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A FIFTH JOURNEY IN PERSIA.*

By Major P. MOLESWORTH SYKES, C.M.G.

I.

IN the autumn of 1902, after an absence of about two years, during which I had been able to compare the plateau of the Karroo with that of Irán, I reached Bandar Abbás, which port had already served as a starting point for previous journeys. There was a feeling of progress in the Persian gulf, mainly due to the impending inauguration of a quick service, which would bring Bushire to within about five, instead of eight, days of Karachi. Bandar Abbás was, however, not to enjoy the direct benefits of this boon; but three years later its isolation was terminated by the construction to it of a branch cable from the island of Henjám. "Better late than never" is a proverb particularly applicable to this step, and one can now hope that, in spite of its bad climate, the importance of this port will gradually be recognized by the various British firms who trade with Southern Persia.

We steamed slowly to the anchorage before dawn, and I was much struck by the imposing, if forbidding, nature of the scenery, and indeed Bandar Abbás is singularly favoured in this respect. In the foreground, some 3 miles distant, the Arab-like town stretched parallel to the sea-shore, backed by a wide expanse of "painted" desert, if we may apply the epithet used in America, behind which Kuh-i-Gináo and Kuh-i-Nián rise sheer to a height of some 7000 feet, and constitute gigantic portals to the caravan routes which ascend to the Irán plateau. Indeed, compared with Bushire, it may be said that Bandar Abbás is situated close to natural gates leading to Persia, whereas Bushire is

* Read at the Royal Geographical Society, June 18, 1906. Map, p. 429.
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set down at the foot of a wall which has to be climbed by means of ladders. In due course of time geographical will overcome artificial advantages, and, unless I am mistaken, Bandar Abbás will ultimately become the chief port of Southern Persia.

Owing to the continuance of plague in India, we were quarantined near Naiband, a hamlet some 3 miles to the east of the port; but, thanks to the kindness of H.M.'s Consul, Major Grey, our discomfort was considerably alleviated. When released, we visited the governor in what was formerly the Dutch factory, but is now the custom house. It is interesting to know that Bandar Abbás occupies a site on or near the mediæval Suru or Shaheru, which, at the epoch when Hormuz was in the hands of the Portuguese, became celebrated as Gombrun, this word being a corruption of the word *gumruk*,* or custom house. In fact, the mediæval history of the Persian gulf reveals a constant change of ports. Under the Abbaside caliphs Siráf (now Táhiri), due south of Shiráz, was the chief emporium. In time it yielded its supremacy to the island of Keis, which, in its turn, was beaten in the struggle for commercial supremacy by Hormuz and Bandar Abbás.

For some years I had been anxious to travel over the section of country between Rudbár and the Persian gulf, which had, I believed, been traversed by the illustrious Venetian, Ser Marco Polo. Consequently there was no uncertainty as to the route to be pursued, and, after overcoming the usual transport difficulties, our party, which included my cousin, Mr. H. R. Sykes, whose photographs illustrate much of this paper, started off on the 300-mile journey to Kermán.

Four marches across the level plain and along the slopes of the Kuh-i-Nián brought us to what is now termed the Navargun pass, which, like all the low ranges near the Persian gulf—its altitude is but 1400 feet—proved somewhat difficult to negotiate, both from the badness of the track and the absence of water. There was also a fair chance of an attack from Bashákirdi raiders, who are now armed with Martinis, and are thus an unpleasant race to meet when lying in ambush in a narrow defile. That there is a fine historical continuity in their proceedings is proved by referring to Ser Marco, who wrote, "And then you come to another descent some 20 miles in length, where the road is very bad and full of peril, for there are many robbers and bad characters about."† On the eastern side of the Navargun pass, Rudán, which is a remote district of Fárs, had to be crossed. Its name has remained unchanged since the epoch of Ibn Haukal, who wrote in the fourth (tenth) century. Down its

* *Gumruk* is itself a corruption of the Greek *κουμρεκί*. Vide 'The Lands of the Eastern Caliphate,' by Guy le Strange, p. 319. This is a work to which I am much indebted, and I have at the same time, by my travels, been able to contribute something to it.

† Vide Yule's 'Marco Polo' (3rd edit.), vol. 1, p. 107.

centre flows the Rudkhána-i-Duzdi, or "River of Theft," which is the principal tributary, if not the main stream, of the Mináb river; it is the Nahr-i-Zankan of Mukaddasi, who was a contemporary of Ibn Haukal. In 1898, on my journey across Bashákind, I had camped at Birinti, the village at which the junction of the two bodies of water is effected.*

After crossing the brackish river and the stony valley of Rudán, we reached the district of Rudbár, which forms a part of the Kermán province. Its Governor welcomed me at Gulashkind, the Lashkind of Ibn Haukal, and we rode up a charming gorge lined with date palms, down which ran one of the rare streams which are so highly prized in dried-up naked Irán. Indeed, for the last two years, dread drought, with its attendant, gaunt famine, had held sway in South-east Persia, so much so that the purchase of supplies of forage and food for our caravan was effected with the greatest difficulty. Moreover, owing to the drought, there was no game in Jiruft, and, one way or another, we were glad to hasten across the Jabal Báríz range, the passes of which might be blocked by snow at any moment. In short, as we were travelling at the coldest season of the year, and had much sickness and one death in the party, our arrival at Kermán in the middle of January, without being caught in a blizzard, was a matter of congratulation.

When I had left Kermán in 1900, the Church Missionary Society had but one representative in the shape of a clergyman; but when I returned, I found Dr. J. O. Summerhayes established in a small hospital, and engaged in performing a series of operations which formed the universal theme of conversation. Opinions differ as to missionary enterprise; but there cannot surely be two opinions as to the value of medical work which creates beneficent centres throughout the dark places of the world, and, incidentally, saves the lives of hundreds of Europeans. Apart from that, the hard-working, self-sacrificing life led by missionaries in Persia appeals to whatever is noble in the people with whom they are brought into contact, and, in the East at any rate, it is character which raises or lowers the prestige of the European, who is, and will ever remain, a numerically insignificant unit. Kermán had been suffering a good deal from the two years' drought, but this had fortunately coincided with a boom in carpets, which had materially assisted the prosperity of all classes. As a natural consequence, every one set up a loom, the weaving deteriorated, and a heavy slump ultimately set in, which was, perhaps, just as well from every point of view.

During the summer of 1903, I made a short tour southwards to the summer quarters of the Buchákchi† tribe, which consist of elevated

* *Vide Geo. Journal*, February, 1902.

† The Buchákchi tribe, with its three divisions of (a) Sarsaidali, (b) Kara Saidali, and (c) Khursali, is of Turkish origin, and is numerically weak, only aggregating 150 to 200 families.

rolling downs and charming valleys on both sides of the main range of Southern Persia, known in this section as Kuh-i-Bidkhán. Quitting their breezy uplands, we traversed the Afshár* country, where I was visited by its chief, Hasan Khan, who, in many ways, was a typical patriarch and one who loved the old order of things, when might was right. The old gentleman was full of complaints against the powers that be; but, as members of his tribe were generally the culprits in cases of raiding, one felt that, in this question as in many others, there was more than one point of view. The Afshár tribe is famous as having supplied a sovereign to Persia in the person of Nádír Sháh, who is referred to later on in this paper. Curiously enough, Khorasán, which was their headquarters, has been entirely deserted by the tribe which, while possessing important offshoots in the south of Persia, chiefly occupies the district between Kazvín and Zanján.

