numery bows, a secondary bow, and the lighter space inside the primary bow requires a photographic technique of a high order. It is with regret that we miss a chapter on cloud photography from the hand of such a master. Everyone has a slightly different technique, but Mr. Clarke unfortunately gives no hint of his own methods. The series of plates ends with some fine photographs taken by Capt. C. K. M. Douglas from an aeroplane.

There are also several coloured plates and drawings; the frontispiece is a delightful coloured sketch of a beam of a searchlight revealing two layers of fine condensation before striking the main cloud sheet; it vividly recalls a phenomenon which must have been noticed by many meteorologists during the war. Another very beautiful plate shows a halo, sun pillar, mock sun ring,

and two arcs of contact. The four sketches showing stages in the history of a line squall cloud are interesting as diagrams; but as pictures they make the clouds look too solid.

If more notice has been taken of the plates than of the text, it is because they form the most striking part of the book; but the text contains much interesting matter. Cloud forms are described, and use is made of recent researches into upper-air temperatures in explaining cloud phenomena. There are chapters on cloud distribution, and the association of cloud forms with weather types. Mr. Clarke has produced a standard book on cloud forms, not only for the meteorologist, but also for the general reader, who will surely find it an incentive to a further study of the weather. Author and publishers are to be congratulated on the excellence of the work.

Unveiling the Senussi Shrines.

By ARTHUR SILVA WHITE.

THE story of Mrs. Rosita Forbes's journey to the oasis of Kufra, situated in the heart of the Libyan Desert, constitutes the "something new out of Africa" of which few vestiges remain to be revealed. The three instalments recently published by the *Times*, under the title of "Secrets of the Sahara," contained the latest, and in some respects the only, information from a locality in the Libyan Desert unexplored since the visit of Gerhard Rohlfs in 1879.

Rohlfs made two attempts to reach Kufra. On the first he was turned back (although travelling under the protection of a *firman ali* of the Sultan of Turkey) from Aujila and Jalo because the Mojabra (slave traders) refused to give him a guide without Senussi's consent; and on the second attempt, when he succeeded in reaching Kufra, he was made captive and barely escaped with his life. Where Gerhard Rohlfs failed, and found no European successor for forty years, Mrs. Forbes has succeeded; but, it is to be noted, the reason for this remarkable achievement is to some extent explained by the total change of circumstances. In the interval between the two adventures, the Great War has resulted in the military conquests of France and Britain in that region of Africa and in the overthrow of the Senussi domination. Moreover, Mrs. Forbes had the supreme advantage of entering Libya at the psychological moment of complete accord (the ratification of a treaty) between Italy and the Grand Master of the Senussi Confraternity, whose personal support she obtained, and of travelling, not as a European, but as a Moslem in the interests of Islam—that is to say, practically as a Moslem convert or Senussi propagandist, since the Senussi commonly employ women in that capacity. That Mrs. Forbes could have kept up

this disguise through all the vicissitudes of travel and the dangers encountered is in itself one of the stories out of Africa which deserve to be remembered.

Mrs. Forbes, accompanied by Ahmed Bey Hassanein, an Egyptian (son of Sheikh Mahamed Hassanein el Bulaki, a professor at El Azhar University), started from Benghazi, the maritime terminus of the ancient trans-Saharan caravan route, and rode eighty miles south to Jedabia, where the desert journey began. Here she was hospitably received by Sidi Rida (brother of Sidi Idriss, the Sheikh es-Senussi or Grand Master), who made himself responsible for her caravan. But the usual delays, leading to divided counsels among the Senussi brethren (Khuan), necessitated a midnight flight in Bedwin disguise without a guide. After wandering round Jedabia for three hours, the fugitives found themselves only one mile away in the open desert when day dawned. Riding south for two days, accompanied by two trusted Senussi, they were joined by two black soldiers unprovided with rations. The party, numbering six, were saved from starvation by meeting with a Mojabra caravan, and together they travelled by short stages to the oasis of Aujila. Here they were caught up by the caravan prepared by Sidi Rida, who sent also a letter of introduction to the Kaimakam at Jalo, near by, the gate of the Libyan Desert.

The caravan, now fully organised, comprised eighteen camels, nine black servants, two slave-girls, a guide (Abdulla el Zawia), three Bedwin, Ahmed Bey Hassanein, and Sitt Khadija—"a Moslem of half English, half Egyptian blood"—otherwise Mrs. Rosita Forbes. For so large a party eighteen camels were far from adequate, especially as these were in bad condition, for a

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journey in the Libyan Desert. Consequently, from the very outset privations overtook the party.

