

A JOURNEY TO MAROCCO

AND ASCENT OF

THE GREAT ATLAS.

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DELIVERED BEFORE THE BIRMINGHAM AND MIDLAND  
INSTITUTE,

By GEORGE MAW, F.G.S., &c.

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I WILL introduce you to our party, headed by Dr. Hooker, and including also Mr. John Ball and myself on the morning of Good Friday, 1871, steaming through the Straits of Gibraltar towards the beautiful Bay of Tangier. The straits are only ten miles wide, and are closed in by lines of coast looking so much alike that it is difficult to realize that the narrow belt of water divides two great continents; but there is perhaps no part of the world where there is such a distinct separation in race, manners, language, and religion, as between Spain and Barbary. We pass the Spanish fortress of Tarifa on our right, and the furthest land we see to the west, on the European side, is Cape Trafalgar. On our left, to the south, is the Barbary coast, with its picturesque outline of mountain foreground, here and there between the nearer ranges of hills are seen the snow-capped points of the Lower Atlas and the sacred hill of Mount Anna, over 7,000 feet high, on which no Christian has been allowed to set foot; and as we near the semi-circular bay, Tangier, which first appears as a small white spot at its southwestern extremity, gradually grows into sight.

No ambassadors are received at Marocco and Fez, the Moorish seats of government, and the little white town on the hill-side before us is the only point through which the Moorish Empire holds diplomatic intercourse with Europe.

The whole aspect of the place is strangely different to Gibraltar—a difference rendered all the more striking by close proximity. Most of the houses are flat-roofed, whitewashed cubes, looking at a little distance like a group of big tombstones, and here, at the extreme west of the Mahometan world, the city, like its inhabitants, is thoroughly eastern in its aspect.

The citadel and castle are seen at the summit of the hill, from which a castellated wall branches down to the sea, completely environing the town; here and there rise the picturesque minarets of mosques, inlaid with rich mosaics of coloured enamels, and a graceful date palm occasionally towers over the straight lines of the white flat-topped buildings. There is no pier or harbour, and at seven o'clock in the morning we land in a small boat, which however cannot quite reach the sandy bay, and the usual course is to be carried through the shallow water on the backs of Jews. To-day is a Jewish holiday, and as the Moors consider it derogatory to carry a Christian, we have to be landed on some slippery rocks, the ruins of a former pier, and walk over them to the watergate of the city and custom house. Here our luggage is soon cleared, with the Moorish salutation of "Wahagh" or "all right," and is carried through the watergate up a steep lane, too steep and rough for carts, and we almost climb up into the city, replete with novel sights, and scents, and sounds, and thread our way between rows of box-like shops, filled with strange merchandise, through a motley throng of Moors, Reefians, Negroes, Jews, and beggars, heaps of dirt, and every evil odour.

The mixed population of Barbary has been roughly estimated at about eight millions, of whom Mahometans form the bulk. These are distinguishable as several races, and probably peopled Marocco by separate ancient immigrations from the east, of which, however, there exist no distinct records. The Mahometans include firstly,

the Berbers or Brebers who are regarded as the oldest inhabitants of the country, and of these there are two or three distinct sub-races, the most important of which are the Reefians or Amazigs living in the mountainous district of the North of Barbary, round-headed savage-looking men, formerly given to piracy, and still to plunder, and holding but little intercourse with the towns. They can be at once distinguished from the Moors by the habit of wearing one or two long plaited pigtailed hanging down their backs, the rest of the head being shaven, with the exception of a little lock of hair on either side of the temple.

The Schelleughs, another aboriginal race of Berbers, inhabit a district on the flanks of the Great Atlas. They contrast with the Reefians in being a quiet peaceable people, and are located in mountain villages, and given to pastoral and agricultural pursuits. They are a smaller race of men than the Moors, and dress in brown djelabias, cloak-like garments woven of goat's hair, having a curious oval patch of red or yellow let into the back; they speak a language allied to, but different from Arabic.

There are also the Arabs living in tents, but less nomadic than the Arabs of Syria and the east, as they settle down here and there for a few months to the cultivation of an occasional crop.

The fixed population of the towns, especially those on the coast, are distinguished as Moors, but they can scarcely be looked upon as a race separate from the Arabs and Berbers, the great variety in their physiognomy and complexion pointing to a mixed origin. They are mostly the descendants of the Spanish Moors, who were driven from Spain at the end of the fifteenth century, and have probably been recruited from the Berbers and wandering Arabs. In stature they are the tallest of the inhabitants of Morocco, and proportionately large, with a fleshy rather than muscular development: and varying much in complexion, there is an occasional indication of an admixture of negro blood. They are an indolent pleasure-loving people, wanting in the energy and courage which gave their ancestors supremacy in Spain for seven centuries.

Barbary contains more Jews in proportion to its population than any other country in the world, Palestine only excepted. Every large town has its Jews' quarter, and we found Jews in all the valleys of the Atlas. The first immigration of Jews to Barbary appears to have taken place about the end of the seventh century, when they were expelled from Spain by decree of the counsel of Toledo. A second immigration occurred at the time of the final expulsion of the Jews from Spain at the end of the fourteenth century, and now they have become so far naturalized as to have coined a dialect of Arabic for their peculiar use, and notwithstanding the contempt in which they are held by the Moors, and the alleged hardships to which they have been subjected, we could not but observe how well they seemed to hold their own against their oppressors.

Except at the ports, the Empire of Marocco has been almost inaccessible to Europeans, and on our arrival at Tangier we were in doubt whether Lord Granville's representations to the Moorish Government on Dr. Hooker's behalf had been acceded to.

