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The Road to Merv

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The Road to Merv. By Major-General Sir H. C. RAWLINSON, K.C.B.

(Read at the Evening Meeting, January 27th, 1879.)

Map, p. 224.

THE south-eastern corner of the Caspian Sea has always been a region of much political and geographical interest, forming as it does a sort of half-way house between Europe and Asia. In very remote times it is probable that both the Jaxartes and the Oxus found their way by separate mouths into the Caspian Sea, for not only does Herodotus affirm that in his day the Jaxartes, or, as he called it, the Araxes, after throwing off many small arms to feed a marshy lagoon (answering to the modern Aral), entered with one stream into the Caspian Sea; * but Patrocles, the admiral of Seleucus, who surveyed the coast, actually measured the interval between what he supposed to be the mouth of the Jaxartes and the mouth of the Oxus, giving the whole distance at 80 parasangs, or 2400 stadia, equal to about 240 miles of English measurement. † Now a very remarkable illustration of the old Greek survey is afforded by the log-book of Captain Bruce, an English officer who also examined the east coast of the Caspian in a Russian vessel in 1723 for the Czar Peter, and who wrote an account of his voyage, which was published in London in 1772. In Kinderlinsk Bay, which he places at 90 versts south of Alexander Bay, he found a creek, or backwater, which he concluded to be the mouth of one of the old rivers, and which

* Herod. i. 202. The name of Araxes, answering to the modern Arras, merely signifies "the river," and may thus very well have been applied to the Jaxartes in antiquity. It is curious that in the Russian "Great Map" (Bolschoi Tschertesh), which, although put together in the sixteenth century, is known to have been compiled from more ancient materials, the river flowing from the Aral to the Caspian, and thus possibly representing the original bed of the Jaxartes, is named Arsas, which nearly reproduces the Greek *Ἀραξῆς*.

† Strabo, lib. xi. c. viii. s. 1, and c. xiv. s. 6; Plin. Nat. Hist. lib. xii. s. 30.

he accordingly named the Oxus, and at 245 versts further south he came to the mouth of a second river at Krasnovodsk Point, identified by the site of Bekovitch's Fort, which he called the Daria (" *Kizil-Darya*," or "red river" of the Persians), and which we know to, be the northernmost mouth of the delta of the true Oxus. As Bruce seems to have used the old verst, which was to the new verst as 7 to 5, his interval between the two mouths of 245 versts very nearly fits in with the 80 parasangs of Patrocles, the true distance being given by the recent surveys of Karelin and Blaremburg in 1836, and of Dandevil in 1859, at about 220 English miles.* There is certainly no stream now entering the Caspian at Kinderlinsk Bay, nor do we hear of any dry bed having been traced across the Ust-Urt Plateau by Llomakin's column, which marched direct from this point to the shores of the Aral in the last Khivan Expedition; but it can hardly be doubted that both Patrocles and Captain Bruce must have heard the same story of the entrance of a great river at Kinderlinsk Bay, or have been deceived by the same appearances.†

The *Kara-Boghaz* Gulf, which intervenes between Kinderlinsk Bay and Krasnovodsk, is also a physical feature of interest. Captain Bruce found an island at the entrance 2 miles in circumference, which is not mentioned in the Russian Survey, but which certainly represents the

* The distances along the east coast of the Caspian given by Bruce are as follows:—

	Versts.
From Kulala Island, off Tup-Karaghan, to Gulf of Iskander ..	184
Kinderlinsk Bay (River Oxus)	90
Kara-Boghaz Gulf	105
Daria River (Bay of Balkhán)	140
Ming-Kishlaq, or Ossa River (Kohneh Bazar)	60
Mouth of Asterabad Bay	150
Versts	729

Blaremburg gives the following distances:—

	Miles.
From Tup-Karaghan to Peschanin Point (Gulf of Iskander) ..	116 $\frac{2}{3}$
Kinderlinsk Bay	83 $\frac{1}{3}$
Kara-Boghaz Gulf	120
Krasnovodsk	100
Dervish Promontory	26 $\frac{2}{3}$
Geuk Tepeh	70
Ak Tepeh	20
Hassan-Kuli Bay	16 $\frac{2}{3}$
Gumish Tepeh	26 $\frac{2}{3}$
Kara-Sú River (mouth of Asterabad Bay)	20
Miles	600

† Gosselin, in his edition of Strabo, tom. iv. p. 240, has already compared the measurement of Patrocles, with the interval between Kinderlinsk Bay and Balkhán Bay, and suggested that those two points must mark the old embouchures of the Jaxartes and Oxus respectively; but he appears not to have been aware of Bruce's independent testimony.