My meeting with the Afshár chief had taken place at the hamlet of Hushun, situated near the range of very low hills which divides the basin of the Halíl Rud from that of the great *Kavir*, or salt swamp of Persia, a term to which reference will again be made in this paper. From this point we swung due east to Báft and Bezinján, the latter district being the headquarters of the Lak tribe. The Lak claim our interest in that they are undoubtedly among the most ancient of Persian tribes. One of their divisions is termed "Zand," and they claim that the tribe was constituted the legal guardians of the Zoroastrian scriptures, which are commonly, but erroneously, known as the Zend-Avesta. A member of the Zand tribe ruled Persia after the death of Nádír Sháh, before the rise of the present dynasty. Indeed, but for the folly of his successors, the Zand dynasty, which Kerim Khan founded, might have continued paramount in Persia for many years. To-day the Lak are held, and not without reason, to be inferior to the average Persian. They are also said to be born thieves, whereas the Persian villager is extremely honest. So much so was this the case that, when the Persian guard of the Kermán Consulate was composed of men furnished by the Lak, they were invariably changed. It seems hard to give such a bad character to a tribe which can boast of such an ancient lineage; but, after all, the fact that they have been conquered by alien races tends to show that they furnish but yet another example of that decay which affects peoples as well as individuals. The whole country was in the throes of an invasion of locusts; but, owing to the abundant spring rains which had fallen, the crops were mercifully spared, and

* The Afshár tribe is also of Turkish extraction, and in the Kermán province alone there are 8000 to 10,000 families, the tribe being subdivided into seven subdivisions, viz. (1) Ali Ghazalu, (2) Kásimlu, (3) Jalálu, (4) Amui, (5) Pír Morádlu, (6) Ján Kuli Oshági, and (7) Fársi Madán. The headquarters of the tribe is the Kuh-i-Khabr. In summer they feed their flocks and till the land on its northern slopes, and in winter they move to its southern slopes.

the countless marauders contented themselves with stripping the bushes bare, and thus did but little harm to anything but the grazing. From Bezinján we skirted the Lalazár range as far as Rahbur, whence we turned due north and returned to Kermán before the hot weather finally settled in.

In the autumn Kermán was reached by the Central Persia telegraph line, about which I propose to give a few details. The main Indo-European line runs across Germany, Russia, and North-west Persia to Tehrán. Its onward course from the capital lay due south, and at Bushire cables had been laid down the Persian gulf to Jask. Thence one cable ran to Karachi *viâ* Gwádur; but there was also a land line which, more or less, followed the coast throughout the entire length of Makrán. So far as Persia is concerned, this alignment followed two sides of a triangle, and as cable transmission is slower and more expensive than a land line, it was decided to construct a new line, branching off at Kashán, and thence running *viâ* Yezd and Kermán to Bam. From Bam the Lut, the great desert of Persia, had to be crossed to India. Work was commenced at Kashán in December, 1902, and as far as Yezd, a distance of 237 miles, the rate of progress was 15 miles per week, which, in the Yezd-Kermán section of 220 miles, was increased to 20 miles per week. Kermán was reached in October, and by January, 1904, the line was completed as far as Bam. Here the three-wire section terminated, and, as there was much difficulty in selecting the most suitable alignment across the Lut, a single line was experimentally run between Bam and Kuh-i-Malik-Siá, the extreme north-west frontier of the Indian Empire. Two points, apart from the credit due to Mr. King Wood and his staff, are worth notice. The first is that the carriage of the material slightly exceeded its value; and, secondly, that Bandar Abbás handled more than one-half of the material, whereas the transport on the Bushire-Shiráz route broke down utterly under the strain. To conclude this necessarily brief sketch of a very difficult undertaking successfully carried through, the benefits of this line, from the point of view of the European communities in Yezd and Kermán, are great; but farther east, too, its advent will, I anticipate, prove of value in stimulating and protecting trade, as, owing to the fact that acts of brigandage or illegal seizure can be immediately reported, a telegraph line plays a considerable part in the pacification and development of any wild country which it may traverse, and this is particularly the case as regards Persia and Baluchistán. Indeed, it is not too much to expect that, thanks to its beneficial influence, the long-disused caravan routes between Southern Persia and India may be brought back to life. Baluchistán will also be a great gainer by the new state of affairs, and its inhabitants may possibly develop some commercial aptitude.

II.

In the spring of 1904 a short tour was made to the north-west and west of Kermán, the idea being to visit various parts of my district, which had hitherto escaped me. We first followed the Zarand road to the village of Zangiábád, which lies some 15 miles to the north-west of Kermán city. The whole district is termed *Kavir*, and certainly, as Marco Polo, who also followed this route, wrote, everything is very salt. Where the "Father of Geography" met with no water for three days, there are now villages fed by the underground irrigation channels, known as *kanáts*; but even so the water is brackish and unpleasant

BANDAR ABBÁS FROM THE SEA.

to drink. Indeed, the more one travels in Persia, the more one admires the patient industry which successfully overcomes the grudging hand of Dame Nature, who is here revealed in square miles of level salt-covered soil, on which nothing whatever grows of itself, but where man, nevertheless, manages to produce good crops of wheat, barley, and lucerne.

From Zangiábád we kept more to the west, and, the third day after quitting Kermán, rode into Kakh, the capital of Khinámán, which I had explored in 1900, and where the interesting bronzes referred to in the last paper which I had the honour to read before this Society were found. I had at that time been told of a bronze axehead identical with the one then given me, but surmounted by a lion and a grotesque

animal. My host, in the meanwhile, had recovered it from a servant who had stolen it, and I have much pleasure in exhibiting it to-night.

Leaving our camp at Kakh, we rode some 8 miles east to a secluded hill village known as Argus, which is said to be a corruption of Arjásp, king of Turán, who was the great enemy of the founder of Zoroastrianism. Its altitude was considerable, and from the top of the valley the eye scanned terrace after terrace of emerald-green crops. Below, in the dim distance, lay the yellow *Dakk*, as the level area between Bághín and Kabutar Khán is called. This range is said to contain several deposits of coal; but although fuel costs fabulous prices at Kermán, I failed to induce any one to take the question up.

After saying good-bye to our hospitable host, the Khan of Khinámán, we travelled west along the edge of the hills to Dávarán, which lies some 20 miles due north of Bahramábád, on the Zarand route, and, the following morning, we examined one of the wonders of Kermán which I had heard of for many years, but had hitherto not been able to visit. This consists of a circular hole in the desert some 90 feet in diameter, closing to an oval-shaped fissure some 20 feet by 10 feet, which was unapproachable. Stones thrown in by us struck water, which must be of considerable volume, as camels are frequently carried away by it. Water is the first need of Persia, and it is to be hoped that this underground river, known as the Chah-i-Daria, or the "Well of the World," may some day be tapped to the great advantage of the district.

From this interesting phenomenon we rode down to the plain of Rafsinján, a district which I had previously traversed more than once. In mediæval times the whole of this valley as far west as Anár was termed Ar-Rudhán, the chief town of the district bearing the same name being at or near the modern Kushkuh, where there are extensive ruins. Bahramábád, the capital of the modern district of Rafsinján, was the mediæval Unas, which was visited by Mukaddasi, and was famous for its fullers. To return to modern times, during the last decade there has been an extraordinary increase in the production of pistachios, which form the chief export of Rafsinján. Ten years ago these delicious nuts, which thrive best in salty land, and are grown on small and gnarled trees with a sage-green leaf, were produced to the extent of 120,000 lbs. only, but to-day the output is tenfold. The Rafsinján pistachios are possibly the best in the world, and it is well that there are some compensating advantages in the salt lands of Persia.