We then for the first time learned from His Excellency, Sir John D. Hay, that the Moorish Minister for Foreign Affairs declined on his own responsibility to consent to our inland journey, but after his conferring with the Sultan, permission has just been received at the Embassy for our visiting the great Atlas. We are promised an escort of soldiers to protect us, and are provided with an autograph letter from the Sultan, who orders that all hospitality is to be shewn us on our journey to parts of his dominions which had not before been visited by a European. We are also under many great obligations to Sir John D. Hay, our Ambassador at Tangier, and to Mr. Carstensen, the British Vice-Consul at Mogador, without whose co-operation and help the expedition could not have been undertaken.

This, then, is our introduction to the little known country we are about to journey through: The limits of a lecture will not allow me to give anything like an unbroken account of our tour, which I will describe by reading a series of extracts from my

journal, referring to the principal incidents of the journey in the order in which they occurred.

After remaining a fortnight in Tangier, from which we visited the city of Tetuan and the Reef Mountains, and took part in the exciting sport of a boar hunt, we re-embarked on April the 20th for Mogador, the most southern port of Barbary holding commercial intercourse with Europe, touching *en route* at Rabat, Casablanca, and Mazagan, situated on a flat uninteresting coast shelving under the waters of the Atlantic, and passing also Cape Cantin and Saffe, where the shore rises into bold cliffs and bluff headlands, we reached Mogador our port of approach to Marocco early on April the 26th.

Soon after landing we visit Hadj Hamara, the Governor of Mogador, to present our letters from the Sultan and his Minister for Foreign Affairs. The Sultan's autograph letter is opened in our presence, and after the Royal seal has been applied to the Governor's forehead as a token of respect, he reads it to himself and then to Mr. Carstensen, the British Consul, who translates it to us. It is a short order that "The English Hakém (Dr. Hooker) and his friends are to be well received, and conducted in safety to his slave the Governor of Marocco." The Foreign Minister's letter is more explicit, ordering an escort of a captain and four soldiers to accompany us. Mr. Carstensen then explains that our visit to Barbary is for the purpose of collecting plants.

The Governor replies with a condescending smile, that we English *are* odd people to spend our money for such a purpose. He is however exceedingly good natured and full of fun, regrets not being able to converse with us in English, and expresses his appreciation of the friendly relations existing between the governments of England and Marocco. He asks after the English "Sultana" and her family, and exhibits an intelligent interest in many social and political subjects, about which he inquires. At the close of the interview, strong green tea made into a syrup with sugar, is repeatedly handed round to us in little cups. This is the only beverage of Marocco, and drank from morning

to night on every possible occasion, and seems to serve as a substitute for spiritous stimulants, the use of which is forbidden by the Koran. Coffee and black tea are scarcely known in the country.

On April the 28th the governor entertains us to dinner at his garden residence, in a long room covered with rich Rabat and Marocco carpets, forming part of the side of the garden quadrangle. A band of stringed instruments with vocal accompaniments entertains us before and after dinner, with strange monotonous chant-like tunes, amongst which are detected a Moorish adaptation of that well-known air "We won't go home till morning." We are met by several of the native officials, including a Colonel, the chief of the Customs, and others, easy, pleasant-mannered men. After washing of hands, which is the preliminary and sequel of all meals, we commence with the usual sweet green tea, followed by mint tea, after which dinner is served to us.

Moorish houses are devoid of furniture; we are seated on cushions on the ground, and the dishes are placed on the ground before us, great red bowls in wooden trays, with covers of fine rush basket-work, in form between a beehive and cocked hat. We partake of an extraordinary variety and quantity of well-cooked food, at least a dozen courses, including three of fowls dressed in different ways, lamb, cabobs, curry, fruit, radishes sprinkled with sugar, and the staple Moorish dish called *Kooskoosoo*, the basis of which consists of coarsely-ground wheat, roughly granulated, somewhat like pearl-barley in texture. This is steamed and piled up in a large dish, and in the centre are placed fowls and meat, olives, raisins, and vegetables. The *Kooskoosoo* is pressed into balls with the hand and jerked into the mouth, and it is not unusual for the host to do this for his guests. We have no knives or forks, and eat everything, and even carve the fowls, or rather pull them to pieces, with our right hands, as it is not considered etiquette to use the left hand at meals.

On our return to the consulate we find that a special courier has just arrived from Marocco with a message from the Viceroy,



desiring that he may be informed of our arrival at Mogador, that proper arrangements may be made for our journey to the capital.

Everything is now ready so we decide to start early to-morrow. The bulk of our baggage has gone forward to-day on four camels and five mules to Chedma, our first place of halting. The expense of transit is ridiculously low, we pay but sixteen shillings for each baggage mule and muleteer ; and twelve shillings for camels and drivers to Marocco, for the journey of 125 miles, usually occupying three-and-a-half or four days. Couriers on foot do the distance in two-and-a-half days for about twelve shillings ; notwithstanding the entire absence of roads, intelligence is conveyed with remarkable rapidity, and I was assured that information respecting the Abyssinian expedition came to Mogador overland. Letters reached us regularly from Mogador with no other address than " Somewhere in the Atlas Mountains," and when we were in the heart of the Atlas our whereabouts was ascertained with scarcely the loss of a day.

