

Jebel Marra

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WOSSAC: 35075

Reprinted from

THE GEOGRAPHICAL MAGAZINE
LONDON

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IT WAS good to be back on Jebel Marra after nearly seven years. The first evening, as we sat on the open terrace of a house that had not existed when I was there in 1957, the old sights and sounds came crowding back. We could hear the stream rushing over its little waterfalls in the valley below, the twilight calls of the strange little bantam-like cockyolly birds, distant drums from a Fur village further downstream, the sweetly plaintive calls of a pair of silver-spotted owlets in the mahogany trees and, looming dark against the starry sky behind us, the serrated peaks of the mountain itself.

Jebel Marra, the 'Bitter Mountain', lies in the very heart of Africa, in Darfur Province in the west of the Republic of the Sudan. It is one of the isolated mountain massifs which stride across north-central Africa, the Hoggar and Tibesti ranges being other striking examples. It rises to some 10,000 feet and is dominated by an extinct

crater some three miles across containing two lakes.

The Jebel had begun to attract government attention in the post-war years, mainly because of its potential water supplies. In a country, much of which is hot and dry like the Sudan, water means at least the opportunity for development. After travelling across several hundred miles of semi-desert from Khartoum, the rainfall, lush vegetation and clear streams of the Jebel Marra seem like another world.

In 1957 we at Hunting Technical Services had been commissioned, by the Sudan Government's Ministry of Irrigation and Hydroelectric Power, to make a preliminary study of the land and water resources of an area—covering about 12,000 square miles—dominated by the mountain. That was to be a preliminary study, largely to answer the basic question 'Is development possible?' If we could answer the question



by V. C. ROBERTSON



Jebel Marra is an astonishing contrast, for it is surrounded on all sides by complete or semi-desert. Mountain streams flow through green, shady forest with waterfalls and deep pools, such as (*left*) the 'Pool of the Devil'. (*Above*) The massif of Dariba Crater seen from the south, an area farmed by the Fur during the summer rains. The brilliant flowers of the poison tree (*adenium sp.*) appear on the bare twigs during the winter; it has a latex-like sap which is used as a poison on the heads of arrows



The Fur hold regular markets for sale or barter of agricultural produce, usually in the open in the shade of heglig trees. (Left) The produce being offered here includes fried tree-locusts, insects which swarm in West Darfur during the winter. (Below and right) The villagers were at first considerably frightened by the helicopter; it was probably the first to be seen at close quarters. Later they were entertained by it and the machine was generally considered reasonably safe when the investigators were with it; when left parked on its own it was usually avoided. Wherever the helicopter landed people flocked to see it and occasionally, after much prompting and joking from onlookers, it was possible to persuade some of them to pose alongside it



affirmatively, then more detailed studies could be planned to follow.

During the summer months a moist stream of air flows generally eastward across this part of Africa. This air is forced upward by the barrier of the Jebel, and much of it is then carried back westward by a cooler, higher airstream. Thunderstorms develop and there are heavy falls of rain on the mountain, particularly on the western slopes; much of the rolling plain to the west, stretching to the Sudan frontier, also benefits from this higher rainfall. Permanent streams develop on the mountain, joining up to form major watercourses which flow across the plateau and drain into the Lake Chad basin. The biggest

of these watercourses is Wadi Azum, near which is the little town of Zalingei, the biggest centre of population in Western Darfur and our base both in 1957 and 1964. The Wadi Azum and its tributaries carry flood waters during the summer rains, but during the long winter they are dry rivers of gleaming sand. All through the winter, however, the streams in the mountain continue to flow and water can be found in most of the major lowland wadis by digging a few feet into the sand.