The first stretch across the desert, from Bir Battifal to the oasis of Taiserbo (which was passed unheeded), with no wells on the route, was accomplished with ever-increasing difficulties, owing apparently to the failure of the guide to pick up his landmarks and the consequent delays. It took nine days to reach El Harrash, where water was found, and two days more to reach Buzeima. Here, after the fatigues and sufferings of the march, a halt of three nights was called to rest the caravan. Four days onwards, passing through a region of sand-dunes, they came to Hawari, on the outskirts of Kufra oasis. Taj, the objective of their pilgrimage, lay more than twelve miles further south.

Intrigues and plots had to be faced and overcome before the guests of the Sheikh es-Senussi were allowed to continue their journey; and no wonder! Indeed, there must be a sharper cleavage than ever before between the more rigid Senussi of the banished Grand Master, Sayed Ahmed, who was answerable for the war against Egypt and the Nosrani (Christians), and the post-war adherents of the ruling Sheikh, Idriss, who, according to the doctrine of their Order, must be regarded as a renegade Senussi. In the precincts of the sacred city, Taj, our suspect travellers were on dangerous ground.

The Kaimakam of Taj, Sidi Saleh el Baskeri, after due inspection of their credentials, received the travellers well, and lodged Mrs. Forbes in the house of Sidi Idriss. In the home of the Sheikh es-Senussi this courageous young Englishwoman "lived the life," as she says, "of a veiled Arab woman of Taj for nine days, and visited the holy *Kubba* of Sidi el Mahdi," the son and successor of the founder of the confraternity. Of course, she was under suspicion, and fifteen tribal Sheikhs offered objection to her wandering abroad, since such a privilege is unknown to Arab women and the women of Taj. Nevertheless, a flying visit under the official auspices of the Kaimakam (presumably the Turkish Resident) was made to the west, a ride of seventeen hours, providing some interesting sight-seeing of which we may hope to hear later.

When the time came for her departure from Taj, Mrs. Forbes decided "to attempt to open up a new route to the north, hoping to facilitate future trade with Egypt." The route she selected and afterwards followed appears, however, to have been one of the direct routes (Kufra to Jarabub, Kufra to Siwa, and Kufra to Khargeh) reported to have been opened up by the Senussi, after their settlement at Jalo and Jof. These routes, as also that from Siwa to Farafra oasis, were at one time kept open for the use of all followers of the Prophet, so that even single travellers might use them and find refuge at the end of each day's march—at least, that was the boast of the Senussi, who undoubtedly did make

settlements for so-called slaves, and built cisterns along some new routes in the Sahara. Apparently, then, the direct route between Kufra and Jarabub, selected by Mrs. Forbes, fell into disuse (if used only by the Senussi family) in consequence of the absence of Sheikh el Senussi at the seat of war. That is my conjecture.

The homeward journey, starting from Hawari, was begun on January 25, 1921. Previously, Mrs. Forbes had sent back the soldier slaves and others to Jalo and Jedabia, and her new caravan for this hazardous journey to Jarabub comprised only nine camels. Besides herself and Ahmed Bey Hassanein, the party consisted of Yusuf, a Zawia student named Amar, and the guide Suleiman, an oldish man with defective eyesight. Zakar, a well that had not been used for four years, and, therefore, had to be cleared, was reached in four days; and from that spot onwards no well or cistern was available during the twelve days' march through the arid desert to the outlying parts of Jarabub. They carried twelve skins of water, dates for the camels, fuel, but no tents. Marching for thirteen hours daily, averaging thirty miles a day—presumably at night, to make such good progress—they endured great hardship on a simple and scanty diet. Sand-dunes both at the beginning and at the end of their journey were encountered. On the eleventh day from Zakar they entered broken country beyond the dunes, and stumbled upon Bir Salama (?Tarfaja), on the Jalo-Jarabub caravan route. Thence to Jarabub was but a day's march.

At Jarabub—the Mecca of the Senussi—which never before had been entered by a European, Mrs. Forbes was lodged inside the Zawia in a house belonging to the Khuan (brethren), and she was even permitted to kiss the tomb of the sainted founder and to visit the University quarter.

On February 13 the journey was resumed, and, with four camels and a guide, Mrs. Forbes came joyfully to Siwa under the escort of a Camel Corps patrol sent out to meet her. Thence, after a cordial reception from the officers at Siwa, she motored (new style) across the desert for 430 miles to Alexandria.

This bare recital of Mrs. Forbes's remarkable journey raises in the mind of one who knows something of the country and of the Senussi confraternity profound admiration for the woman who accomplished it; and further details of her experiences will be eagerly awaited. The information she brings from Kufra and Jarabub, in particular, will appeal to geographers, who will not be too critical as to her revision of the map unless other instruments than a magnetic compass were used by her. In addition, any information about the Senussi sect will prove of the highest interest, in view of the fundamental changes in their doctrine and policy superinduced by their defeat in the field under Turko-German leadership.