On April the 29th we start for Marocco with our escort, first crossing for a few miles the sand hills environing Mogador, and then enter the Argan Forest, which is perhaps the most interesting botanical feature in Barbary. *Argania Sideroxyylon*, belonging to the natural order Sapotaceæ, and allied to the Buckthorn, is found in no other part of the world, and spreads almost uninterruptedly over a space of 30 miles from east to west, immediately to the east of Mogador. It is a small thorny tree, in habit resembling the olive, and is dotted over the undulating country to the exclusion of almost all other arboreal vegetation. Some of the trees have a spread of 60 to 70 feet, but rarely exceed 30 feet in height ; they are generally compact and mop-like in form, and uniform in size : like the olive, the old trees have a tendency to split up and form a number of independent trunks, round which the bark soon closes over, and in many cases groups of six or seven separate trees with their branches closely entangled are produced. The bark is peculiarly beautiful in structure, breaking up into symmetrically reticulated scales like a crocodile's skin. The fruit is

like a yellow plum, with a hard central stone, environing a small oily kernel. The goats and cattle feed on the fruit and reject the undigested nuts, which are collected from the ground and pressed for oil, and notwithstanding this clumsy process of production, it forms an important article of export from Mogador. The Argan forest covers 600 square miles, and the quantity of fruit is prodigious. We passed for hours through the spreading trees laden with golden yellow plums, and if some ready means could be devised for getting rid of the pulp, the supply of oil from the kernels would be a source of untold wealth to the country.

The *Argania* affords a striking instance of the relations existing between the distribution of animals and plants. Its extinction within a few hundred years seems probable from the absence of young trees to keep up a succession. This is entirely due to the browsing of goats, which eat down the seedlings as they spring up. The vegetation is now in the height of its summer beauty; in June it will put on its autumnal tint of brown, and find its period of rest under a scorching heat, instead of as with us, a winter's frost. The season of growth in Barbary commences after the rains in October, just as in England after a moist autumn, but in the south the autumnal growth goes on unarrested by frost through the cool moist winter months, the grain crop coming to maturity in May, and to-day we have seen patches of wheat cut and carried.

We arrive at nightfall at the residence of the governor of Chedma, a group of substantial buildings, including also a fortress, a prison, and caravansary, the local centre of government of a province, larger than an English county. Here we are met by the Governor's son who had sent out an escort to meet us, and who hospitably entertains us to dinner in the same style as at Mogador. We also receive here our first "mona," or gift of provisions, including five live sheep, lots of chickens, eggs, loaves of sugar, immense jars of honey and butter, candles, and corn for the camels and mules. This is a foretaste of the way in which we and our retinue have been provided for throughout our journey, free of expense.

In the interior of Marocco there is nothing like an inn, nor indeed any accommodation that can be had for payment. The sentiment of gratuitous hospitality forbids the receiving of money for the entertainment of travellers, which is undertaken by the village sheiks. The cost is deducted out of the taxes, and ultimately falls on the general exchequer of the country.

On April 30th we start on our second days' journey, following for several hours through an undulating country and park-like glades between the Argan trees, and at mid-day suddenly emerge from the forest at a point about 1,700 feet above the sea, where the great Plain of Marocco, bounded on the right by the Atlas range, bursts into full view. The Plain is shrouded over by a continuous sheet of tufa, produced by quick evaporation drawing up to the surface carbonate of lime in solution, and this getting broken up covers the Plain with stony fragments. This hard surface-coat is taken advantage of for the excavation of cellars, termed "matamoras," over which the tufa forms a strong roof. These are used for the storage of grain, and also for burying the refuse from the villages. The vegetation of the plain is strikingly peculiar, consisting of large areas covered with single species which alternately replace each other. These are for the most part small shrubs, though belonging to genera many of which are exclusively herbaceous in Europe. After leaving the Argan forest we first pass through a district covered with white broom, *Retama monosperma*, then successive areas of *Zizyphus* *Lotus*, *Artemisia*, shrubby *Salicornias* of two species, *Atriplex*, several *Statices*, *Lyceum barbarum*, a thorny *Acacia*, two species of shrubby *Salsola*, &c., each spreading over hundreds of acres and but little intermixed. There are also a few succulent plants, *Kleinia pteroneura*, a small species of *Stapelia*, and at the margin of the Plain bordering on the Atlas the remarkable *Euphorbia resanifera* is found: this produces the gum-euphorbium of commerce, used in veterinary medicine. It is a striking plant, with fleshy quadrangular stems branching up into chandelier-like forms eight or ten feet high. A few streams from the Atlas,

including the Oued Enfes and the Oued Tensift, here and there redeem the monotony of the plain, watering little green oases ; and by these we camp at night and receive the hospitality of the village Sheiks. On the third days' journey we pass curious groups of flat-topped hills, rising two or three hundred feet above the level Plain ; these are probably of tertiary age, and consist of cream-coloured limestone and marls, with a tabular sheet of chalcidony on their summit, which in arresting denudation has determined their peculiar form.

May 3rd.—After four days fatiguing march we break up our camp at 7 o'clock, and start on our last stage to Marocco, and enjoy a most brilliant scene over the Plain. The Atlas range is now in full view, twenty miles south of us ; a long ridge, 12,000 feet high, and more than 10,000 feet above us, rising up here and there into a few isolated points above its general level, and seamed and patched with snow ; but it is evident there is no *perpetual* snow, as the summit of the range is for the most part bare : between us and the blue Atlas range, columns of golden sand are whirled up to a great height by the eddying wind, which soon disperse and melt away cloud-like in the distance. The City of Marocco gradually comes into view, with its environ of majestic date palms in full flower, through which we pass for several miles. Mr. Hunot, the only European now in Marocco, accompanied by several Moorish merchants meets us and invites us to breakfast under some olive groves, and after an hour's rest we again push on. As we approach the city, an immense length of mud and stone wall with castellated battlements is before us, with the tall minarets of mosques, cupolas, and bright green tiled roofs rising over them. We are met outside the principal gate by a guard of soldiers and the Vice-Governor of the city who bids us welcome. We enter zigzag through the gate, and the scene before us, which no description can portray, combines the strangest medley of abject squalour and grandeur. The city for the most part consists of large gardens surrounded by mud walls, intermixed with densely populated patches of buildings, associating