We had been asked to look into the possibilities of conserving these water supplies so that they could be used for irrigation in the dry winter. In this way, it was felt, the people could grow



more and better crops and so improve their standard of living. The first look in 1957 had to be a quick one, carried out in one winter season in the field, so we had planned to make maximum use of air photographs to analyse surface features, ensuring maximum mobility by having a helicopter as well as wheeled transport. In mid-October our convoy was on the last leg of its journey across the northern limb of Jebel Marra from El Fasher to Zalingei. The helicopter, flown to Khartoum in pieces and assembled there, had hopped across the desert from fuel dump to fuel dump and joined us a few days later. An advance party had built us a camp of *racubas*—square thatched huts of tall grasses on wooden frames—in a delightful spot on the banks of a tributary of the Wadi Azum. Here, under the shade of a clump of beautiful haraz trees (*Acacia albida*) and with a distant view of Jebel Marra, we were to live for the next four months. Our work was going to be to some extent a race against time: but another race was

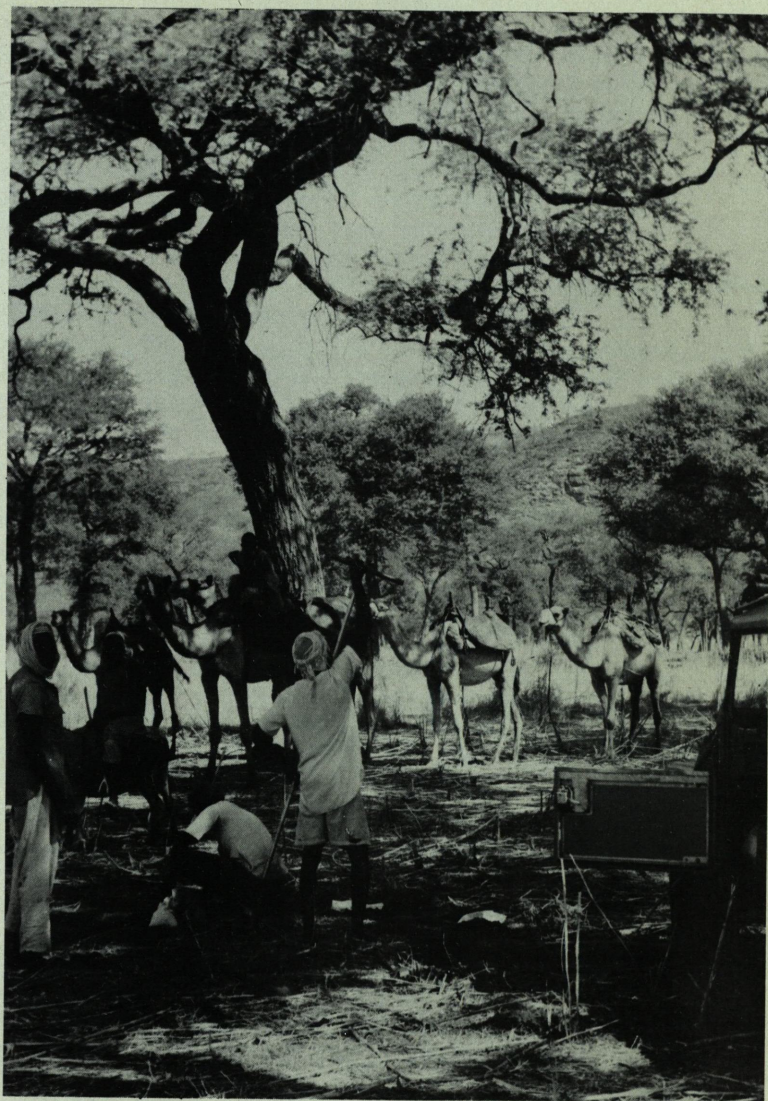
also just beginning. *Racubas* are almost wholly palatable to termites which started in without delay. At night one was lulled to sleep by the sound of tiny munching jaws, and when we left we had won the race—but only just. Our houses could mostly be pushed over by hand.

When we arrived at Zalingei, that first evening, just at the end of the rains, it was hot and humid and we were tired and dirty. The river was still flowing, and as soon as we had unloaded essentials we sat in it, cooling down deliciously in the dusk. Our cook, an unknown quantity then, was preparing supper. Clean and cool, we lit our pressure lamps and sat down at ease under the trees. But not for long. Insect life at the end of the rains is considerable, even for Africa, and pressure lamps concentrate it. Within minutes we were being attacked, or simply hit in transit, by everything from the most virulent mosquitoes to huge mantids and enormous wood-boring beetles. However, we soon found the critical distance between chair and lamp, and settled



down again only to be roused by shouts and sheets of flame as the cook set fire to the kitchen. In the end we dined out of tins and retired early.

