

did not do. Though not exactly valorous they followed where led without grumbling, and they proved themselves smart on moraines. One cheerful Ladaki with a broad, smiling face, shod with an old pair of ammunition boots, acted as interpreter, for he had picked up a little Urdu when a navy at Simla. He and a faithful Kashmiri servant—Shabana—accompanied us up the mountain, and when roped were manageable and steady. We were able to obtain flour, sheep, fowls, and eggs at Suru at fair prices, and even four marches further up the valley we were supplied with milk by the monks of Rangdum. So the demand on tinned provisions was small. It is in matters of this kind that a knowledge of the country and the language makes such a difference. The whole cost of the tour for us two for one month was under 7*l*. If any climber wishes any information about our route beyond what is here given I shall be happy to supply it.

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#### GEBEL MUSA—APES HILL.

By H. T. MUNRO.

**O**PPPOSITE Gibraltar, on the southern side of the Strait, rising abruptly, almost precipitously, from the sea, stands Gebel Musa—the Sierra Bullionos of the Spaniards, or Apes Hill, as we call it in English. From Gibraltar it is the most prominent and striking object in sight, and who that has passed through the Strait is not familiar with its symmetrical outline, its jagged profile, its furrowed sides and limestone cliffs and ridges, which run from the very shores to the summit? Although only 2,808 feet in height it looks quite 1,500 feet more, for, springing direct from the sea on its northern side, it towers to at least twice the height of anything in its neighbourhood, although flanked and backed by hilly and even mountainous country.

But, familiar as is its appearance to many, there are very few of the scores of thousands who annually pass it that have scaled its heights; few even of those who have spent all their days at Gibraltar, within a dozen miles of its base, have so much as set foot on its slopes. To a great extent this is in consequence of the evil reputation which very unjustly attaches to the tribes inhabiting the hilly coast district between Tangier and Ceuta. In a book published as lately as 1899\* it is said, 'There is, however, one place

\* *Cities and Sights of Spain*, by E. Main, p. 86.

where it is always dangerous to go, and that is along the coast from Tangier to Ceuta, which is infested by the Riffs. This tribe is utterly lawless and its members are pirates of the fiercest character. It is positively unsafe for a sailing vessel to venture out from Gibraltar towards the opposite coast, and one constantly hears of the raids this tribe has made upon ships unable to escape.' This description is true enough as far as the Riffs are concerned, but quite wrong as to their habitat. The Riff country only begins some distance to the south-east of Tetuan, extending inland from the big bay which faces northward opposite Malaga, while the Andjera, as the mountainous eastern portion of the north-west corner of Africa is called, is as safe as any part of the empire of Morocco. In t at extraordinary country, however, where relics of the high civilisation of the old Spanish Moors of four centuries ago are found side by side with savagery and barbarism, where oppression is rampant and justice unknown, and it is dangerous for a native to own to the possession even of moderate wealth, it is always advisable to take precautions, and just as on many an easy Alpine ascent an axe is carried more as a precaution than as a necessity, so in a tour in Morocco or in an ascent of Apes Hill it is as well to put a revolver in one's pocket, though there is little likelihood of its being actually required. Still Mrs. Main has only fallen into a common error. Over a quarter of a century ago I rode unarmed and alone, save for an unarmed Moorish soldier who acted as guide, across from Tangier to Tetuan, passing behind the back of the Andjera country, and then from Tetuan along the coast to Ceuta. I was in the country again in 1892, and somehow had always understood that the mountainous coast district between Tangier and Ceuta was inhabited by Riffs and decidedly dangerous. It was, therefore, with much pleasure that I found in May 1901 not only that the district was quite safe, but that an ascent fitted in with my plans.

Our camping tour was drawing to a close when, having visited the Spanish convict settlement and fortress of Ceuta—an island exactly opposite Gibraltar and connected with the mainland of Africa by a drawbridge under which flow the blue waters of the Mediterranean—we rode on west up into the mountains at the back of Apes Hill. Once outside Spanish territory there are no roads, and the narrow and intermittent tracks across the mountains lead through a dense growth of most beautiful brushwood, giant heaths, myrtle, arbutus, gum-cistus, and other bright-flowering shrubs, sometimes 10 or 12 feet high, while the ground is carpeted with masses of

wild flowers. Now and then we descend to the level of a clear mountain brook, its banks bright with oleanders, just bursting into blossom. From time to time we meet parties of natives, the men usually riding on the small Morocco donkeys and the women walking behind carrying heavy burdens. These mountaineers are many of them quite fair, with blue eyes, and the women, at any rate of the poorer classes, hardly make any pretence of hiding their faces. The women age very quickly, and their faces are usually sad and toil-worn; many of the children, however, are bright and pretty, and the condition of the people—certainly of the women—among the hills appears to be infinitely preferable to and happier than that of the Moors of towns and plains.

Towards sunset we reached our camping ground, at a lovely and most romantic spot by a small village, embowered in shrubs, some 900 feet above the sea, and at the back of Apes Hill, from which, however, it is hidden by an intermediate range of hills. These villages of neat white cottages are numerous in the Andjera, clinging to the sides of the hills among orange and other fruit trees, and usually surrounded by a hedge of prickly pears or aloes.