the extremes of substantial beauty and desolate decay. Now we pass immense massive carved stone gateways, and the beautiful façades and minarets of mosques inlaid with gorgeous enamels, and then have to thread our way through narrow alleys and lanes between ruined mud walls covered with storks' nests, heaps of refuse, and rows of little box-like shops, and a crowd of Moors, Jews, Negroes, and Schelleughs, camels, mules, and asses. The 40,000 inhabitants of Marocco includes a large population of Jews, who inhabit a separate quarter of the city. The municipal government is dual: El Grawy the Governor of the Atlas rules over the Jews' quarter, and Ben Dowed is lord mayor over the Moorish part of the city. Both these men are haters of Christians, and we soon find out that they are trying to evade the Sultan's orders. We are taken down a narrow alley and shewn our allotted abode, a wretched place, the walls covered with vermin. Dr. Hooker at once decides that we must stand on our dignity, and we enter on a regular diplomatic campaign. The Vice-Governor seeing the turn matters have taken, slinks away; a mona is sent us, which we decline, and Dr. Hooker says he will accept of no hospitality till the Sultan's orders are strictly complied with, and a suitable residence allotted us. We now proceed with all our retinue to the open square in front of the great Mosque, and through the medium of Mr. Hunot communicate with Ben Dowed, who sends us an insulting message, and suggests our being quartered in the Jews' town. It is getting dark, and we are fagged and tired, with our five days' journey, and as we have as yet not even got our baggage animals unladen, we begin to feel anxious about our prospects for the night. It is a strange and novel scene; we are just under the great Mosque, with its minaret over 200 feet high towering above us; our animals are standing and lying about in picturesque disorder, and our followers look downcast, for they all know we have been slighted. The sun is just setting and white flags are run up on all the minarets of the mosques, and we hear the sonorous muezzin calling the people to their evening prayers. We stand about for more than an hour, in doubt and discomfort,

feeling uncertain whether we have done right or wrong in the course decided on by Dr. Hooker. A lovely moonlight night sets in; little or no notice is taken of us by the inhabitants, who pass to and fro without even turning aside to look at us. We now hear that El Grawy, the Governor of the Atlas, has applied on our behalf to Muly Hassan, the Sultan's son, who soon afterwards sends through Dr. Hooker a letter addressed to Ben Dowed, ordering him to instantly provide us with a suitable house, which he promises to do in the morning, and as it is late we put up our tents in the square. El Grawy sends us a guard of fourteen soldiers to protect our camp. In the morning we strike our tents and remove to the Palace of the late Grand Vizier, which was occupied by Sir Moses Montefiore, on the occasion of his mission to Marocco in 1864. Here we spend a week, and with all our retinue are daily supplied with a profusion of cooked food from the Governor's Palace.

Ben Dowed now comes to terms—sends us an apologetic message, and begs that nothing more may be said about our reception yesterday. He was sent for by the Viceroy this morning, and in the presence of our interpreter, thus scolded:—"You dog, you beast, has not the Sultan my father ordered you to suitably receive these Christians? and you have not obeyed him. Attend to his orders immediately, or, you dog, I will have you killed!" These commands, addressed by the heir to the throne to the Lord Mayor of Marocco, have had the desired effect, and place us in possession of the best house in the city.

On May the 5th we visit El Grawy, the Governor of the Atlas, and passing through the grand stone gateway to the right of the ruined barracks, proceed down a long straight lane between decayed mud walls, and turn into a dirty yard full of heaps of offal and rubbish, this is the entrance to the Marocco Mansion House. We pass up a dingy narrow staircase, and the transition is startling, for we are at once introduced to a lovely apartment, exquisitely decorated, paved and lined with enamelled mosaiques, and covered with a lantern roof supported on four beautifully

carved and painted columns. The whole room is a glittering mass of gold and colours exquisitely blended. El Grawy, a grand old man of about 65, is seated on a divan of Rabat carpets and embroidered cushions. He invites us to seat ourselves beside him, and after tea and other refreshments have been disposed of, Dr. Hooker suitably acknowledges the reception he has given us. Matters are now quite pleasant; El Grawy says we may go where we like within his dominions, in the Atlas, which extend to the point from which the waters flow towards Marocco. He promises us letters of introduction to all the Sheiks and Governors of the district, and an additional escort of six soldiers, and tells us that the Sultan has given orders that we are to be entertained free of expense.

Early on the morning of the 8th of May, the whole of our retinue, assembles in the garden—consisting of nine mounted soldiers, two captains, and fifteen baggage and riding mules—in all thirty-three men and twenty-two beasts. Attired in Moorish costume we start at a little before eight o'clock. Passing through the Jew's quarter, and following a long lane between mud walls, we reach the south-east gate, where we all rejoice to leave the filthy city behind us. The Sultan's garden is passed on our right, and as we enter on the Great Plain, Governor El Grawy, mounted on a heavy black mule, and accompanied by a guard of soldiers, meets us and bids us farewell. Pleasant words are interchanged, and we are now fairly *en route* for the Atlas, which from Marocco, appears to rise abruptly from the plain, some twenty miles off; and so deceptive is the distance that it looks like a direct ascent from the Plain to the snow-capped summit, almost too steep to scale; but in reality this wall-like ridge includes a horizontal distance of fifteen miles from the foot to the summit.