Two distinct groups of people live in this part of Western Darfur. The resident people, the Fur who give the province its name, are a negroid people with settled agriculture. During the winter there is an influx of cattle-owning nomads, the Baggara Arabs; they move with the season and the grazing between the Bahr-el-Arab in the south and the drier country north of Zalingei. They move, a few leaders only riding horses, complete with their large herds whose bulls constitute the chief beasts of burden, carrying men, women and children, materials for



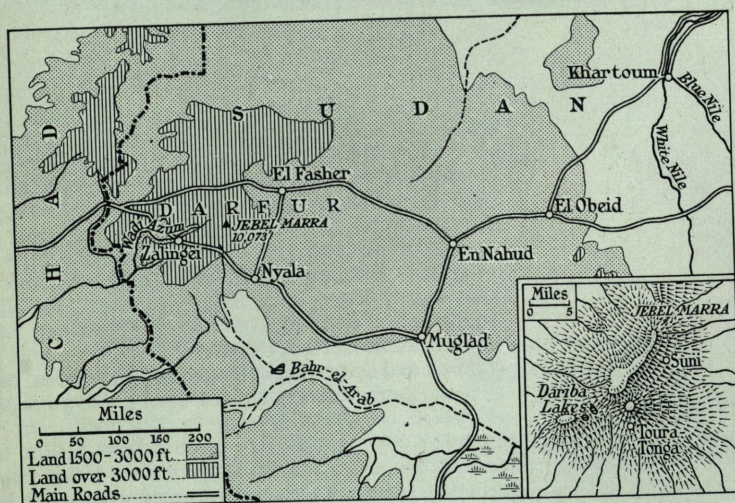
During the long dry winter, the extensive grazing left after the summer rains attracts large numbers of nomadic peoples and their livestock. Predominant among them are the Baggara tribes (*left*) who are cattle-owning people of Arab origin. They move into the area during the last months of the year, grazing their cattle on the natural grasslands and also on the crop stubbles in the valleys. They rarely camp for long in one place, pitching little hemispherical huts of grass or palm-thatching on curved wooden frames. All the materials for these, plus women, children and domestic equipment, are carried on the backs of remarkably tolerant bulls. Camel-owning nomads tend to prefer the drier grazing to the north, but trading caravans using camels are quite common. One of these (*above*) shares the shade of haraz trees with a team from Hunting Technical Services, who examine the soil by auger

encampments, cooking utensils and all. In the wide valleys of the Western Darfur plain, the lives of these two peoples come together for a time in winter, the nomad cattle grazing the dry corn-stubble in the fields. Land use in these valleys is an interesting and integrated system: crops grown under the great haraz trees (bare in the rainy summer) are harvested as the trees come into leaf. Cattle can browse happily on the straw in the shade of the new foliage. The trees provide edible pods, and with animal manure and leaf-fall added to the soil, the whole system works very well.

The Baggara are a handsome brown-skinned people. Their cavalcades are splendid to watch, the men calling greetings and brandishing ferocious spears which may often be needed as protection against leopards. They are, as with most nomads, extremely hospitable. I recall with special pleasure a hot day when a Baggara group passed the spot where I and two Fur labourers were digging a pit to examine the soil. Shortly after they had vanished into the tall grasses we heard hoofbeats returning. Then appeared an elderly bearded gentleman on a chestnut horse, carrying a large gourd of fresh milk because, he said, we had looked tired and thirsty.

The Fur are farmers, and can be good ones. As well as growing crops during the rainy season, they practise irrigation in a small way in the dry winter. This varies from tiny plots a yard or two square, laboriously irrigated by one-woman-power from shallow wells, to the *shadowuf*, a slightly more sophisticated system, using a bucket on a weighted beam, or to ingeniously designed terraced irrigation on the slopes of Jebel Marra itself. Irrigated terraces like these are comparatively rare in Africa, though commonplace in south-east Asia; we found their presence, and the tendency of the Fur to irrigate where ever they can, encouraging when considering how more extensive irrigation might catch on.