We spent three days with the Governor of Rafsinján, who was an old friend, and then travelled south to Páriz, up a valley thick with tamarisks, where, in the late autumn of the same year, we enjoyed excellent hare-shooting. Páriz is the centre of a small hill district bearing the same name, and dividing Rafsinján from Sirján, which latter district is as famous for its almonds as the former is for its pistachio nuts. The district occupies the rolling hills of the great

mountain barrier, and in spring and summer it forms a charming retreat from the heat of the plains, the former season revealing a wealth of blossom on a species of bush known as *Badám-i-kuh*, or "hill almond," which for once justifies the glowing panegyrics of Persian poets. *Páriz* has, however, the misfortune to be situated on the borders of *Fars*, and is thus much harried by robbers. One band of these gentry attacked my advance camp, but, receiving a warm welcome, speedily retired, and I espied them in the distance the next day, observing our party from the crest of a hill.

The speciality of *Páriz* is *gaz*, which merits a description if only for the fact that it is popularly identified with the manna of the Book of Exodus. *Gaz* is the usual name for the tamarisk, which is common in the stony watercourses of Persia. During the summer months a white sticky substance exudes from it, which is collected and cleaned, and, after mixing with flour, and sometimes with honey, is boiled with almonds or pistachios. The result is a delicious sweetmeat, resembling but excelling the best *nougat*. Chardin was, as far as I know, the first traveller to identify the above with the manna of Holy Writ. He describes the *gaz* near Isfahan, which is famous throughout Persia, as follows: "The leaves of this tree about Isfahan do in summer drop this liquid manna, which they pretend is not dew, but the sweat of the tree congealed upon the leaf." * Chardin refers to three sorts of manna, but subsequent travellers have apparently accepted the view that it is the exudation from the tamarisk. However, when I was studying the Koran, my teacher insisted on translating the word *mann*, or manna, by a word referring to a similar exudation from the camel thorn, which is still collected, more especially in the Turbat-i-Heideri district of Khorasán, and forms an object of export. *Turanjabin*, as it is termed, is a yellowish exudation, and is used by the Persian faculty for various diseases. If one reads the passages referring to manna in the Book of Exodus, and takes into consideration the nature of the country, which was then, as to-day, covered with scrub, it seems more reasonable to suppose that the substance was gathered from the bushes surrounding the camp than in the comparatively rare watercourses. Persians insist that *turanjabin* was the manna of Holy Writ, and, as far as I can judge, they are right.

The little town of *Páriz* must occupy one of the most elevated sites in Persia, situated as it is at an altitude of 7500 feet. Above it lies a carefully tilled valley, which is beautifully wooded with fine old walnuts, mulberries, and willows, and behind is the lofty range of *Kuh-i-Mamsar*. Quitting this charming little town, perched above the yellow plain of

* *Vide* 'The Travels of Sir John Chardin in Persia,' vol. 2, p. 35. Chardin mentions that "the best is of a yellowish colour, a large coarse grain, and comes from Nichapour, a country of Bactriana." This is undoubtedly a reference to the manna of the Turbat-i-Heideri district, which touches that of Nishapur.

Sirjān, we skirted the Mamsar range in an easterly direction and joined the Sirjān-Kermān route at Bid-i-Khab, where we were detained by heavy rain. When progress was again possible, we crossed the Khan-i-Surkh pass at an elevation of 8500 feet. Close by to the north is a remarkable jagged peak, which is visible for about 100 miles from the west. This pass was crossed by Gill, many years ago, in his journey across Persia, and, although thus not new ground, it was particularly interesting to me personally, as it was the only pass in the ranges to the south and west of Kermān which I had not examined. Like the Gudār-i-Kafanu to the south of Kermān, I found it extremely easy as regards gradients, although it is frequently blocked by snow in winter. Heavy hail-storms and bitter weather at the end of April made us glad to reach lower altitudes, and, after passing through Mashiz, which I have previously described, we returned to our headquarters almost simultaneously with the arrival of M. Alexander Miller, the distinguished Russian official who was commissioned to found an Imperial Russian Consulate at Kermān.

III.*

The summer of 1904 was mainly spent at Māhun, and I took advantage of the opportunity to examine in detail its famous shrine, which I have not previously described, but which deserves mention, from its historic interest, and still more on account of its architectural beauty. Indeed, outside the chief cities of Irān there is no shrine comparable to this artistic village tomb, which affords a striking example of the decorative value of ceramics in certain styles of architecture. Tiles are slowly but surely gaining favour at home too, and will, it is to be hoped, aid in dispelling somewhat of the unnecessarily dreary appearance of even the main streets of London, as every shower of rain helps to cleanse them from the grime which is so terrible an eyesore.

To return to our subject, *Seiid* Nur-u-Din, better known by his title of *Shah* Namat Ulla, was the son of Mir Abdulla of Aleppo, in which city he was born in A.H. 730 (1330). He was a descendant of the Imam Bākir, and in his extreme youth began a series of travels, visiting Kerbela, Mecca, and then Samarcand, where Tamerlane treated the saint with high distinction. Ahmad Shah, of the Bahmanid dynasty in the Deccan, also became one of the devoted followers of the spiritual *Shah*, who, after years of wandering, chose Māhun as a retreat for his old age. Many of the saint's prophecies are still current in Asia. One of these, to the effect that Christianity would rule for a century in India, and be succeeded by Islam, undoubtedly had something to do with the Indian mutiny; and a second prophecy, foreshadowing a great battle for the

* This part of the paper was read before the Geographical section of the British Association in 1906.

supremacy of Asia, which is to be fought on the Dasht-i-Bakwa, about halfway between Kandahár and Herát, is seriously believed throughout the Middle East, and is indeed remarkable if only for the site selected.

We were readily shown over the shrine, which is approached down the stony watercourse bisecting Mahun. This highway is arched over at a particular point, where the building on the left bank forms the residence of the *mutawali*, or "custodian," who is comfortably housed in the quarters erected for the use of pilgrims. On the right bank is the shrine, in front of which two gigantic plane-trees give that particular touch which, in conjunction with bright sunlight, shows tiles at their best. The main gateway is supported by two *minars* with a pre-

A TYPICAL MOUNTAIN TRACK.

dominating blue-green colour, which has a finer general effect than when inspected in detail. The oblong courtyard, which is first entered, together with the gateway, was erected by order of Mohamed Shah of Persia. His cypher appears in imitation Kufic lettering, and runs *Shah-in-Shah Anbiá Mohamed*, or "the King of Kings of the Prophets (was) Mohamed." The date is A.H. 1287 (1871).^{*} A second courtyard, the gift of *Seiid Nisa*, an Indian disciple of the sage, is then traversed, and from it the actual shrine is entered. The blue dome is particularly fine when seen from this second court; indeed, the whole building, consisting of a central chamber supported by galleries, strikes one as

^{*} Mohamed Shah himself died in A.H. '1250 (1834), but the work was carried out in his memory.

being remarkably well proportioned, and is eminently pleasing. The western gallery was constructed by Shah Abbás, and must have been gorgeous at the date of its completion, which, as an inscription over the entrance shows, was in A.H. 999 (1601). Even to-day the frescoes of flowers which survive are beautiful specimens of Persian art. The tomb of the saint is situated beneath the dome, and here we are in the original structure, which was erected by Ahmad Shah, of the Bahmanid dynasty. Again a date was forthcoming, A.H. 840 (1437) being clearly decipherable over the beautiful doors of sandal wood, which now, alas! are falling into hopeless decay.*