In a few hours the details of its contour are unfolded to us. The Atlas range, commencing at Cape Guer, on the Atlantic seaboard, averages at its western extremity from four to five thousand feet in height, from which it slightly falls off eastward: it then rises again in the province of Haha to a maximum height of

11,500 feet at a point, Djebel Tezah, 100 miles from the coast, and about south-west of the city of Morocco. Here a second depression occurs, affording a pass to the south at an altitude of about 7,000 feet, and immediately east of this and due south of the city, the range for 30 miles in length presents a long unbroken ridge, 12,000 feet in height, on which are disposed a few isolated crags and peaks rising from 500 to 800 feet above the general level, and it is doubtful whether any part of the chain attains an extreme height of 13,000 feet. Still further east its ridge-like character is lost, the range becoming broken up into a series of less continuous peaks of diminished height; beyond this eastward little or nothing is known either of the altitude or character of the range, excepting that it trends N. E. by E. towards the southern borders of Algeria on the Sahara. Rolfe in his journal of his overland journey from Morocco to Tunis, speaks of mountains to the east of Morocco being covered with perpetual snow, but this is a character which has been erroneously attributed to the section of the range south of the city.

When we arrived at Morocco in the first week of May, the snow was limited to steep gullies and drifts, all the exposed parts including the very summit being entirely bare. There were, however, frequent storms which intermittently covered the range down to 7,000 or 8,000 feet; but it is certain that these occasional falls would be rapidly cleared off by the summer heat; and we came to the conclusion that there was nothing like perpetual snow on any part of the chain we visited, (apparently the highest part) lying due south of the City of Morocco. The back bone of this portion of the ridge, rising 11,000 feet above the Plain, and between 12,000 and 13,000 feet above the sea level, consists of red and green porphyries, which are probably interbedded with the vertical grey shales exposed in all the lateral valleys to the north of the chain. In advance of the main ridge rises an irregular plateau of an average height of 4,500 feet above the sea, consisting of stratified limestone and red sandstone, probably of cretaceous and Triassic age, and exposed as an escarpment facing the Plain—these



beds, which overlap both the grey shales and porphyries, lie as an irregular synclinal, rising towards the Atlas in one direction, and the Plain in the other, and both the porphyries and stratified beds flanking the ridge are intersected by a multitude of dykes of diorite, of post-cretaceous age. Small lateral valleys intersect this plateau, and at their mouths great ridges of red sandstone boulders, resembling glacial moraines, occur. These also flank the escarpment for many miles, rising up as enormous mounds and ridges, in one place 3,900 feet above the sea, sweeping down uninterruptedly to the edge of the level Plain, nearly 2,000 feet below, and terminating in a well-defined line of demarcation. To suggest a comparative scale let us suppose the Severn vale at Worcester to represent the Plain of Marocco, with the Malvern Hills backed up by an escarpment several hundred feet over their summit, and this again forming a platform for a rugged ridge 7,000 feet above it. If we consider that the Malvern Hills will barely represent the height of the boulder mounds, spreading uninterruptedly down to the level of Worcester, we shall get a fair idea of the scale of the Atlas drift.

From Marocco we struck S.E., -penetrating several valleys and making unsuccessful attempts to approach the ridge. Night after night we enjoyed the hospitality of the village Sheiks, but they, together with our escort, threw impediments in our way, evidently determining that we should not ascend the Atlas. After several days' wanderings over the great drift mounds, we edged our way in a westerly direction to a point nearly south of Marocco, and by threatening to appeal to the Viceroy at last extorted a promise from our guides to be taken up to the snow.

On May the 12th we enter the province of Reria, inhabited by a mountain tribe of aboriginal Berbers called Schelleughs, a smaller race of men than the Moors, speaking a different language, and dressing in brown cloaks or djelebias woven of goats' hair. Their houses are flat-roofed brown mud buildings, with an

open verandah in front, from which during the winter snows they retire with their cattle into underground excavations. We pass through a series of strangely wild valleys, between great red sandstone cliffs, thickly populated by the mountaineers, whose brown mud villages occur at every half-mile. We are fortunate in making friends with a Schelleugh Sheik, who governs one of the principal valleys, and who promises to take us up to the snow.

On May the 13th we form a camp as a base of operations for the ascent of the Atlas, near the village of Asni, at a height of 4,800 feet, in a pleasant valley with high shrub-covered hills rising on all sides, and the great snow mountains over them. The sub-alpine flora is remarkably rich, and contrasts with the pooriness of the Alpine flora we presently visit.

On May 15th we prepare to start for the head of the valley, and after a long altercation with the Sheik, who seems to repent of his promise, and again threatening to go back to Marocco to report him to the Viceroy, we get under-way at 10 o'clock, and commence ascending the glen, going zigzag up a lovely gorge through streams and amongst tumbled rocks. Schelleugh villages crown each projecting ridge, and the villagers crowd to the flat tops of their houses to see the Christians, who have never before visited their valleys. Round each village the hills are terraced for cultivation, and artificially watered by the diversion of streams in banked-up ditches; these are in many places our only road, and are occasionally strong torrents tiresome to pass. The walnut is abundant, occupying the bottoms of the valleys, and may possibly be indigenous, but it is also extensively planted along the lines of the watercourses to a height of 7,000 feet. The olive and palmetto ascend to a height of nearly 5,000 feet; but above this level the arboreal vegetation is meagre, consisting of the alder, carob, mana-ash, juniper, and a species of maple. The crops consist almost entirely of Indian corn, barley, and beans; potatoes are unknown. Cultivation ceases at a height of about 7,000 feet. We continue to wind over a rugged path cut in the porphyry rock, for the most part a mere ledge, and we often

have to dismount in the more dangerous places. After four hours' continued ascent, the termination of the glen comes into full view, and we observe with great interest that it is closed by a group of moraines, proving the former existence of glaciers in the Atlas, and confirming my opinion that the great boulder beds flanking the chain are also of glacial origin. Two villages, probably the highest in the Atlas, are built on the principal moraine, Eitmasan at its base, at a height of about 6,000 feet, and Arroond, near its summit, at a height of 6,800 feet; the terminal angle of the larger moraine having a vertical height of over 800 feet. It is composed of immense blocks of porphyry lying at a steep angle of repose, up which it takes us nearly an hour to climb. The existence of these moraines in latitude  $30\frac{1}{2}^{\circ}$  (the latitude of Alexandria) is perhaps the most interesting fact we noticed during our journey, for this is the most southerly point at which the evidence of extinct glaciers has been observed, and tends to confirm the opinion entertained by many Geologists that the refrigeration during the glacial period was almost universal.