The hill Fur still farm parts of Jebel Marra itself, though the area they use seems to have decreased considerably—some of it quite recently. All the land used is terraced, and crops are grown mainly on the summer rain: irrigated terraces occupy only quite

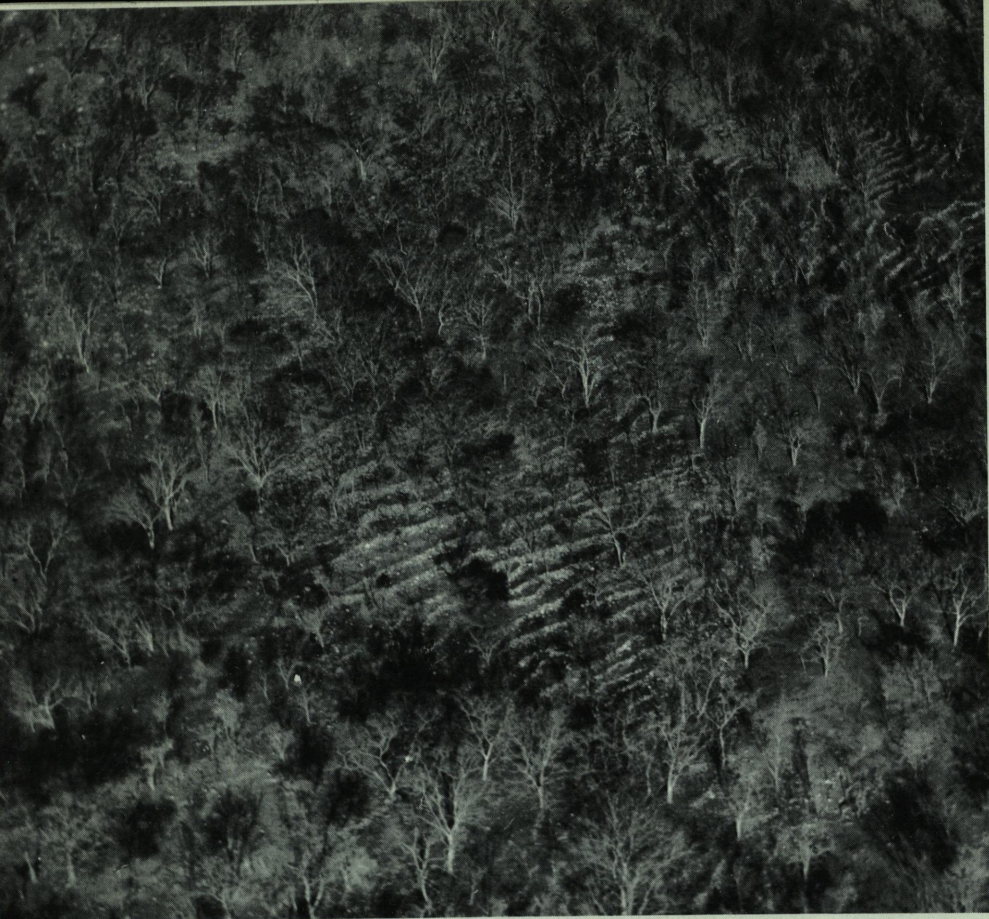


As the mountain streams flow out into the drier plains, the water sinks beneath the sandy surface. In summer, during the rains, water may flow in these wadis for several days after storms. In winter they show up from the air as darker, greener strips. The haraz trees which line them benefit from the extra water which, even in winter, is found beneath the sand



a small percentage of farm land. The highest village now occupied is Toura Tonga, at nearly 8000 feet. Labour for cultivation is often arranged on an 'invitation' basis, the wages offered being in the form of beer. This, locally brewed from sorghum and called *merisa*, is a soupy, highly nutritious and fairly potent drink. Paying for labour in beer might seem to be a cheap method, but as large quantities are expected, this is not necessarily so. Also, as an eminent anthropologist put it, the working party so hired rapidly becomes just a party, and work is forgotten. As in more sophisticated societies, higher wages do not necessarily result in greater productivity.