Caspian *Siyah-Koh*, or "black hill" of the Arab geographers, where there was in ancient times a race or whirlpool, an object of extreme dread to the tribes of the coast, and which was believed to be caused by a great "swallow" that drained off the waters of the sea into the Indian Ocean.* At present nothing of the sort is to be seen near the entrance of the Kara-Boghaz Gulf, but it has been conjectured that when the rocky ridge which now divides the gulf from the sea was first broken through, there must have been a race or rapid caused by the influx of the water flooding the low country up to the foot of the Ust-Urt Cliffs. It would seem, too, that this rapid caused by gradual flooding must have continued almost up to modern times, for Captain Bruce, who says that he sent two assistants in his largest boat to circumnavigate the gulf, found its dimensions in 1723 to be only 75 versts from north to south, by 50 versts from east to west, whereas the recent Russian Surveys give a measurement of more than double Bruce's estimate. The last report, indeed, from the Caspian head-quarters suggests that as the Kara-Boghaz Gulf is found to be navigable throughout, and to cut 150 versts into the land, the point of embarkation for Khiva should be transferred from Krasnovodsk to the south-eastern extremity of the gulf in question, whereby the route across the Steppe would be reduced from 600 to 400 versts. Reports have also been long current in the country that some of the northern arms of the Oxus drained in former times into this inland sea; and Captain Bruce thus reports as the result of his inquiries, that two large rivers, the Morga and Herat (alluding, apparently, to the Murgháb and Tejen, or River of Herat), fell into it from the east; but Dr. Lenz, in his Memoir on the Oxus, has taken great pains to correct this popular error, and to show that no stream could possibly have ever forced its way into the Kara-Boghaz Gulf from the east through the elevated Ust-Urt Plateau.

The most interesting portion, however, of the Caspian coast is no doubt the old delta of the Oxus, which may be held to commence at the Krasnovodsk Spit, and to extend nearly 100 miles to the south. The

* Yacút, about A.D. 1225, has the following description of the south-east coast of the Caspian, taken almost word for word from Istakhri:—

"As you coast along the sea-shore to the right hand from *Abuskun*, there is no single town or village, except at a place about 50 farsakhs from *Abuskun* which is called *Dehistán* (in Istakhri, *Dehistán-Basir*, for *Dehistán Bazar*?), where there is a harbour built (?) in the sea, in which the ships take refuge from the violence of the waves; and a considerable number of people are settled here from the neighbouring country occupied in fishing. They have good water." (Istakhri inserts, "And I know of no other inhabited place on this part of the coast, except at *Siyah-Koh*, where a tribe of Turks are settled, who have recently come there in consequence of a quarrel breaking out between them and the *Ghuz*, which induced them to separate and take up their quarters in this place, where they have water and pastures.") "And in this sea, in the vicinity of *Siyah-Koh*, is a race, or whirlpool, of which the sailors are much afraid, when the wind sets in that direction, lest they should be wrecked; but if there be a wreck, the sailors do not lose everything, for the Turks seize the cargoes and divide them between the owners and themselves."

entire coast-line from the promontory of Tup-Karaghan to this point, is rocky, with deep waters close inshore. From Krasnovodsk to Astera-bad, on the contrary, there is a low, shelving beach formed evidently of alluvial deposit washed down by the Oxus, the Atreck, and the Gurgán, and spread over the coast-line, so as to prevent vessels from approaching within two or three miles of the shore. A coast survey from the sea is thus almost impossible, and even from the land it is sufficiently difficult. It has been found, however, that independently of the great northern arm of the Uzboi, or old Oxus, which falls in at the head of the Balkhán Bay, there are two other branches of the delta to be traced more to the south, and that at the mouth of the principal arm, which falls into the Khiva Bay, as it is called, there are extensive mounds still retaining the name of *Kohneh Bazar*, or "the old market," and still bearing witness to the ancient importance of the locality in the gold and silver ornaments, glazed tiles, and pottery and glass that are found amid the ruins.* Here, then, I place the site of the old port, or emporium, which must always have existed at the Caspian mouth of the Oxus. We know on good authority (Varro quoted by Pliny, and Aristobulus, Alexander's geographer, quoted by Strabo †) that the Indian trade in those days came down the Oxus to the Caspian, crossed that sea, and ascended the Cyrus, was transferred by a short portage to the Phasis, and thus reached the Euxine, but there is no mention of the name of the Caspian seaports either at the mouth of the Oxus or the mouth of the Cyrus. After the Oxus had been diverted into the Aral, and when the Caspian had fallen to its lowest level, a new port was built at the embouchure of the Gurgán, and the commerce with India and Central Asia was thus thrown into the Khorassán line, the city of Gurgán becoming a great entrepôt of trade. This port was called *Abuskun*, or "water of Uskun," the latter name representing apparently the Socana of Ptolemy, whether that title referred to the Atreck or to one arm of the delta of the Gurgán; and the site is marked by the present ruins of *Gumish Tepeh* or "silver mound," from which point commences the great bulwark against the Turks, now called *Kizil Alan*, or "the red wall," which stretches in a line of mounds from the sea to the mountains, a distance of over 150 miles.‡ *Abuskun* is described by the geographers of the tenth and eleventh centuries as a most flourishing place;§ but in the thirteenth, or

* Dr. Lenz, in his Memoir on the Oxus, pp. 40 and 41, quotes Blaremborg and Karelin for this account of the ruins at the old mouth of the river.