At Eitmasan we are hospitably supplied with food by the natives, who are most friendly towards us. The village, composed of flat-roofed brown mud houses is most picturesque; and several of the buildings are decorated with an inlay of white plaster in chevron and chequer patterns. At Arroond a small house is set apart for us, as it is too cold to camp in our tents. The doors are only three-and-half feet high, and there is the usual open verandah only five feet high, from which we have a remarkable view: just below is the shingly bed, now dry, of a small lake, retained behind the moraine, and immediately facing us is the central ridge of the Atlas rising up between four and five thousand feet.

May 16th is the culminating day of our expedition. We start on foot at seven o'clock, with the object of reaching the summit of the chain; we are accompanied by our three Moorish attendants, and two Schelleughs, as a nominal guard. We cross the flat lake bed and at once commence ascending, edging up the west shoulder of the ridge, and enter on a singular flora, consisting for

the most part of small thorny shrubs, and remarkable for the absence of almost every European genus, characteristic of Alpine districts at this altitude. The vegetation is made up of a small number of species, but the number of individuals of each compensates for the want of variety.

The remarkable flora of the Sierra Nevada, in the south of Spain, including an assemblage of species found in no other part of Europe, has been suspected to be a sort of outlier of the flora of the Great Atlas. It was fully hoped and expected to find in the Atlas the metropolis, so to speak, of the Sierra Nevada flora; but with a few exceptions the species supposed to be peculiar to the Sierra Nevada were absent, and that strange assemblage of plants, isolated like an island in the south of Spain, remains an unexplained problem to the botanical Geographer.

At eleven o'clock we arrive at the end of the main valley, at a height of 8,300 feet, where there is a rude hut built under a rock. It is a Sanctuary or Saints' house occupied by two natives. We are now at the entrance of two narrow gorges, up which we can see what appears to be the actual ridge of the chain, three or four thousand feet above us; our men rest at the hut, and we desire them to remain there till we return. We clandestinely escape from our guard as the only chance of reaching the summit. The men are anxious and timid, and our experience of the past week convinces us that they will hinder our proceeding if possible.

We find an obscure mule path in the eastern ravine, which Dr. Hooker thinks is the mountain route over the Atlas to Sous, which proves to be the case. About half-way up we meet a small caravan of mules laden with goat skins, and the muleteers on reaching the bottom of the glen, tell our men they have seen us. The two Schelleugh soldiers give chase and overtake us in a dreadful state of alarm; one carries under his arm a live cock, and in superstitious fear he cuts its throat as a propitiation to the Djinns, or evil spirits. They intimate by gesture that we must return, and try to convince us that we shall be murdered if we go on. The summit of the ridge looks temptingly near, and we all feel

that we must endeavour to complete the ascent, so we try to make the Schelleughs understand that we are only going to the snow at the top, and will then return with them. They are evidently sincere in their alarm, and entreat us to descend, pulling us by the hand, tugging at our coats, gesticulating, and expressing their fear in a variety of ways. A happy thought occurs to us; I have a dollar in my pocket which I exhibit, promising to give it them if we are allowed to proceed. Their resistance is for a time relaxed, and we renew the ascent. Just as we get under-way again, a sound very alarming to us comes from the bottom of the glen. The other men are following and calling to us to return, and if they reach us and employ force, we are helpless—three against five. The Schelleugh soldiers again yield to fear, and entreat us to come down. We push on for another hour and make little perceptible way. The summit looks close, and so deceptive is the distance that we think we can reach it in a quarter of an hour! Misty clouds come over and obscure the summit, and snow begins to fall. We feel discouraged, but the object of our journey is so near that we determine to press on. In another half-hour we again see the top for a few minutes, but only a little nearer, and it is soon obscured by driving storms of snow. During an anxious hour, divided between hope and disappointment, continually pulled back by the Schelleughs, and half blinded by cutting sleet and snow, we clamber to the top, and I just manage to cross the rounded ridge, my clothes covered with frozen snow, and my beard a mass of ice. The Thermometer in my pocket which usually stands at 84° is down to 40°, and in the air stands at 24°, and this within sight of the scorched-up Plain of Marocco. The falling ground in front is the slope to the south of the Atlas watershed, leading to Sous, Taradant, and the great Sahara. We stand where no European is known to have been—on the summit of the ridge of the Great Atlas, 12,000 feet above the sea level. This is probably the highest mule pass in Africa, and higher than any in Europe. The cold, intensified by driving snow, is so trying, that we cannot stop a minute, so we turn again northwards,

and begin to descend, reaching Arroond on foot at half-past five.

We have heard much of the arbitrary exactions of the Sultan, an instance of which comes under our notice in this remote valley of the Atlas. After the usual visits to Dr. Hooker for medical relief, a number of women rush into our house, bringing a live sheep, as a present to the Hakim, which they immediately kill in the apartment I had appropriated as a bedroom. Nine men belonging to this and an adjacent village are in prison at Marocco for an alleged arrear of taxes. The women with the sheep are their wives and daughters, who have come to petition Dr. Hooker to intercede with Governor El Grawy for the liberation of the men in prison, which he of course willingly promises to do. They leave two Arabic letters on the subject of their captive relatives, and kiss us on the knee as they pass out.