As well as humans, plants, birds and animals were of unfailing interest. From so many memories little incidents stand out: waking in October to the songs of migratory willow-warblers that had come all the way from Europe; sharing the shade of a tree at noon with groups of pygmy bee-eaters, almost within arms' reach; the vivid flashing blues of long-tailed Abyssinian rollers; and the splendid trombone calls of Kavirondo cranes flying past camp in the early morning. An unforgettable experience occurred one day when, in the helicopter, we flew above a flock of these big crowned cranes. The lead-birds turned back in fright as we passed some way above



(Above) Flying low in the helicopter, when the surface had been denuded by grass fires, the team was amazed at the extent of the terracing, stretching from the mountain itself right across the plain to the western frontier. Except on the mountain, hardly any of these ancient cultivation terraces are now used by the Fur. On the ground, an apparently undisturbed strip of savannah woodland (left), so typical of this area, is seen to be growing on long-abandoned terraces. When were these built? For how long were they in use? Why were they abandoned? (Opposite) Foresters in 1957 examined high land with volcanic ash soils and felt that some of these lands could grow valuable timber. On this trip plantations of young cypress are visited. They seem to be thriving

them, and looking down we saw a wonderful pattern of criss-crossing layers of birds repeated by their shadows on the white sand of the wadi below.

Wild animals were numerous but one saw less of them: here again our helicopter gave us glimpses of animals which we might not have seen on the ground—a lioness snarling at us from a sandy wadi, or a great wart-hog, trotting, tail upright, along a bush trail down which were advancing three girls with pots on their heads. We never saw if they met. On the ground, the most memorable occasion was when, stopping the Land-Rover on a cattle-trail deep in the bush, a herd of roan antelope appeared suddenly as if from nowhere: they had been standing motionless in the dappled shade of the trees.

During the early weeks of the 1957 expedition we had flown over the Jebel Marra itself, and had explored its western slopes from time to time. In late December, two of us determined to walk across the range from west to east, camping in the crater en route. We planned to rendezvous with the rest of the party at a little hill-station called Suni on the eastern slopes, and there spend Christmas. We began our walk at about 6000 feet, where we had assembled a team of mules, donkeys and their owners to transport our gear

and sometimes ourselves. Our last night was a bedlam of galloping, braying donkeys, for our tethered group seemed to be visited by all the loose donkeys for miles around.

Next morning the early part of the journey led through a zone of ash or volcanic tuff, which had been carved by the weather into deep twisting gullies, sometimes so narrow at the bottom that the pack-donkeys stuck and had to be unloaded. Above the ash badlands we emerged on to grassy lava slopes reaching up to the rim of the Dariba Crater. We rested on the rim, at about 9000 feet, enjoying the panorama of lakes and jagged lava walls. In the early afternoon we made our way along the rim until we found a place to descend to the crater floor and made camp under wild olive trees on a spur just above the larger of the two lakes.

The chill at this altitude woke us before dawn, for which we were grateful. The whole crater was absolutely still; as the sun began to light the lava walls of the west side the changing colours were mirrored in the glassy waters of the lake. As the day warmed up the crater began to come to life, black-winged stilts and sacred ibis flew over the lake, and the stilts' piping sounded from its shallow shores. An expedition across the grassy crater floor later in the morning took us