The actual tomb is of yellow marble very roughly fitted together, and the floor was, when I first visited the shrine, covered by a superb carpet with a pattern of fine dark brown medallions. The date woven in it was A.H. 1067 (1656), and this unique product of the Kermán looms was purchased for a few pounds by an enterprising Hungarian in 1895. The tomb of *Shah* Khalil Ulla, grandson of the saint, is to the south of the main tomb, and is surrounded by a yellow lattice. The eastern gallery opens on to a lovely courtyard, with a cruciform tank of limpid water containing an interior octagonal tank. As the date shows, both the gallery and two smaller minarets were completed, or more probably restored, in A.H. 1287 (1871) by the Vakil-ul-Mulk, at that time governor-general of the province, who forced the then *Mutawali* to provide the funds. So much for the shrine itself, but its interest does not cease at this point, as in it was deposited the single relic of Achæmenian times which existed in South-east Persia. This was a small pyramid some 6 inches in height, with a tetragonal base, black in colour, and probably carved from a block of limestone. One side was blank, but on the other three was a finely cut inscription in Persian, Assyrian, and the language of Susa, which ran as follows: "I Darius, the Great King, King of Kings, the King of the Countries, King of this land, son of Hystaspes, the Achæmenian." I had heard of the existence of this little pyramid from reading Gobineau's work, but no one seemed to know anything about it at Mahun, and so the matter dropped. My Russian colleague was, however, more successful, and was able to obtain photographs of this interesting stone. But, alas! his success was fatal in one respect, as news of its existence reached Tehrán, whence peremptory orders were telegraphed for it to be sent to H.I.M. the Shah. My latest information on the subject of this Achæmenian relic is that it never reached Tehrán, but disappeared between Kermán and the capital. It is, consequently, most fortunate that it has been both photographed and deciphered before perhaps being lost for good. I understand that magical healing powers were attributed to this little block of stone, and that it was applied to the

* Ahmad Shah ascended the throne in A.H. 825 (1422), and died in A.H. 838 (1435).

bodies of sick persons suffering from any and all diseases with wonderful effect. To conclude this brief description, after repeated visits to the shrine, it possesses a charm for me which is perhaps due to the combination of tiles, greenery, and running water, glorified by the turquoise blue of the Persian sky, which I have never seen equalled elsewhere, and whenever I reflect on an ideal scene in Persia, my thoughts invariably revert to Máhun.

The event of the winter of 1904-5 was the arrival in South-eastern Persia of a commercial mission under Mr. A. Gleadowe Newcomen, which landed at Bandar Abbás in October, 1904. I met their camp at Sirján, and conducted the party *viá* Páriz and Bahramábád to Kermán, where inquiries were made which kept us fully occupied until the end

THE LALAZÁR RANGE FROM THE SOUTH.

of 1904. At the same time preparations were being made for a mid-winter journey, much of the success of which depends on the adequacy of arrangements to meet all likely contingencies.

It was January, 1905, when the mission started off on the second section of its journey, the immediate objective of which was Khabís, and as I had never visited the Kermán "Riviera," I looked forward to the journey with much interest. The first stage lay almost due east, the stony track running up to the watershed which divides the Kermán basin from that of Khabís. From the top of this pass we looked down a steep and stony valley to the maze of ranges ahead, and as we were at an elevation of over 7000 feet, we rejoiced to find that rooms in a

dilapidated house had been secured for us at the stage of Darakht-i-Anjirá. The following morning we were up some hours before daylight, as the march was both long and trying, and, starting in intense cold, we entered a grim and gloomy defile shut in by beetling cliffs which towered thousands of feet above. When dawn, that wizard of the East, lightly touched the peaks while we pursued our way in gloom below, it was almost impossible to exaggerate the beauty of the delicate shading laid on these old-time cliffs, which were more especially impressive after our late experience of rolling hills and wide open valleys. This phase of our stage abruptly ended as the track turned up a side valley, crossed a rough neck, and again descended to a second valley, which was full of the ever green oleander, the bane of all four-footed beasts, not excepting the indomitable ass. We lunched at the junction of two streams, under gnarled plane trees, at Dar-i-Sakhti, or the "Gate of Hardness," a most appropriate name, and tasted water which is generally held to be the finest and lightest in the province. But the pass was still ahead of us, and after a short rest we resumed the march, turning up another valley which grew narrower as we proceeded. Suddenly we heard a confused noise to our right, and to our surprise saw the almost perpendicular hillside thronged with donkeys, albeit so distant were they that we thought at first that we were looking up at a flock of sheep. Riding being almost out of the question, we slowly walked up the tortuous track, and were met by caravans of donkeys laden with golden oranges, all painfully stumbling down the precipitous mountain pass on their way to Kermán. At last the summit was reached, when, from an altitude of 7000 feet, we enjoyed a superb view across a succession of rugged spurs down to the illimitable Lut, which, in appearance, resembled rolling ocean waves, but which, instead of uniting, ever divides. Before sunset we were clear of the hills, and encamped near the first palm grove of the plain. But it was long into the night before our mules with the indispensable bedding arrived, and their advent filled us all with joy, as, after a march of fourteen hours, one of the hardest stages in Persia had been successfully accomplished.

Khabís, the following day, lay but a few miles distant, and recalled the epithets bestowed on Damascus, although, perhaps, the blighting Lut should make the traveller approaching its date groves from the east even more appreciative than the Arab who gazes with rapture on the "Eye of the Desert." The day was exceptionally clear, so much so that I was able to recognize a sharp-cut peak, known as Shah Kub, which I had observed when skirting the eastern margin of the desert some five years previously, and which must have been nearly 200 miles distant from Khabís. We were met by the governor and principal residents a few miles out of the town, and were warmly welcomed, as Khabís is so close to Kermán that I knew practically every one of importance. In blinding dust we rode through narrow lanes

between high walls, and finally found our camp pitched in a lovely grove of oranges and palms.

Khabís, situated at an elevation of 1800 feet, derives its name from an Arabic word signifying a sweetmeat composed of dates, flour, and clarified butter, and possesses a population of perhaps five thousand inhabitants during the winter months, and less than two thousand during the summer. As is so often the case, little is known of its past history, but its antiquity is attested by Ibn Haukal, who described it as "a town on the borders of the desert, with running water and date trees;" other writers refer to it as being populous and an important

RUINS OF SUPPOSED NESTORIAN CONVENT AT KHABÍS.

silk centre, its gardens being celebrated for their mulberry trees. There are also references to the district in Seljuk times, and, until the Kájár dynasty was firmly established, it was held by Afghans, whose descendants still own much of the land. Dates are, of course, its staple product, the output averaging 3,000,000 lbs. annually, 70 per cent. of which is carried across the Lut to Khorasán and distant Herat. But the famous oranges of Khabís, the golden fruit of the Hesperides, delight the English traveller still more than the dates. The parent stock is the *bakrai*, which produced a yellow, somewhat insipid orange. On this is budded the *naringi*, or loose-skinned orange, the lime, and the Seville orange, and also the "Portugale,"* or orange generally sold in

* This is, as far as I know, the only trace the Portuguese have left in the language of their long connection with Persia. Cf. modern Greek, *πορτοκαλί*.

Europe; this latter is, however, somewhat scarce. In any case, Kermán owes much to the oranges of Khabís, which are, indeed, transported to Tehrán, specially packed in cotton for the use of the royal table.

The morning after our arrival, we rode out to the east of the oasis to examine the site of an ancient Khabís. Until eighty to one hundred years ago, the entire population was crowded into an enclosure covering some 50 to 70 acres, and surrounded by a bank and strong towered wall, which could doubtless tell many a tale of Afghan and Baluch foray. Outside are the ruins of various buildings, one of which is known as *nakus*, or *akus*, signifying a rattle, which implement was employed by Christians instead of a bell in Mohammedan countries to summon the faithful to prayers. The chief portion now extant is an octagonal brick tower some 30 feet in height. Inside it are tombs,* the stones of which have been carried off and used as facings to water-channels, and the *mihráb*, or place of prayer, is set towards Jerusalem, and not towards Mecca. The kiln-burnt bricks are not of the size or colour now employed, nor have I seen an octagonal tower anywhere else in Persia except at Burj-i-Aga-Mohamed, in Narmashir. Indeed, it is difficult to dismiss the tradition that this was a Christian convent, when we take into consideration both the name of the place and the orientation of the *mihráb*; and, finally, the tower bears a vague family likeness to illustrations of churches in Armenia, which I have seen. I prefer, however, to leave the decision on this knotty point to a more competent archæologist than myself, noting, however, that the Nestorians firmly established themselves in Persia, and that, in the fifth century A.D., there was a Nestorian bishop of Kermán. But it is for the superb view that I shall ever remember Khabís—set on the brink of the tawny Lut, and displaying the rich colourings of its orange and date groves under a cloudless blue sky, the whole picture being backed by the dazzling snows of the mighty range which rises almost sheer to a height exceeding 13,000 feet, and perhaps once set the limits to an inland sea.