This incident suggests a degression from my narrative for a brief reference to the political condition, and some of the manners and customs of Barbary. One of the most striking features in the condition of the country is the absence of any political status in the mass of the population. The soil is nominally owned by the Sultan. There is no hereditary nobility: all offices are directly deputed from the Sultan's sovereign will; and there is not even the shadow of any of the rights of citizenship. The natural strength of the nation is thus isolated from the governing power, which weak at its centre, grows weaker and weaker in its outlying deputies. It is not therefore surprising to find that all the elements of good government are wanting, and that whether taxes have to be collected, or crime suppressed, it is only by the infliction of cruel punishments, and the exercise of despotic tyranny, and petty intriguing, resorted to by all in power from the Sultan down to his meanest official.

The weakness of the central authority, and the semi-independent position of the provincial governors offers a constant temptation to revolt against the Sultan, and to wage war with each other; the power of the chiefs being backed up one day and undermined the next, according to the will and political interests

of the Sultan, there is virtually no permanent authority, even of a feudal kind: and add to this the utter moral debasement of the people, and the continual thirst for avenging old wrongs which every official during his short term of power has committed, it is only to be wondered at that the country has anything bearing the semblance of an organized government. It is subdivided into provinces of about the size of an English county, each of which is governed by a Kaid, who acts as chief magistrate and military chief, and under him are the Sheiks of villages, who exercise a subordinate jurisdiction. The recognised punishments in Barbary are—for high treason and successful revolt, crucifixion. The culprit is nailed against a wall facing the sun, his feet touching the ground, and a strong iron band secured tightly round the head. The body is left on the wall, and often dries up by the heat of the sun without decomposition. Murder is punished by shooting through the back, followed by decapitation, and the head is nailed up over the gate in a prominent part of the town. Highway robbery is also punished by death. Petty larceny by flogging, which is also the preliminary of all other punishments, and more serious cases of robbery and theft by the amputation of the right hand and left foot: respecting this punishment Mr. Freeman Rogers, for many years resident in Barbary, has given me a thrilling description of the dreadful scene he witnessed at Tangier in January, 1867. Of the cruel tortures often resorted to in Barbary for the exaction of accumulated wealth, and for political purposes, I could give many painful instances, such as the crippling of the hand by a cautery of quick-lime and salt, pounding to death by iron shot, sawing asunder, and confinement in the “wooden Djelabia,” a box lined with nails, and other grievous inflictions;—but I will turn to a pleasanter subject, and narrate the procedure at a Moorish wedding, described to me by Mrs. Freeman Rogers, one of the few European ladies who have been permitted to witness the ceremony.

Moorish women whenever they appear in public, or in the society of men, have their faces closely covered up; courtship is

entirely forbidden by the Mahometan religion, and the husband till after the marriage ceremony, is not even allowed to see or converse with his bride elect. The selection of a wife is generally determined by her dowry ; if his choice is decided by her personal attractions he has to depend second-hand on the advice of his mother and sisters, or the female slaves who wait on the Moorish ladies. His choice having been made, he formally demands the hand of the lady from her father or guardian, or the brother of the bride elect, who then announces to her who is to be her future lord. Previous to her consent having been obtained, she is concealed in a room where she can see the claimant for her hand without being seen by him ; after her approval, her female friends assemble to congratulate her on the happy occasion, and bring presents of wheat, almonds, sugar, oil, eggs, butter, sheep, and fowls, for the marriage feast, and as a token of their good wishes that the house may abound with plenty. The bride elect now sits in state for eight days, on each of which she has a change of dress. She takes her seat on a dais covered with scarlet velvet ; on the first day she is robed in a dress of scarlet cloth, and a tunic of lace profusely ornamented with jewels. Her ankles and wrists are adorned with heavy bracelets of gold, varying from half a pound to a pound in weight. Her waist is encircled with a silk belt, embroidered with gold lace. Her hands and fingers, dyed with *hennah* in delicate network patterns, are covered with massive rings : from her ears are suspended large rings and gold ornaments, in the shape of books and other fancy devices, enclosed in which are short passages from the Koran. Her luxuriant hair is simply divided into two plaits, which are heavily ornamented with massive gold chains. There is also another chain pendent from her head composed of gold coins linked together, which forms a festoon on either side, reaching to the floor. Her head-dress consists of a sort of crown or tiara of silk, covered with ornaments of gold and precious stones, and she wears slippers of green velvet ornamented with gold lace ; and over all this rich array of ornament she is loosely enveloped in a



profuse lace veil, which comes down to the ground. Thus magnificently attired she sits immovable, and receives the congratulations of her female friends, who sometimes number a couple of of hundred. Immediately in front of her are a couple of massive silver candlesticks, in which are placed two immense candles, six feet high, and as thick as your arm, as a protection against the "Djinnns," or evil spirits. A space is left between her and her assembled friends, in which a number of female slaves dance in strange evolutions, each bearing on her head a brass tray full of cups of tea. On the second day her scarlet dress is changed for pink; on the third day she appears in blue, on the fourth day in white, on the fifth day she does not appear, but devotes herself to rest; on the sixth day she dresses in green, and on the seventh day in orange, and on the night of the seventh day goes to the baths (*hummums*) with several hundred ladies as a guard, arranged in a procession two deep, enlivened *en route* by a repetition of shouting and singing. On the eighth day she appears in white, and in the evening she is taken into a corner of the room in which she sat in state, partitioned off by a sheet, where all her ornaments are removed, and put into a box. Four black women now take a sheet and hold it low by the corners, and under it the bride, dressed in white, her mother, and her sisters creep and commence a simulated lamentation, Her brother then knocks at the door, which is a sign to the lady friends to cover their faces. The bride is now enveloped in a white dress, a piece of plain muslin covering her face, and a bunch of laurel leaves is placed on each side of her head. She is taken from under the sheet and stands with her back towards the door, which is then thrown open with violence. Her brother enters, and addressing her by name in Arabic, says, "Your lord awaits you! your lord awaits you! your lord awaits you!" the bride keeping up the simulated crying. After the third repetition the brother places her on his shoulder and carries her to a white horse which is in waiting outside the door. She is seated astride with her younger brother behind her, and remains at the door of her parents abode half-an-