Next morning, at 7.30, I started, accompanied by a handsome young Moor, with a quaint Moorish flintlock gun, about 7 feet long, and with the usual short triangular stock. This he generally carried over his shoulder, with the muzzle pointing into the pit of my stomach. What he proposed to kill I cannot say, for unfortunately I know no Arabic, and his knowledge of Spanish was even more elementary than mine. Two or three times a rabbit scurried away from us, but I understood him to say that a rabbit ran too fast to shoot at. In this country there are many wild boar, but they are seldom seen unless a regular drive is organised; the mountain, too, still justifies its English name by being infested with Barbary apes; we were not, however, lucky enough to see any. We had at first to descend for half an hour, skirting the intermediate hill, until we crossed a mountain brook at a height of not more than 200 feet above the sea. From here the easiest line of ascent is quite obvious; bear away to the right until a long stone shoot is reached which descends between the east-most or highest peak of the mountain and the scarcely lower peak immediately to its left or west. From the latter a fine serrated limestone ridge, somewhat resembling the north-west arête of Sgurr nan Gillean, ascends to the left. To this ridge a mountaineer would undoubtedly first devote his attention, and I fancy it might afford a good scramble. Had I followed

my inclination I should have gone without a guide and spent a day over the excursion, but not only was my time limited (I had left my wife alone in camp), but, ignorant of the language and among a fanatical people, it is as well to be under the charge of some one who can be held personally responsible for one's safety. From the brook the ascent, which is perfectly easy, the stone shoot reaching to within a few minutes of the summit, took us two short hours. The mists which had wreathed the top, keeping us in pleasant shade all the way up, cleared off just as we reached the summit, and never, even in the Alps, have I enjoyed a more entrancing view. At different times I have spent many months at Gibraltar and in the South of Spain, and only once or twice have I seen such a clear day. There was not a vapour in the sky. North Africa and Southern Spain were spread out before us like a map. There lay the Strait with its white-winged vessels. A great homeward-bound liner churned the blue waters into foam. Across the Strait was Tarifa, beyond that the low cliffs of Trafalgar. Opposite to us was the mighty Rock of Gibraltar with all its wonders. The glistening snows of the Sierra Nevada, though 150 miles away, scarcely appeared to be a fourth of that distance, and showed proudly their 12,000 feet of height. Away to the south-east, at about the same distance, and rising to at least an equal height, is a big snowy range, an outlier from the Great Atlas; while the whole country between us and it seems to be a labyrinth of rocky peaks. At the base of the hill to the east lie the town and fortifications of Ceuta, while to the west the villas above Tangier are seen, with Cape Spartel beyond. Tangier itself is hidden by an intervening hill.

An hour soon slipped away, and many photographic plates were exposed, while at least 50 huge vultures circled round, sometimes swooping down to within 20 or 25 feet of us. Doubtless they had their nests among the neighbouring limestone crags. A cow and a horse were seen near the summit. I was afterwards told there were wild horses on the mountain. On the summit, which is covered with scrub, among which bright-coloured butterflies played, in place of a cairn is a rough-built stone hut, which my attendant informed me was Roman.

Less than two hours brought me to camp, which I found just starting, and the afternoon of the following day we got back to Tangier.

I feel that I owe an apology to my fellow members for having inflicted on them an article which has so very little



*Photo by H. T. Munro.]*

GEBEL MUSA, OR APES HILL, FROM THE SOUTH-WEST.

*[Swan Electric Engraving Co.]*

to do with mountaineering. My excuse is that, in addition to the interest which recent events have lately given to the empire of Morocco, Gebel Musa has probably seldom been climbed by a Christian, and as far as I am aware no account of its ascent has ever been given.

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### ENGELBERG.

By T. HOWSE, F.L.S.

HAVING spent three weeks in Engelberg last summer, I have thought that my botanical and geological observations might be useful to many who, like myself, are past the climbing age, but who are fond of combining easy excursions with some object of interest in view.

As is usually the case in the Alps, where the sedimentary and crystalline formations are seen to meet, the geology of the neighbourhood is interesting and varied. This junction is well observed in the Surenen valley, under the Grassen glacier. The southern slopes of the valley are formed of gneiss, and the following strata are found in succession: verrucano, rothodolomit, keuper, lias, dogger or brown Jurassic rock, and malm or white Jurassic rock; but the verrucano, rothodolomit, and keuper crop out at the base of the Schlossberg, and also on the other side of the glacier towards the Titlis. The junction is plainly visible from below, the red keuper shale and the yellow dolomite contrasting with the dark glacier-worn gneiss. Higher up in the Surenen valley and towards the pass the formations are mainly Eocene flysch slates and nummulitic sandstone.

The main valley of Engelberg is formed of secondary rocks, from the lias to the Neocomian; but these strata have been much disturbed by the upheaval of the crystalline rocks, and in some cases the order of succession is reversed by overthrusts—for instance, in the Hahnen, the bold peak that keeps watch over Engelberg. The summit is formed of dogger, which overlies malm, and the malm reposes on Eocene strata—a remarkable instance of the disturbing power of earth movements. These Eocene strata crop out in various places. On the Füren Alp, above Herrenrüti, the dark flysch slates are quarried for building purposes. These quarries are very similar to those, better known, at Matt, in the Sernfthal; but I do not think that fossil fish, so abundant at Matt, have been found at Füren.