From Khabís we had intended to march due south to Bam *viâ* Kashít, the Kashíd of Mukaddasi, and thus keep in the *Garmsir*, or Hot Country; but the question of supplies was paramount, and, in consequence, we were compelled to make for the large village of Gok, situated in an elevated valley parallel to that of Máhun. It is a district where we might expect intense cold, which is so dangerous for natives of India, of whom we had many in our party. Upon clearing the oasis, we marched east-south-east across an utterly arid plain, passing ruins which are said to be all that is left of a Khabís more ancient than the one described. We then swung south and made for the low hills, among which the hamlet of Godiz lay concealed. Behind it we sighted the

* One of these tombs bore the date A.H. 173 (789).

ruined watch-towers and fort of Andujird, which is a charming oasis set in a framework of naked sterility, with a gleaming background of salt. Andujird is an ancient site, and we discovered a tombstone bearing the date A.H. 800 (1397); it is famous for its oranges, which excel those of Khabís. The following morning we entered a maze of deep ravines, some of which, from their sullen gloom, reminded me of Doré's illustrations to Dante's 'Inferno.' In time, however, we rose to the uplands once again, and after a trying march, which included a rise of some 4000 feet, reached the little town of Gok, the Kuk of Mukaddasi. Although it was January and we were in tents at an elevation of about 7000 feet, the weather was comparatively mild, and the musk willow, the earliest of trees in Persia, was out in premature bloom.

We halted a day at Gok, which is famous for its grapes, to allow our advance camp a long start on the route to Tahrud, which was 40 miles distant, the intervening country being absolutely waterless. Fortunately, our loads were light, as otherwise the whole expedition might have broken down, mules being unable to march such a long distance without water when it is hot. We left Gok in the dark, and stumbled down a stony watercourse for some time, until, 7 miles out, the going became good, and we pressed on hour after hour. About 2 p.m. we arrived at the crest of the pass overlooking the Tahrud valley, and by sunset reached our camp, which was only just in, and, as may be imagined, we found man and beast worn out after a march of over thirty hours. The chief anxiety was, however, the fate of the few mules which had been left to follow us with specially light loads; and when they arrived safely late at night one felt most thankful, as a storm in such an elevated district would have been fatal to any weak members of the party.

Bam was reached a few days later *viâ* Darzín, and then the winter set in with extraordinary severity—so much so that, as we afterwards heard, the orange groves of Khabís, of Tabas, and of Mazanderán were all ruined. I have already described Bam as being the most easterly town in South-east Persia and some 700 miles from Quetta, the first town on the British side of the frontier, the entire intervening space being desert. It is situated at an altitude of 3600 feet, and the prosperity of its 13,000 inhabitants mainly depends on the henna of Narmashir. In a *Bam Náma*, or 'Chronicle of Bam,' written about three centuries ago, the *Arba* or "four" cities of Bam are referred to as Darzín, Nisá, Chugukabád, and Jezán Khás. Darzín of to-day is surrounded by ruins and choked *kanáts*, but in the twelfth century of our era formed the theme of a glowing eulogy.* It is situated a stage to the north-west of Bam, as mentioned above. The other three

* Cf. 'Ten Thousand Miles in Persia,' p. 215 *et seq.*, for a description of Darzín and Bam.

cities were in the district of Narmashír, which I had previously traversed in two directions. I had, however, been unable to quit the beaten track, and consequently I was delighted to have the opportunity of exploring these interesting sites at leisure.

The oasis of Narmashír—the Arabs termed it Narmasir—lies to the south-east of Bam, and is especially important from the fact that the main route from Bandar Abbás to Seistán and Khorasán runs across it. When South-east Persia was subdued by the Arabs in the seventh century A.D., its hot climate evidently attracted them, and, so far as can be ascertained, Nisá was their headquarters. Our first stage from Bam lay to the south-east, and soon after entering the Narmashír district, we found the ruins of this Arab city, which are even now most imposing. Its fort, occupying the south-west corner, possessed walls 70 feet in height, which is most unusual in Persia; along the top a gallery ran round the wall inside. We camped at Kuruk, 3 miles to the south-east of the once famous Nisa, and thence rode into the hills to examine the *band*, or dam, which was also equally famous. After a ride of 12 miles we struck a wide valley, down which flowed a river, and at a point where a few rows of pebbles diverted part of the water towards Kuruk was the dam, which thus proved to be no dam at all in the usual sense of the word; and yet there was once a dam here, built, it is said, by Tádud *Khatun*, the wife of the founder of the Sasanian dynasty. In any case, it is in response to this river that parts of Narmashír are as green as Sind, and one could only wish that an engineer might be called in to husband the priceless water, which, in flood-time, not only runs to waste, but causes infinite damage.

One feature of Narmashír is certainly the number of its deserted towns. Kuruk, for instance, which Mukaddasi described as a populous city, was only deserted in the nineteenth century, when Afghan and Baluch raids had become less serious, and the peasantry were able to live on the land. Many travellers point sadly to these ruins as a proof that Persia was once more thickly populated than to-day. They are, I think, mistaken, as it is, on the contrary, a proof that more peaceful, and consequently more prosperous, times have set in, as a result of which it is no longer necessary for the entire population of a district to be gathered into a few strongly fortified towns, such as those I am now describing.

From Kuruk we marched due north not far from the right bank of a sluggish reedy stream, which, taking its rise near Nisa, flows past Fahraj and disappears in the Lut. Villages abounded, but the jungle was thick, and nothing prepared us for the importance of the ruins of Chugukabád, or "Sparrow Town," which we traversed a few miles before striking the main Bam-Rigán route at Azizabád. This was the former city of Narmashír, and Mukaddasi, after referring to its dense population and fine palaces, mentions that Khorasán merchants trading

with Omán made their headquarters in this city. The area enclosed by its walls must, to judge by its extent, have been sufficient to shelter perhaps eighty thousand people. In the centre was a mound, on which were the crumbling walls which constituted all that is left of the great Kush-va-Ran * fort, but of the celebrated *minar* which once dominated the entire district we saw nothing. From its appearance, Narmashír city has been deserted for centuries, the latest reference to it being by Hamd Allah, who in the eighth (fourteenth) century mentions it as populous. To-day the jungle has gained the upper hand, and not even a hamlet exists on the site of this erstwhile proud city. After clearing these very interesting ruins, which are situated about a mile from the

PALMS AND POPLARS AT BAM.

right bank of the nameless river, we rode through thick jungle to our camp at Azizabád, pleased to have had the opportunity of examining what was, without doubt, the ancient city of Narmashír, which we found, as indicated by the Arab geographers, occupying a site half-way between Bam and Fahraj.