hour, during which time blank shots are fired at her. The procession now wends its way to her future home, the firing being continued, accompanied by music and singing, all the friends following in attendance. She is now lifted from her horse by the elder brother, and her mother conducts her to an inner room, and places her on a velvet cushion, and remains with her for a few minutes till her husband enters. The bride's face is now uncovered; her lord kneels before her, kisses her hand, and bestows upon her presents of anklets, bracelets, and other jewellery. The ceremony is now concluded, and the mother of the bride retires, closing the doors of the house. At this wedding the bride belonged to a wealthy family. She was sister of Bohdjema, the late Kaid of Chedma, and Mrs. Rogers says was a very pretty girl. A dinner was given on the fourth day of the wedding ceremonies, to which a few Europeans were invited. The weddings of the poor are conducted with much the same display, and when gold jewellery cannot be provided, ornaments of brass are substituted.

To return to my narrative—On May the 17th, the day following our ascent of the Atlas, we leave Arroond and descend the valley to our camp at Asni, where we receive letters from the Governor of Marocco, and orders for a guard and “Mona” on my homeward journey. Dr. Hooker and Mr. Ball are undecided as to their future route, so they accompany me on my first stage to Sectana, a village on the Atlas plateau.

May 19th opens with a lovely morning, bright and shining after the recent rain, and a splendid view over the Atlas; the full range of which is covered down to a height of about 8,000 feet with a fresh mantle of snow. I start homewards at half-past ten, accompanied by two of the Sultan's soldiers as a guard, and my three Moorish attendants, leaving with regret our party, who bid me a hearty farewell, and exchange the pleasures of good company for the charms of isolation, and a solitary journey of 140 miles over the great Plain without an interpreter.

After passing through some fields, I arrive at the edge of the

narrow tableland forming the buttress of the Atlas, enjoying the most comprehensive view we have yet had; behind me is the great snow-clad chain, lit up by the most brilliant sunshine, and in front, at a depth of 2,000 feet, is the glowing plain of Marocco spread out like a map, with the picturesque limestone escarpment as a foreground, down which we wind, amid beautiful olive groves and Moorish villages.

On this and the three following days I pass over the great Plain occasionally sleeping at the houses of the village Sheiks and sometimes camping on the moist oases which redeem the Plain from barrenness, rich with fig trees, olive groves, and pomegranates in gorgeous flower, forming a lovely combination of various shades of green and scarlet, and then again cross over the stony Plain. The Great Atlas dies away ghost-like behind me in the heated haze, and the Plain in front trembles and flickers in the glowing heat, throwing up the hills to the west into island-like masses from the horizon. There are no trees except the thorny Zizyphus Lotus, these covered with festoons of snow-white snails (*Helix lactea* and *Helix explanata*) look like white "May" at a little distance, and form a remarkable feature in the strange landscape. The desert partridge and red-legged partridge rise as our cavalcade passes, and now a flock of great bustards scatter away over the Plain. Great green lizards and others, armed with thorny scales slip about, and young locusts pelt like hail over the hot stones. The ground for many miles is completely honey-combed with the burrows of a small fawn-coloured rat, into which the feet of our mules constantly break, and a multitude of narrow slit-like openings of about the size and shape of the human mouth, lead down to scorpion holes, and scorpions wriggle away from every third or fourth stone we turn over. Doves swarm by hundreds in the groups of trees on the oases, and fresh water turtle abound in all the streams. The country though so parched and barren teems with life, and the fauna presents a more decided contrast with that of Europe than does the flora. There is a general resemblance between the assemblage of plants of the south of Spain and that

of Barbary, but in enumerating the quadrupeds and reptiles of Barbary, we miss more than half of them on the European side, although the two coasts are in such close proximity. The lion, two species of leopard, the hyena, jackal, antelope, ground squirrel, two species of ape, the cobra, puff-adder or asp, &c., are found in Barbary almost within sight of Europe, and their absence from Spain under a similar climate can only be accounted for as the result of the narrow barrier of the Mediterranean straits shutting off intermigration.

On May the 22nd I re-enter the Argan forest, and after sleeping at the Chebna caravansary, start, on May 23rd, on my last stage to Mogador, first passing through the rest of the Argan forest. The soil gradually gets more sandy, and we are evidently approaching the coast. At 1 o'clock we reach the back of the sand-hills, and on ascending to their summit suddenly come within sight of Mogador, three miles off, and there lies a steamer in the harbour! My attendants at once exclaim in Spanish "Vapor Ingles;" or "English Steamer;" but I am still in doubt whether it is homeward or outward bound. I press on over the tedious sand-hills with one of my soldiers, leaving the baggage to follow, and reach the gate of Mogador at two o'clock, where I ascertain from a Jew that the steamer is the "Greatham Hall," bound for England to-night. I hasten on to the British Consulate, where I narrate to Mr. and Mrs. Carstensen our adventures of the past month. I rearrange my luggage, meet my liabilities, dismiss my guard and attendants with "Bakshish" and friendly farewells, and at sunset go on board the "Greatham Hall," and arrive at the St. Katherine's Docks exactly three weeks to an hour from leaving the summit of the great Atlas.