† Plin. Nat. Hist., lib. vi. s. 19, and Strabo, lib. xi, c. ix. s. 4.

‡ This wall was believed in genuine Persian tradition to have been built by the Sassanian king Firoz, against the Kiyáteleh (see Hamza Isfaháni, p. 41), but vulgar belief connected it with the famous wall of Alexander at Derbend, west of the Caspian, pretending that it could be traced under water across the sea.

§ The distance between *Abuskun* and *Gurgán* is variously stated; by Yacút, after Istakhri, at 24 farsakhs, or three days; by Mokadassi at a single stage. The true distance is about 50 miles. Khárisim Shah, pursued by the Tartars after the destruction of Urgenj, died at *Abuskun* in A.D. 1221. See Ibn Athir, vol. xii. p. 241.

at any rate early in the fourteenth century it was submerged, owing to the level of the Caspian having been raised by the influx of the Oxus waters, a change which seems to have been brought about by the engineering works of the Tartars at the siege of Urgenj, in A.D. 1221, when the city walls were destroyed by an irruption of the river, the dams being all purposely broken, and the stream having thus found its way into the old bed, now called the Uzboi, which had been deserted for at least 700 years.* The passage from Hamdullah, the Persian Eratosthenes, who wrote in about A.D. 1325, describing this physical change, is so important that I shall quote it at length, merely remarking how strange it is that a statement of such high authority should have been overlooked in the long Oxus controversy which has been maintained by geographers from the date of Eichwald and Ritter and Humboldt to the present day. After describing the general geography of the Caspian, he says:—

“This sea contains about 200 islands, more or less, the principal of which used to be *Abuskun*, which is now submerged, owing to the Jihun, which formerly emptied itself into the Eastern Sea, towards the country of Yajuj and Majuj (Gog and Magog—this is the usual description applied to the Aral), having been diverted from its old course about the time of the rise of the Moghuls, and directed into this sea. As the Caspian has no connection with any other sea, the dry shores have thus been submerged, and this gradual submersion will continue until the consumption and influx of water become equal” (that is, until the volume of water brought in by the rivers is counterbalanced by the evaporation over the whole surface of the sea).

Observations on the level of the Caspian have not been recorded with sufficient accuracy, either in ancient or in modern times, to enable us to determine an average rate of rise and fall, according to the influx or diversion of the Oxus waters; but in a general way we can see that there must always have been such a fluctuation of level, and the same principle is in actual operation at present. The sea must have been at a very low level when Abuskun and the great wall were first commenced, if it be true, as the Russian Surveys report, that remains of masonry along the line of the wall can be traced below water 18 miles from the shore.† At any rate we see from Hamdullah's evidence that

* There has been much discussion as to the truth of this explanation of the change of the course of the Oxus in A.D. 1221; Ibn Athir's account of the siege of Urgenj, obtained from eye-witnesses in the Tartar army, is therefore of interest:—“Afterwards they (the Tartars) opened the dam which shut out the Jihun water from the city, and the river burst in and submerged the city entirely and destroyed the buildings, so that the site became a lake; and there was not a single individual saved from the place. In other cities always some portion of the inhabitants were saved. There were some who concealed themselves, others who fled betimes, others who broke out and got away, and others who carried their lives into the slaughter and yet escaped; but in Kharism, those who escaped from the Tartars were drowned in the flood or buried in the ruins; so that the whole place became a howling wilderness.” For Ibn Khaldun's authority to the same effect, see ‘Not. et Ext. des Man.,’ tom. xiii. p. 290.

† “Karelin, on political grounds, in 1835, recommended the erection of a fort at Gumish Tepeh (Silver Mound), on the north side of the mouth of the Gurgán River. This