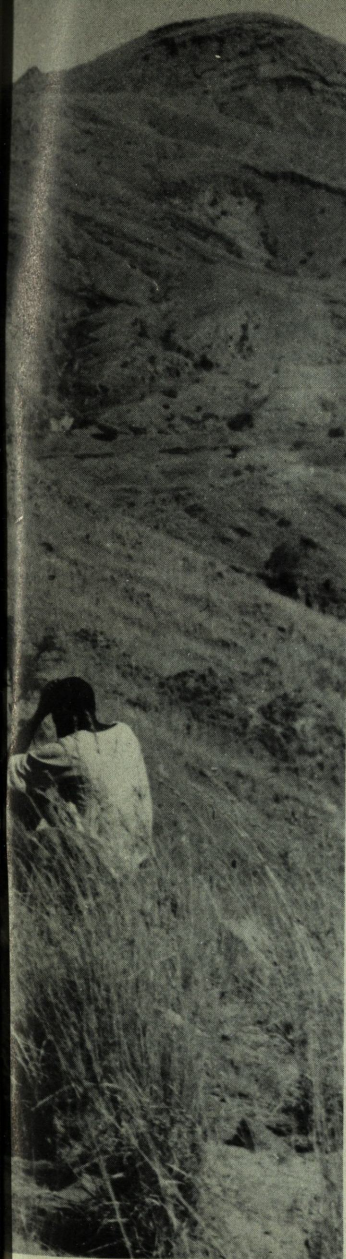




past herds of semi-wild donkeys to the smaller inner lake which had been hidden to view from camp. This lake, deep in a sort of circular cauldron lying in the heart of the main crater, is beautiful and curiously lifeless. At a time of day when the outer lake was alive with wading-birds and ducks, in the inner lake we saw but a single grebe and the silence was disturbed only by the distant barking of a baboon. The inner lake is very deep and steep-sided, and cannot provide the environment most ducks and waders like. The colour of this lake is brilliant and striking, changing between emerald and ultramarine as little gusts of wind move the surface. But for all

its beauty it is a somewhat eerie place, and its clear waters, reaching down so steeply to depths no one knows, tend, we found, to sap the confidence of would-be swimmers.

After two nights in this fascinating place, we had to move on. We crossed a great stretch of high moorland, with tracts of bracken and even small patches of mossy bog. The higher parts of Jebel Marra have particular interest for botanists as a number of plants common to temperate Europe occur there: we were collecting for both Kew and the British Museum on this account. We camped again, this time at about 9000 feet and desperately cold, and on the fourth day



(Above) The party crossing the mountain enters 'ash badlands' outside the crater to the north-east. Deep deposits of pumiceous material laid down by the volcano have been eroded by wind and rain into classic badlands; deep, steep-sided gullies were sometimes so narrow that the party could barely squeeze through. Beyond the badlands, the last pull up to the crater was fairly steep but otherwise easy going. (Left) Men and beasts rest before descending into the crater to prepare camp for the night. (Below) The author explores the grassy floor of the crater on mule-back



made the descent through wild lava peaks to the rest house at Suni where the remainder of our party were already settled in.

Throughout our trip we had noticed, even in the crater and at altitudes up to 8000 feet and more, signs of abandoned terraces. Clearly settlement, or at least seasonal cultivation, had been much more extensive in the past. Later, low flights in the helicopter revealed traces of now-abandoned terraces or contour-banks almost everywhere. All this is a puzzle: when were all these terraces built and for how long were they in use? Seemingly there must have been a much larger population. No explanation has yet been found.



(Left) The descent from the crater rim was rough but not really difficult, the main problem being to keep the loads on the not always tractable donkeys. Even water had to be carried on this part of the journey for there are no streams in the crater and the lake water is salty. (Below) During the day the aspect and colour of the crater changed greatly. The mirror-calm water and reflected crater walls of the early morning was gone by the afternoon, a breeze ruffling the surface of the lake. While the donkeys grazed the author sat beneath an olive tree watching the changing light. (Right) The inner lake was entirely different, deep in its circular cauldron. This lake, sinister in aspect, is without doubt extremely deep, occupying the 'neck' or 'pipe' of the old volcano