The next day we enjoyed some good francolin shooting, and camped at Burj-i-Aga-Mohamed, which was built by an Afghán chief. Indeed, until the Kájár dynasty was firmly established, Narmashír, like Khabís, was held by Afghan adventurers, Fahráj being the last

* This word apparently embodies the Kuch, who are often referred to in conjunction with the Baluch, and the Ran are the Rinds. Probably the fort was named after the raiders who were to be guarded against.

stronghold from which they were ejected, as late as three generations ago. One of my numerous Persian friends owned much of the property around the *burj*, or tower, and informed us that we were in the centre of the henna land. This valuable dye is sown in April, and most carefully watered for a year. It is then planted out, and still most carefully watered and manured for a second year. The plants, which somewhat resemble tea bushes, bear for an average of fifteen years, and the output of Narmashír is 1,800,000 lbs. per annum in a normal season. Owing to lack of enterprise, the crop is exported to Yezd, where it is ground by primitive stone mills. Thence it is sent all over Persia, and even penetrates to the distant Caucasus. Henna is used more especially for dyeing the nails of good Mohammedans, and, mixed with indigo, makes a grey beard glossy black. The Shah's horses have their tails dyed with the pure article, producing a curious effect, which will long be remembered by Londoners of the last generation.

Rigán is to-day the most important centre in the district of Narmashír, but it is little more than a fortified caravanserai, and possesses no commercial importance, which fact is somewhat remarkable, and is perhaps attributable to the very low type of the inhabitants of the districts, whose wants appear to be as limited as those of the Baluchis. To the south, some 3 miles distant, are the ruins of Jezán Khás, the fourth city of the district in Safavi times, but unknown, so far as I can ascertain, to the Arab geographers. Its plan closely resembled that of Chugukabád, there being a strong city wall with an interior keep, but the scale was smaller. This concluded the exploration of the ancient sites of Narmashír, and, as everywhere we enjoyed good shooting, and there was thick jungle in places, the members of the mission, who were painfully affected by the treelessness of Persia, voted the district the best and most fertile that they had struck since leaving Bandar Abbás.

We were, as mentioned before, on the main eastern artery of commerce, which, from Rigán, runs due north across the Lut to Neh.* We were naturally anxious to examine the pass by which the main range is crossed, and Rudbár, which lies to the south of this great mountain barrier, was consequently the next district to be examined. Supplies were again a difficulty, but by engaging thirty camels to carry forage and flour, we hoped to tide over that difficulty, and, as heavy snow had fallen, the water question was for once not acute. Leaving Rigán, we skirted Jezán Khas and modern Sangabád, a few miles beyond which the jungle ceased, and we made for a gap in the range up one of the huge gravel slopes which are such a feature of Persia. The stage was, however, 34 miles in length, and as our mules lost the

* *Vide Trade Report for Khorasán, 1904-5*, where this question is fully dealt with by me.

way, we were lucky to be able to settle down by midnight. The following day a gale was blowing, but we had to move on, and, after a comparatively easy rise, reached the summit of the Godár-i-Gíshu, or "Pass of the Oleander," at an elevation of 4100 feet. A few miles further west is the Godár-i-Sabzu, which is said to be equally easy. The importance of these two passes lies mainly in the fact that, owing to their comparatively low elevation, they are never closed by snow, and if South-east Persia be ever developed, they will become better known than to-day. It is of considerable interest to know that these rocky passes were crossed, more than 2000 years ago, by Krateros who, quitting the main army of the Greeks in the delta of the Indus, marched from Sind *viâ* Quetta to the Helmand, which he followed down to Seistán.

THE MIL-I-FARHÁD TO THE SOUTH OF THE GODÁR-I-GÍSHU.

He thence crossed the Lut *viâ* Nasratabád (Ispi), and joined Alexander the Great in the valley of the Halil Rud, "bringing the rest of the army and the elephants."* We camped on the south side of the pass, underneath an extraordinary rock, which is one of the wonders of the province. It is composed of grey, deeply indented limestone, and rises in the shape of a natural cone to an altitude of about 1000 feet. At its base is a shrine, which pilgrims occasionally visit, but it is for its shape that the Mil-i-Farhád is famous. The name contains a reference to Farhád, the legendary engineer of Khusru, and the lover of the renowned Shirin. From this stage, two long marches west across the level valley brought us to Bijenábád, in Rudbár. Throughout, supplies

* Arrian, vi. 27, 3. *Vide* 'Ten Thousand Miles in Persia,' xiv. 174.

were a cause for anxiety, as the district is inhabited by nomads, who do not store *kah*, or chopped straw. To add to our troubles, one of our horses died from the effects of oleander poisoning. *

Rudbár, which I have already described, was in the throes of revenue collecting. But we scraped together some forage and flour, and, after being detained by heavy rain, marched slowly up the valley of the Halíl Rud to the district of Jiruft, where our difficulties ceased. We crossed the river to the right bank, and enjoyed the best francolin shooting in which I have ever participated, as one day with three guns we bagged over eighty head of game in two and a half hours. After exhausting our supply of cartridges, we recrossed the river in flood, when it justified its ancient name of Div Rud, or "Demon Flood," and made a flying visit to the upper reaches, where the hills would favour a modern dam, but where we found no traces of an ancient one. This concluded our work in this fertile valley, and, bound once again for Kermán, we crossed the Rudkhána Shur, which flows down from Dildárd, and was also in flood. One baggage animal was drowned; but we finally reached the camping-ground at Saghdár with our kit intact, although a part of it was soaked.

The next day we started to march through the finest scenery of its kind in South-east Persia. East of us towered snow-clad peaks, and westwards we looked across a delightful valley covered with brilliant flowering scrub, to other giant ranges, and to the north Kuh-i-Hazár rose up in all its stately majesty. Thrice have I travelled along this route, and on each occasion the sense of pure pleasure which comes from perfect scenery has filled my mind with the desire to retrace my steps and loiter in such surroundings. Maskun, situated in the heart of the range, is connected with a pathetic story. Forty years ago there was an unusually heavy fall of snow, and, upon the road being cleared, the corpse of a European was found firmly wedged into the fork of a wild pistachio tree. The then Governor-General made inquiries, but in vain, and to this day who the solitary traveller was remains a mystery, and one which is hardly likely to be cleared up. We crossed the range by the Deh Bakri pass, 7380 feet above the sea (it is thus more than 3000 feet higher than the Gishu pass), and revelled in the superb view, which ranged from fertile Jiruft to the south, and covered league upon league of dull yellow Lut to the north. From Jiruft, as mentioned above, I was on a familiar route, and a few days after crossing the Jabal Bariz we reached Kermán, thus completing a most successful tour, during which every district of importance to the east and south-east of Kermán had been visited by the mission.

* Cf. Strabo, bk. xv. cap. ii. 7: "There was a plant resembling the laurel, which if eaten by the beasts of burden, caused them to die of epilepsy, accompanied by foaming at the mouth." This description is most accurate.

IV.

In February, 1905, I received instructions to the effect that I was appointed to Meshed, and the ensuing weeks were among the busiest that I have ever spent, as not only had I just returned from a long tour, which invariably means an accumulation of work, but my small office had, in addition, to cope with the accounts of the Commercial Mission. Farewell visits, too, took up much time, and I realized fully how great was the wrench of leaving Kermán when some of my oldest friends said that we should never meet again, and felt that, humanly speaking, this was the truth. However, there was little time for reflection, and at the end of March we said good-bye to Kermán, after a connection lasting for twelve years, which is not, I hope, finally severed.

The direct route to Meshed across the Lut was ruled out of court, as I was travelling *en famille*, and no carriage can cross it, whereas a brother of the Governor-General had reached Kermán from Khorasán but a few months previously *viâ* Yezd and Tabas, and this fact determined the route we were to follow. As far as Yezd I was on familiar ground, but the journey across the Lut from that town was new to me, and promised to be of considerable interest.