Abuskun was submerged little more than 100 years after the Oxus had resumed its way into the Caspian; and it still remains for the greater part under water, although the sea had been drying up for almost 300 years.* When Abuskun was ruined the Gurgán port of entry was transferred to *Nim-Mardán*, a few miles south of the embouchure; later on, *Alhom*, at the entrance of the Bay of Asterabad, became the rendezvous of shipping, and now the Russians, who have almost monopolised the trade in this quarter, make use both of *Ashurada* and *Chikishlar*, the latter of which, however, is a mere open roadstead, while the former has but indifferent anchorage, and no convenience for landing or shipment. At Krasnovodsk there is deep water close inshore, but the place suffers much from the defective state of the springs and wells, drinking water for the garrison being brought by an aqueduct from the Balkhán Hills, distant 40 or 50 miles. Recently, however, some improvement has been effected by sinking deeper and better wells. The old port which is described by the geographers, was probably at *Kohneh Bazar*, as it is placed at the distance of 50 farsakhs, or some 150 miles from *Abuskun*, and is stated to be an inconsiderable place, inhabited by a few fishermen, indifferently supplied with water, and with a shallow coast in the neighbourhood, but affording a convenient refuge to ships in bad weather. The name appears to read in the MS. of Istakhri as *Dehistán Bazar*, "the *Dehistán* market," but the orthography is doubtful. In the vicinity of *Kohneh Bazar* there is another site called *Cherchali*, where there are extensive ruins; and further south are two large mounds, one called *Geuk Tepeh*, or *Yeshil Tepeh*, "the green hill" of the Russian maps, and the other *Ak Tepeh*, "the white mound"; one or other of these mounds, but probably the former, that is "the green hill," marking the site of *Boheireh*, the island fortress of the kings of *Dehistán*, where the *Súl*, or ruler of the city now called by the Russians *Mestorian*, resisted the Arab invaders for six months in A.H. 93.† When Captain Bruce surveyed the coast in 1723 he found

is a mound of sand which has been formed around the ruins of an old stone wall which extended about 200 miles, almost as far as *Bujnoord*. To the west of the mound this wall is still visible for almost 18 $\frac{3}{4}$ miles, under water along the coast."—Michell's Reports. See also Vambery, p. 52 sqq., for an account of *Gumish Tepeh* and the *Kizil Alan*.

* *Siyah-Koh*, *Abuskun*, and *Nim-Mardán* are all mentioned as islands by the geographers, pointing to a time when the sea was at a much lower level than at present. The result of the last careful measurement has been to show that the Caspian is now 25·3 metres below the Mediterranean, and 74 metres below the Aral, the slope from the Aral to the Caspian, over a direct distance of about 400 miles, and in the line of the old river bed, being, therefore, about 1 metre in 5 $\frac{1}{2}$ miles.

† See Ibn Athir, vol. v. p. 22. As *Boheireh*, however, means "a lake," and the distance of 5 farsakhs from *Dehistán* is hardly far enough to suit the locality of the "green hill," perhaps it will be safer to identify the fortress of the "Súl" with the ruins of *Kichik-Küleh*, near Lake Bugdaily, which are also noticed in Llomakin's report. It is further to be observed that the *Dehistán* aqueduct was extended to another ruin called *Kara-Tepeh* (*défé*), or the "black mound," which, no doubt, was also a strong place of the *Súl's*, though not situated on, or near, a lake.

a considerable settlement at *Ming-Kishlaq*, 60 versts south of the Krasnovodsk Spit, and which must apparently represent *Kohneh Bazar*, as he says it was at the mouth of a large and deep river, "where ships might ride at anchor in great safety." This river he calls the "Ossa," possibly corrupted from the name *Uzboi*;* and he states that it was the frontier between the Uzbek region and Persia, the tradition of the country to the present day carrying the Persian limit up to the *Kizil-Sú*,† though the Shah has been obliged, through pressure from Russia, who is now supreme on the east coast of the Caspian, to consent to the Atreck in the lower part of its course forming the official boundary between Persian and Russian territory.

The name of *Ming-Kishlaq* requires also a brief explanation. At present the name applies to the northern peninsula of which *Tup-Karaghan* is the extreme point, but it has probably been used at different times to denote several other portions of the Caspian coast. At any rate, in Abulghazi's history, *Ming-Kishlaq* is constantly joined with *Abulkhán* (the Balkhán Hills),‡ and evidently indicates the country about the mouths of the *Uzboi*, in perfect accordance with Captain Bruce's nomenclature. The name has been generally understood as a "thousand pastures," after the analogy of *Min Bolak*, "the thousand springs," &c., but recent scholars translate the title as "the pastures of the Ming," who were the same as, or at any rate a branch of, the Nogais. I may add that the Caspian *Ming-Kishlaq* was known to the geographer Yacút, who wrote in about A.D. 1225, and who furnishes the earliest record of the Oxus having found its way to the Caspian after it had been turned into its old bed by the Moghuls at the siege of Urgenj in 1221.

"Ming-Kishlaq," Yacút says, "is a fine fortress at the extreme frontier of Kharism, lying between Kharism and Saksin and the country of the Russians, near the sea into which flows the Jihun, which sea is the *Bahar Tabaristán* (or Caspian)."

* Captain Bruce says *Ossa* or *Orxantes*, apparently confounding the Ochus, which in the old maps is sometimes called Ossa, with the Jaxartes.