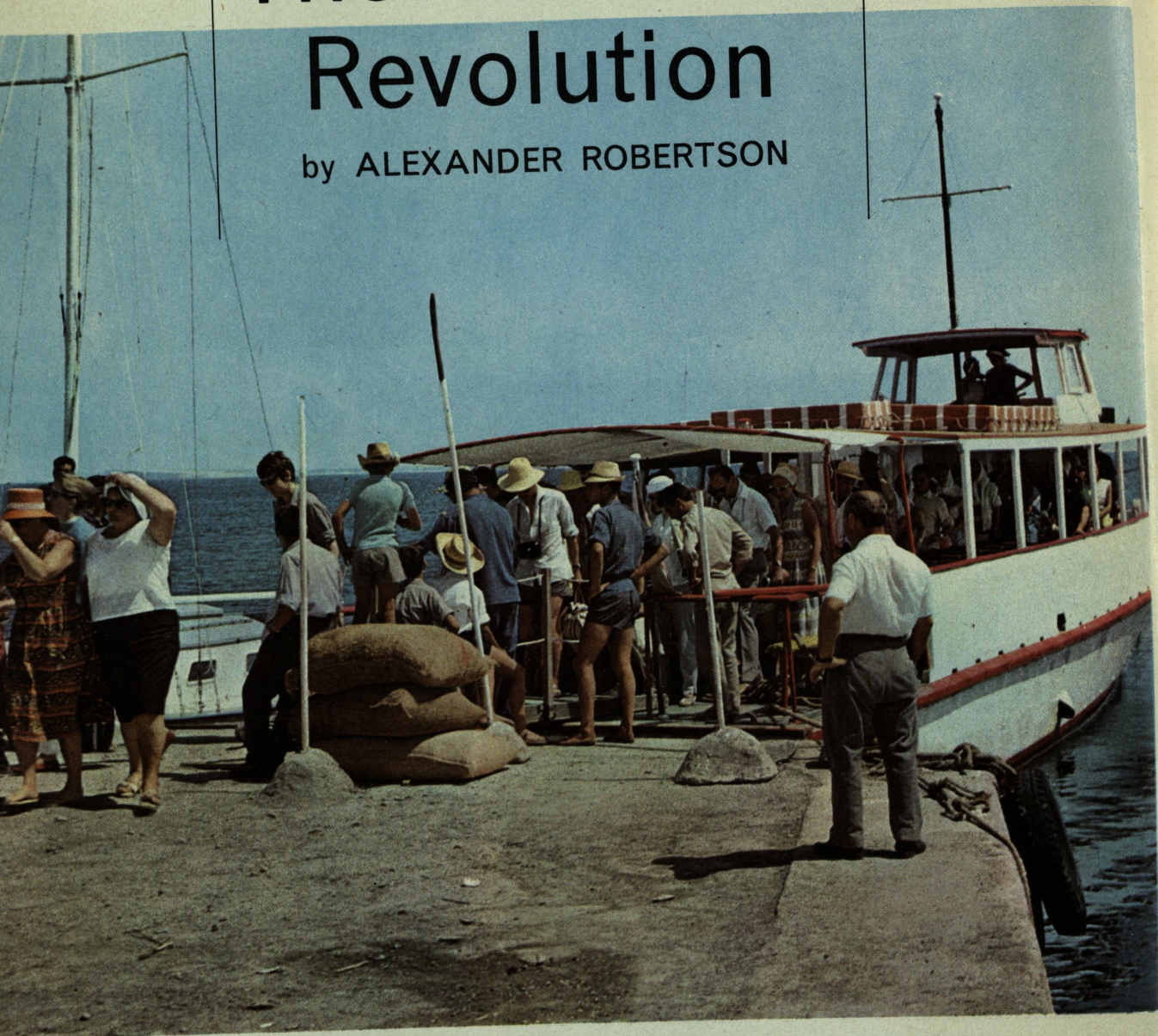




When we left the area, we were convinced that, although Western Darfur was not going to produce a second Gezira (the cotton scheme on which so much of Sudan's prosperity depends) there was a significant amount that could be done by means of chains of small projects. Almost certainly there was more land available than water, and the direction which further studies should take was fairly clear—more knowledge of hydrology, experimental work on crops and crop husbandry, with social studies aimed at assessing the impact of new ideas on the Fur or adapting them to Fur customs. After a lapse of years, due mainly to economic difficulties, studies have been resumed by the United Nations. Experimental stations have been set up, and some of the ideas of the 1957 party—plus plenty of new ones generated by the present team—may soon be translated into reality. Worthwhile developments *can* take place, though perhaps on a modest scale as far as the whole area is concerned. Their impact on the life of the Fur may well be gradual, and Jebel Marra will continue to be a remote place geographically: it is unlikely therefore to lose its special attraction.

The Sunshine Revolution

by ALEXANDER ROBERTSON



When you go on holiday this year, to Spain, or France or somewhere nearer home, perhaps you will put aside your often rather trite tourist guide-book and wonder for a moment what life is really like for the people whose home town or village you are visiting. You may also wonder just what effect your own presence there, as a tourist, is having on the lives of these people.

The summer before last the author visited Formentera in the Balearic Islands, latest island to be discovered by the tourist boom. He was anxious to find out what this sudden invasion of comparatively rich outsiders meant in the lives of the 3000 odd people who just happened to live there.