During the nine years which have elapsed since I first had the honour of reading a paper before this Society, I have been constantly studying the great desert of Persia, which stretches in a south-easterly direction from close to Tehrán to the British frontier, a distance of perhaps 800 miles. Its width varies considerably, but it is never much less than 200 miles. I propose on the present occasion to deal with the subject somewhat more fully than I was competent to do at a time when I had only traversed it in one direction, whereas I have now either crossed or skirted it in almost every part. I am, unfortunately, not competent to discuss Persia from the point of view of a geological expert; but we have the authority of Blanford that during the Eocene period much of Baluchistán and Persia were under water. Mr. Huntington, to whose valuable and suggestive work on 'The Basin of Eastern Persia and Seistán' I would also acknowledge my indebtedness, considers that there was apparently oceanic connection between the Arabian sea and the Samartian sea, covering the Caspian basin, during which period the interior of the Irán basin formed a portion of this sea. We do not, however, know when the sea retreated; but it is evident that, as long as it remained, the climate of Asia must have been much moister than to-day. All this is, however, prehistoric, and has only been referred to as a necessary introduction to a description of the country as it is to-day, and, before proceeding farther, a brief reference to the physiography of Persia seems to be desirable.

The Irán plateau, as it is termed, but perhaps with little exactitude, consists of two great inland basins, the westerly one including the major portion of Persia. The easterly basin, which is mainly formed by the areas drained by the Helmand and Hari Rud, includes most of Afghanistán, part of Baluchistán, and only the eastern provinces of Persia, chief among which in geographical interest is Seistán. These vast basins are enclosed between two ranges, both of which take their origin in "the Roof of the World," as the Pamirs are picturesquely termed. The northern ranges run at first approximately south-west under the names of the Hindu Kush, the Kuh-i-Bába, and then the classical Paropamisus, the latter being the range to the north of Herát. Where this range terminates, a gap in the giant wall, which is some 1500 miles in length, allows the Hari Rud, known in its lower reaches as the Tejend river, to escape to the deserts of Turkestan. In Khorasán, the Kara Dagħ is the name for the range north of Meshed, the rugged defiles of which are referred to in this paper in connection with my journey to the famous fastness of Kalát-i-Nádirí. Further west, in its central section, the Elburz range, by which name it is then known, separates Persia from the Caspian sea, throwing up the stupendous peak of Demavand, which rears its glorious cone to some 20,000 feet above sea-level, and is the joy of all lovers of beauty at Tehrán. The remaining section maintains a considerable elevation, albeit the passes are less difficult, and, trending to the north-west, this mighty barrier terminates in the Armenian plateau, which boasts of legendary Ararat, itself a peak some 17,000 feet in altitude.

The southern series of ranges is less imposing, but the chains are much longer owing to the fact that they form a rough semicircle to the diameter of the northern ranges. From the Takht-i-Suliman, the legendary home of the Afghans in Zhob, to the Kermán province, the ranges, which run at first south-west and then parallel to the Arabian sea, are more remarkable for their ruggedness than for any exceptional altitude. South of Kermán, however, are the Hazár and Lalazár ranges, both of which I climbed, and found the altitude to be about 14,000 feet, and, although this record is not exceeded, the ranges remain lofty until their regular north-west trend unites them to the northern series in the Armenian plateau.

With this brief introduction, which proves how completely the Irán plateaux are surrounded by mountains, we return to the Lut, whose existence is summed up in the one word "aridity," which aridity, it is to be noted, lies like a blight over the whole land. In more favoured lands, basins formed by upheavals are quickly converted into valleys, down which rivers rush to the sea. In Persia, on the contrary, the water forces were wholly inadequate to keep pace with the upheavals, but withered away before forming trunk river systems; in consequence, the scanty streams are lost in basins, known as *Hámun*,

within which are immense gravel slopes, salt lakes, and square leagues of sandhills. In no case does this drainage reach the sea. Observations for rain have been taken at the Meshed Consulate General for several years, and show that the average rainfall is only about 7 inches. The snowfall is now being recorded for the first time, and may average 3 inches.* At Tehrn, the average for the last five years of both the combined rain and snow fall is 9.19 inches.† These figures thus fully establish the arid nature of Northern Persia, which yet boasts of a heavier rainfall than South-east or Central Persia. The results of aridity are well described by Prof. Davis, and I cannot do better than quote him as follows: "When maturity, in an arid country, is so far advanced that the initial highlands of deformation are greatly dissected and degraded, we may picture the region as consisting of three kinds of surfaces: first, a central plain of aggradation, with fine-textured waste towards its centre, but with coarser-textured waste around its margin; second, degraded, rock-floored plains veneered with irregular patches of gravels and sands, and graded so as to slope gently to the central aggraded plain; and, third, residual mountains and hills, composed chiefly of those rocks which best resist arid erosion."‡ Nor should the power of the wind be overlooked. In a humid land, vegetation protects the soil; but, in Persia, the entire surface of the land is exposed to erosion, and it is by no means unusual to march over solid rock with but the very scantiest covering of gravel or sand, washed across it by flood action. From one point of view aeolian forces have more power than water, as the latter is checked by the fact that, however powerful it may be, the sea is its ultimate bourne, whereas wind can scoop out as it lists, and there is less ultimate limit to the degradation it can cause to a surface which is suited for its operations.

Of minor importance, but yet not to be neglected, is the enormous range of temperature in this treeless country, which is a powerful ally to the wind and other disintegrating forces. There is, I imagine, no country where the extremes are greater, and thus another and a potent force is ever weakening the rocks and co-operating with rain and wind for their destruction. Again, Persia is not only continental, but is surrounded on every side by countries all cursed with aridity. Thus there is little moisture in its wind. Owing to the extraordinarily complete series of ranges referred to above, most of such moisture as there is discharges on the outer wall. This is particularly the case in the Caspian provinces, where there is an excess of humidity, which

* I would mention that a small meteorological observatory is about to be constructed at Meshed, at which wind observations will be added to those already taken. It will be interesting to see whether the climate of India is in any way affected by that of Central Asia.

† In 1901, 5.28"; 1902, 9.52"; 1903, 10.38"; 1904, 13.02"; 1905, 7.76".

‡ Vide "The Geographical Cycle in an Arid Climate," in the *Geographical Journal*, vol. 27, No. 1, of January, 1906.

makes it a hotbed of fever, whereas little or no moisture crosses the Elburz range to fertilize the plateau situated to its immediate south; in fact, the difference could not well be more striking. Yet another factor is that the basin-nature of the interior of Irán supplies no ranges of sufficient importance to attract clouds, and as the prevalent wind is from the north-west, *i.e.* from a cold to a hot region, no pressure is put on what clouds there are to discharge their contents. Nature has indeed been the reverse of lavish with her gifts, and man has systematically aggravated this unfortunate condition of affairs by ruthlessly burning every tree or bush and never attempting to replace the loss by planting. To-day, the coal deposits of Persia being scarcely touched, fuel is supplied either from fruit-trees grown by means of irrigation, or by scrub, with the result that there is no more treeless country in the world than Irán.

To conclude this brief sketch of the origin of the Lut, so far as can be judged, both Europe and Asia are drying up, a question dealt with in a paper termed "The Desiccation of Eur-Asia," by Prince Kropotkin.* It is there clearly demonstrated that, more especially in Central Asia and in Russia, there has been an alarming decrease in the rainfall, and that swamps and lakes are disappearing at a comparatively rapid rate. Recent Antarctic exploration also shows that there has been a noticeable recession of glaciers in the comparatively short period which has elapsed between the Ross and Scott expeditions. To summarize, the Lut is but the central and most arid portion, or, in other words, it is the most forcible expression of a generally arid country. Its aridity is caused by the general desiccation of Asia, by its continental position, and by the basin-like nature of the country and the prevalent winds. As if these disadvantages were not sufficient, man has destroyed almost all the forests which, until some few centuries ago, existed in various parts of the country. Finally, this aridity is increasing, and, except to an inappreciable extent, cannot be remedied by man.†

The horrors of the Lut are vividly described by various travellers; but by none better than by Mukaddasi, who once took seventy days to cross it, and refers to the ever-barring ranges, the dangerous salt swamps, and the extremes of heat and cold. At that date, and indeed until the last generation, the Baluchis, "a people with savage faces, evil hearts, and neither morals nor manners," as Mukaddasi calls them,

* *Vide Geographical Journal*, vol. 23 (1904), p. 722.