† Krasnovodsk is simply the Russian translation of *Kizil-Su*, or the "red river," a name which was of great celebrity at the beginning of the last century, when it was supposed to represent a sort of Asiatic El Dorado. The real *Kizil-Su* or *Kizil-Darya*, as recorded in the history of Abulghazi, and other works of the seventeenth century, was the right-hand channel of the Oxus, which passed along at the base of the *Sheikh Jeili* Hills, and was supposed to be impregnated with auriferous detritus from that range. The golden reputation of these hills is reported by all the early Oxus travellers, by Muravin and Gladishev, by Beneveni, by Meyendorf (p. 72), and even by Abbott (vol. i. p. 196), and incidentally by Vambery. How the name came to be shifted from the right-hand channel of the Oxus to the left-hand dry bed of the *Uzboi* does not at present appear, but the *gold* story certainly followed the name.

‡ "The Turcomans who occupied the frontiers of Asterabad and Khorassan, towards the frontiers of *Abulkhán* and *Ming-Kishlaq*," &c.—Abulghazi, p. 535. For full details regarding *Ming-Kishlaq*, see 'Not. et Ext. des Man.,' tom. xiii. p. 288. The notice in the *Mesalik-el-Absar*, that "Ming-Kishlaq is separated from the Jihun by the mountains of *Ak-Balkán* (the White Balkan), which form the northern frontier of Khorassan," would seem to restrict the district to the Caspian sea-coast.

(A still earlier notice of the hills of Balkhán * and Ming-Kishlaq occurs in the *Canún* of Birúni, about A.D. 1020.)

The most extraordinary fact that I have noted in regard to this part of the Caspian shore is the discrepancy between Captain Bruce's description, recorded in A.D. 1723, and the present condition of the coast-line. All modern accounts agree that between the old Oxus delta and the Bay of Asterabad there is a shelving mud-beach, so shallow that fishermen can wade two or three miles out to sea, and no laden boat can approach the shore; but Captain Bruce writes:—"From Ming-Kishlaq we proceeded along a clean shore in deep water, where we could have landed with our galley on any part of the coast, and where abundance of small rivulets fall into the sea, and the country, abounding with villages, is overgrown with a great variety of fruit-trees." Nothing can be imagined more unlike the present appearance of the coast here, yet we cannot be mistaken as to the localities; for he gives the distance from Ming-Kishlaq to the entrance to the Asterabad Gulf at 150 old versts, and he was six days in performing the voyage.

Having thus briefly noticed the general features of the coast-line, I take up the geography of the interior. In former times the route from the coast proceeded, in the first instance, to the city of Gurgán, some 50 miles up the river. This was a great emporium of trade from the tenth century to the twelfth or thirteenth, the merchants from the Euxine and the Volga meeting at this point those from Central Asia and Eastern Persia.† Trade routes also radiated from Gurgán in all directions, one running due north to Dehistán and Khárisim; another east, across the Khorassán Plateau to the middle Oxus; one due south over the Elburz into Persia; and a fourth westward along the southern shores of the Caspian. I only propose now to consider the northern and eastern lines, which lead in the direction of Merv. The high road in antiquity—that which was followed by Alexander in pursuit of Bessus, and which is laid down in the 'Parthian Mansions' of Isidore of Charax—crossed the hills direct from Gurgán or Hyrcania (meaning "the land of wolves"), by Bujnoord to Nissa, passing through the province of Astabene, which still bears in the registers

* It has been generally assumed that the Barcani of the Greek geographers, who are usually joined with the Derbicæ, and placed on the Caspian at the mouths of the Oxus, represent the inhabitants of the Balkhán Hills (see Cellarius, b. ii. p. 707), but the identification is not altogether satisfactory, owing to the difference of the guttural. The Barcani should rather, I think, be compared with the *Vehrkán* or "wolves" of the Vendidad, another form of the name being Hyrcania or *Gurgán*. If I could be assured that *Atreck* was an ancient name, I should wish to compare it with the Derbicæ of the Greeks; but the title is not found in any geographical authority before the time of Hamdullah, and may very possibly therefore have originated with the Moghuls.

† See a very curious account of the trade between Europe and Central Asia, passing by *Abuskun* and *Gurgán*, in the tenth century, which is quoted by Sprenger from Ibn Fákíh and Ibn Khurdábeh, in the Journal of the Bengal Asiatic Society for 1844.

the name of *Astawá*,* and if Northern Khorassan were in the hands of Russia, this would perhaps be the most direct and convenient route at the present day for the march of troops from the Caspian to Merv; but so long as Russia is obliged to keep to the north of the Atreck, which is the Persian frontier line, she is constrained to make the detour of *Kizil-Arvát*, the ranges immediately north of the river and its principal branches being impassable to an army.

