another occasion I would make an addition to equipment. There is ample water at the Timoncito camp site (during the day; it freezes at night) but the rock in this range is very friable (for geological details see Gunther) and the glacier streams are thick with detritus. We drank this without ill effects, but it would be pleasanter and perhaps more salubrious to provide a plastic jerrican, funnel and a cloth filter in a wire ring with handle such as continental cooks use for filtering coffee grounds; alternatively a large handkerchief in the funnel. I fancy anyone will be surprised by the mound of fine grit such a simple device will extract from the water.

¹⁷ This Swiss product can be obtained in 50-gram polythene packets. It is essentially beef, seasoned, dried, slightly salted and then sliced paper thin. It will not keep indefinitely unless refrigerated or preferably deep-frozen.