† In March, 1906, I received a letter from Dr. Sven Hedin, whom in Oriental phraseology one might well term the "Son of Geography." He wrote from Tabas that he had traversed the Lut from Tehrán to Jandak, whence he had crossed the Great Kavir from north to south. We may thus hope for a full scientific account from his pen of this same desert. Dr. Sven Hedin has since completed his examination of the Lut as far as Seistán.

terrorized the desert, and those whom they captured they did to death "as one would a snake, putting a man's head on a boulder and beating upon it until it be crushed in." This policy was adopted on the theory of dead men telling no tales, and the barbarous fashion of the murder was justified on the grounds that it saved the edge of their swords.

I now propose to make a few remarks on the nomenclature of this funereal waste. The Arab writers almost invariably used the term *mafáza*, which is an Arabic word signifying a wilderness.* Persians too, generally speaking, employed the same term, which was, however, in time replaced by that of *Kavir*, or *Kafa*, as it is pronounced in Southern Persia. The etymology of *Kavir* is uncertain, but it signifies a salt desert. Until quite recently, this word appeared on all Persian maps as the designation for the great waste which occupies the heart of Persia. To-day, however, *Kavir* in its turn has been replaced by the word *Lut* as the one general expression, *Kavir* being reserved for such portions of the desert as are salty. In the north huge expanses are known by this term, and also separate tracts, as, for instance, the wide strip which runs from the south of the basin of the Zenda Rud past Sirján, in the Kermán province, and which has already been referred to above; in fact, all over Persia these *kavirs* are numerous.

The origin of the word *Lut* is interesting, and deserves our close study. In various parts of the desolating area guides tell the traveller of ancient cities which were destroyed by the Almighty with fire from heaven. Upon inspection, it is evident that these so-called "cities" are but bluffs worn and fretted by the action of the fierce winds and rain until they—

"Formed turret, dome, and battlement,
Or seemed fantastically set,
With cupola or minaret."†

Here, in my opinion, the origin of the word is to be sought, and surely no more fitting name than that of *Lut*,‡ as Abraham's nephew is termed in the east, could possibly be connected with a waste which extends so far and is so terrible that its blighting influence separates provinces more effectually than a stormy sea or any range of mountains. It is only fair to state that some Persians derive the word from *Lut*, which signifies "naked;" but the above is, I think, the true derivation. Before arriving at the conviction that I was correct in what I have stated above, I not only questioned many Persians likely to know, but I also consulted various modern Persian works on geography. In the

* Násir-i-Khusru, who, in A.H. 444 (1052), travelled from Náin to Tabas, refers to the desert as the *Biyaban*, or "Waterless Land."

† "The Lady of the Lake."

‡ I would add that the story of Lot is well known to Mohammedans from the Koran, and that, as may be supposed, their language has been profoundly affected by it. "In the year of Noah" is also an expression taken from the Koran, which is in common use.

older ones, written perhaps twenty years ago, the word *Lut* never appears. However, in an atlas published some seven years ago the word *Lut* is rightly shown as the one general name. Its spelling is that of the theory rejected by me. I next turned to Arabic works, and in the modern Arabic Geography, known as the *Annukhbat-ul-Azarhia*, or the "Fresh Shoots," and published in 1903, the word *Lut* is printed so as to corroborate my views.* Geography is not much studied in Persia, and philology a good deal less, and I think that this somewhat obscure question of nomenclature may now be considered to be finally settled.

To the north-east of Yezd the Lut is narrower than at any other point, and, in consequence, a caravan route has from the earliest times undoubtedly crossed the desert in this section. The north-west trend of the ranges of Persia is its best known orographical feature, and as our direction lay north-east, we regularly crossed range after range at right angles, each range decreasing in height as we neared Tabas. At distances sometimes exceeding 40 miles are *robat*, or fortified villages, where scanty supplies can be purchased at high rates. Between them there is an occasional *áb-ambár*, or water-tank, which is probably full in the spring and empty in the autumn. The monotony of these sterile ranges, the drainage of which runs south-east to be lost in the Lut, is more than trying; but yet many of the villages along the route are flourishing, as their inhabitants possess a monopoly of supplies.

Four sowars and a hospital assistant had been despatched from Turbat-i-Heideri to replace our Sikhs, from whom we parted with great and—I believe—mutual regret at Yezd. To give an idea of what the Lut actually is, I propose to describe a typical march, and have selected that from Kharána to Sághand, a distance of 37 miles. Kharána, I would mention incidentally, is the Khazána of Ibn Khurdadbih, the earliest of the Arab geographers, who wrote in the third (ninth) century.

We started off, as usual, about an hour before dawn, or, in other words, as soon as it was safe for the carriage to move. A caravan of pilgrims, bound for Meshed, was also afoot, and it was most interesting to watch the motley procession. Men of position rode horses, their wives being packed into *kajáva*, which are two square crates slung across a mule. The poor rode donkeys or walked, and every now and then a prayer would be started and repeated with genuine fervour by all present. A few sleek *mullas* were particularly assiduous in reading prayers, mainly to ladies, as the caravan moved along in picturesque confusion; but there were no signs of any one

* Lot, the nephew of Abraham, is written **لوط**. The word signifying "naked" is **اوت**.

being on the alert, and, as the event proved, their remissness was severely punished. Kharána is picturesquely situated, and has a curious aqueduct. It is surrounded by much broken ground, which, although pleasing to the eye, was very trying for the carriage, the wheels of which were lashed together, while villagers were engaged to support it on each side. With much difficulty it ultimately slid down unbroken into a stony but wide river-bed, where our guides informed us that there were no further obstacles ahead, and we paid them off. Four miles from Kharána we passed a round watch-tower, inhabited by a single family, with a tiny strip of cultivated land, and, quitting the watercourse 3 miles lower down, we skirted a huge gravel slope, which stretched for many miles up to a low range of hills and was typical of the Lut, being absolutely naked, sun-scorched, and desolate. At 18 miles we crossed the level salty valley bottom, which is also typical, and began to rise steadily, the ruined caravanserai of Rizáb being visible in the distance. Approaching it, at some 24 miles, we found it to be situated close to a rough defile, by which the road from Náin joins that from Yezd. Rizáb is sinister both in appearance and in fact, and only a year previously my cousin, Mr. Herbert Sykes, had had his advance camp attacked at this spot. I took all possible precautions; but as it was out of the question for the carriage with my son, who was less than two years old, to keep with the mules, we were obliged to split up the party, and consequently suffered much anxiety. The four willing carriage horses and our own riding-horses required rest and a feed after travelling so many miles across the stony waste, and we consequently halted at Rizáb for some hours with a sowar on guard, until our mules overtook the carriage. We then allowed them an hour's start, and proceeded on our journey, accompanied by a second caravan of pilgrims which we had overtaken at Rizáb. The coachman from his high seat said that he saw men watching us from the gorge, and the event proved that he was right, for two hours after our departure a gang of some twenty robbers swooped down on Rizáb and captured the caravan with the pious ladies and the sleek *mullas*. Every one was bound and carefully searched, and, after being relieved of most of their clothes and all their valuables, the disconsolate pilgrims were released.

(*To be continued.*)