The region between the Atreck, to the south, and the Balkhán Hills, to the north, forms the province of *Dehistán*, being so called from the Dahæ tribe, who seem to have been one of the principal clans, probably the royal clan, of the ancient Parthians.† The Parthian capital of Nissa was thus called Sauloe, or “the royal,” and the chief of the Dahæ, who dwelt in Dehistán, retained the title of *Súl* to modern times.‡ Dehistán being thus a sort of “debatable land” between Iran and Turan—that is, between the Persians and Turks—was held alternately by one race and the other. One of the late Sassanian kings, Kobad Ibn Firoz, is said to have built the city in this region, whose ruins have lately so much attracted the notice of the Russian commanders, as a frontier position between the Persians on the one side and the Turks upon the other; § and it was probably in reference to this liminary character that it took the name of *Mazdurán* (now corrupted in the Russian reports into *Mestorian*); for there is a well-known story in Persian romance which states that, according to agreement between Feridún and Afrasiáb, a certain archer,

* The capital of *Astawá* or *Astabene* has always been *Khabuchán*, or *Kuchán*, as it is vulgarly named, which ought therefore to represent the *Ασάκι* of Isidore, where the eternal fire of the magi was preserved. The resemblance between this name and the modern *Askabád* to the north of the mountains near Nissa is probably a mere accident.

† Strabo, who in his 11th Book examines the history of the Dahæ at great length, and traces them in their various migrations, always gives the epithet of *Parni* to the tribes whose encampments stretched from the Caspian through the whole extent of the present Akhal Atock, and I would propose, therefore, to connect this name with the *Paráú* (for *Parán-Koh*) Hills, which are now usually called *Kippet-Dágh* or *Kuren-Dágh*. As the Dahæ were certainly a Parthian tribe, Arsaces, the founder of the Parthian kingdom, belonging to the Dahæ-Parni (Strabo, lib. xi. c. xii. s. 4), and having thrown off the Greek yoke by their assistance, I can hardly admit the *Aryan* etymology of *Dasya* or *Dahya* for the name, nor can I explain the similarity of the title to that of the *Dehevites*, who colonised Samaria. It is probable that the Parthian Dahæ were the same as the *Ta-Hya* of the Chinese, who were driven by the *Yu-Chi* from beyond the Oxus westward to the Caspian at the close of the third century, B.C.; but it must remain a question whether the *Tiao-Chi*, whose capital was *Súli*, and who were found by the Chinese between Nissa and Dehistán in the second and fourth centuries of Christ, bore a corruption of the same name. The *Tiao-Chi* have been compared with the *Tájiks*, but on insufficient evidence. Ibn Athir calls the people of Dehistán governed by the *Súl*, a tribe of Turks. They were probably of the Ugrian race, cognate with the White Huns.

‡ See Isidore's ‘*Parth. Mans.*’ I have explained my views at length on the subject of Sauloe, Chinese *Súli*, and *Súl* of the Arabs, in the ‘*Proceedings of the Royal Geographical Society*,’ vol. xx. p. 179 sqq.

§ We are indebted for this fact to Hamdullah, but I do not find *Dehistán* among the cities of Kobad's foundation in Hamza or the *Mujm'-el-Towárikh*.

named Arish, shot an arrow from Gurgán or Tabaristán to mark the frontier between the two empires, and that after a miraculous flight the arrow fell at a place called Mazdurán, which was henceforward acknowledged as the territorial limit. It is true that the name of Mazdurán is now, and has from the time of Ptolemy been, applied to the eastern frontier-post between Iran and Turan, near the modern Serakhs, but it would be equally legitimate to apply it to the northern boundary; and such is, I believe, the true explanation of the ruins of Dehistán bearing amongst the Turcomans of the Steppe the name of Mestorian. After the Mussulmans had driven out the pagan Turks from Dehistán, they built a famous *robát*, or "fortified caravanserai," at this place, which became very celebrated, and often stood for the name of the city. Thus, the geographer Mokadassi, who wrote in the eleventh century, names the two neighbouring cities, now called Meshed and Mestorian, *Okhur** and *Robát*:—

"*Okhur*," he says, "is a city of the district of Dehistán, on the right of the road to Robát. There is a minaret here which can be seen from a great distance. It is surrounded by villages, twenty-four in number, Dehistán being one of the richest districts of Jurján." And again, "Robát is on the edge of the desert. The Sultan has ruined its walls, but it is a flourishing place with handsome mosques and well-filled bazaars, and pleasant dwellings and abundant produce. There is no *Jamé*, but it possesses an ancient and much venerated mosque with wooden columns. There is also a place below *Robát*, which resembles *Dandanikán* of Merv, where there is a mosque with a fine minaret belonging to the sect of the Traditionists, all the other mosques in the country belonging to the Hanefites."

And he further says that at Robát they told him that the river which supplied the city came from Toos (the ancient capital of Khorassán, near the modern Meshed), in evident allusion to the aqueduct from the Atreck, of which I shall presently read an account from a modern Russian report. The distance from Gurgán to Dehistán, or *Okhur*, is always given by the geographers at 24 farsakhs, equal to about 100 miles, and Mokadassi names the three intervening stages of *Robát-Ali*, *Robát-el-Amir* and *Bilamak* (?).† At Robát Dehistán, the last station named by Mokadassi, the road entered the desert, and with the exception of passing by the town of *Faráweh*—a flourishing place which must have been in the immediate vicinity of the modern *Kizil-Arvát*, and the name of which is still preserved in the Mount *Paráu*‡—continued to run, until the

* *Okhur* is called by Yacút the chief place of the district of Dehistán, but the name is not very often met with in history of the period.

† This part of the route is defective in all the MSS. of Hamdullah. The names appear to be: 1. *Sinábar-rúd*, 9 fars. (name restored to agree with the modern *Sunibar*, which may be the *Sirnius* of Strabo). 2. *Mahomedabad*, 7 fars. 3. *Dehistán*, 7 fars. Total, 23 fars.

‡ It is curious that Mount *Paráu*, which was formerly held by all geographers to be the culminating point of the *Kuren-Dágh* range of hills, has now disappeared from the maps. Baillie Fraser describes the locality in full detail in the 'Journal of the Royal Geographical Society,' vol. viii. p. 309, and his account of the district of *Paráu* at the foot of the hills exactly corresponds with Edrisi's description of *Faráweh*.

Moghuls turned the course of the Oxus, through a very sparsely inhabited country, all the way to Urgenj. Hamdullah enumerates 16 stages between *Dehistán* and Urgenj, making 110 farsakhs, or, according to Captain Napier's estimate for desert distances, about 500 miles.* As far as the town of *Faráweh*, each halting-place was a Robát, showing that the road lay through an entirely desert track; but beyond, on the whole route to Khiva, there are only four Robáts, the names of many of the other halting-places, such as *Khusháb*, or "the sweet water," *Karwán-gáh*, "the place of caravans," and *Minár-gáh*, "the place of the minaret," indicating traces of habitation. It is stated that Abdullah-ben-Tahir, the governor of Khorassán under the Caliph Mamún, built most of these caravan-serais to facilitate the transit between Gurgán and Khárism. There was a famous building of this class at or near *Faráweh*, for the support of which were assigned the revenues of the large village of *Asadabád*, in Khorassán, between *Hafldar* and *Bahmenabád*; † and it was this building which has, I believe, given the name of *Kizil-Arvát* to the locality at the north-western point of the *Kippet-Dágh*, or Khorassán Mountains, ‡ the true name being *Kizil-Robát*, or "the red caravanserai," as given by Baillie Fraser in an early number of the Geographical Society's Journal, before we had become familiarised with the Russian corruption of the name. § I have not heard that the remains of this *Robát*, or of any of the others which marked the line of the high road, are still to be seen; but it is hardly likely that all trace of such elaborate buildings, with their wells and reservoirs, should have disappeared, and it is even possible that in process of time the Russians may find it to their advantage, in view to the protection and encouragement of trade, to restore them. It may now be convenient to read some Russian letters recently published in the 'Moscow Gazette,' which describe the route followed

* The route from Dehistán is thus continued:—

	Fars.		Fars.
1. Robát Gazmíni	7	Brought forward	62
2. Robát Abul-Abbas	9	10. Masáil-bili (?)	6
3. Robát Abu-Táhir	7	11. Minár-gáh	7
4. Town of Faráweh	7	12. Mashk-mini	8
5. Robát Khisht-i-pukhta	8	13. Robát Miriam	9
6. Khusháb	7	14. Khárism-i-now (or New Khárism)	8
7. Robát Taghmáj	7	15. Halam-i-now (New Halam) ..	6
8. Karwán-gáh	7	16. Urgenj or Jurjániya	4
9. Robát Sirhang	3		
Carried forward	62	Total	110

† Near the present fort of Abbasabad, known to all travellers. Ibn Dústeh is the authority for this statement.

‡ It is not clear to what exact portions of the range the names of *Kuren-Dágh* and *Kippet-Dágh* are now applied. Formerly the entire range was known as the *Kuren-Dágh*, which indeed is the only name used by Abulghazi, and which of course represents the Mount Coronus of Ptolemy, dividing Hyrcania from Parthia.

§ See 'Journal of the Royal Geographical Society,' vol. viii. p. 310. The whole of Baillie Fraser's article on the Geography of Northern Khorassán is well worth perusal.

by one of General Llomakin's detachments, during August and September last, in its route from the sea-coast to near Kizil-Arvát.

July 30 (August 11).

Leaving Krasnovodsk we proceeded along the shores of the Caspian, and crossing two dry beds in which the Oxus in former days emptied itself into the Caspian, a low sandy plain, separated from the coast by a chain of hillocks, is reached; this plain extends to the Silver Hill,* which is considerably lower than Hassan-Kuli Bay and the mouth of the Atreck. This portion of the Caspian shore, called the Chikishlar littoral, extends in a wide zone for nearly a whole degree between 37° and 38° latitude and 72° and 73° longitude east of Ferro, while the great and shallow expanse of water bears the name of the Chikishlar Bay. The depth of water at a distance of more than 1 verst from the shore is about 2½ feet, and diminishes to 1 inch inshore. In fine weather, steamers stop 4 versts from the shore, and during rough weather at a much greater distance. The flat-bottomed boats of the Turcomans approach to within half a verst, and from that distance everything has to be carried on shore by hand, the water reaching to the knees.

We had to remain several days on this coast, from which we were to penetrate into the Turcoman steppe by a road which, I think, has hitherto never been described,† but which is the nearest and most practicable route to the Atreck, the bank of which, from its mouth at Hassan-Kuli Bay almost to Bayát-Hadjí, is bordered by unapproachable morasses. The road along which we proceeded runs through territory subject to Russia, and forms almost a straight line from Chikishlar to Bayát-Hadjí.

Early on the morning of the ^{22nd July}_{3rd August} we broke up our camp; our detachment advanced under the cover of infantry, Cossacks, Kirghizes, local militia, and some guns. The long line of camels, heavily laden with a large quantity of stores, stretched for a considerable distance. As we receded from the shore, the shells, which covered the ground and made it firmer, gradually disappeared, and the vehicles in the rear sank deeper and deeper into the sand. At the seventh verst the ground, instead of being formed of clean sand, now presented the appearance of a salt marsh indurated by the heat of the sun. Verdure between the low mounds is observed at intervals, and the vegetation itself proves that the soil is capable of cultivation. After proceeding about 4 versts over these salt marshes, the road again reaches a sand-bank, vegetation almost entirely disappears, and the wheels sink into the friable sand. This sand, however, does not extend for a long distance, and a depression is reached, which is surrounded on all sides by low hillocks; the ground becomes firmer, and emits under the horses' hoofs a hollow sound, which would seem to indicate a cavity under the upper crust of the soil, suggesting also the existence of a "subterranean basin." All the hollows are covered with a rich vegetation. Plants appear which plainly show the presence of water in the subsoil. A halt was made after a march of four hours along this hollow. It was near 11 o'clock; the heat and scorching rays of the sun, together with the dust and flies, had so exhausted the men that they all threw themselves down on the ground. The poor horses refused the forage, while none of us thought of food; each economised his supply of water, and only moistened his lips and throat. "Samovars" (tea urns), however, soon made their appearance, and the unharnessed camels made for the steppe, where they found forage in the shape of the high grass of the steppe. The Cossacks and Kirghizes collect this grass for fuel. No water was here given to the poor horses, as the wells were still a day's march distant. At 5 o'clock in the evening we again started, the heat had decreased,

* Gumish Tepéh or Abuskun.

† Traversed by General Llomakin, August, 1875.

but the flies, which were in myriads, continued to be very troublesome. The steppe over which the road now ran presented a livelier and more animated appearance; salines, with patches of verdure, became here and there visible; the sand was almost everywhere overgrown with grass; numerous camel tracks and roads were noticed; the soil became firmer, so that even the guns moved along easily. About 9 in the evening we reached Murat-Lar locality, where there are no wells, though, judging from the sounds which the earth emits when struck by horses' hoofs, from the surrounding vegetation, and from the temperature of the soil on a sultry day, it may with safety be asserted that water is to be found at no great depth.

Early on the following morning we continued our march, and the horses, having received a bucket of water each, advanced with greater spirits. The further we proceeded, the more verdant did the vegetation become, hillocks and undulations were now frequent, the sand disappeared, and the soil became firmer and argillaceous. About 6 versts beyond Murat-Lar, and in close proximity to the road, traces of old melon plantations and cultivated fields are visible. The Djefarbaï Turcomans, who roam in this part of the country, cultivate the ground here every year, and after gathering their harvests, remove to other camping-grounds. At one place I receded somewhat from the road, and observed clear traces of an old encampment, and also of fields cultivated by means of regular irrigation. We reached the wells at about 10 o'clock in the morning, or after a journey of five hours from Murat-Lar locality. The place where the wells are situated is called Karadji-Batyr, and represents several sandy hillocks surrounded for about a verst by friable sand. These hillocks are easily distinguishable by their contrast to the argillaceous and alluvial soil in the immediate vicinity of the wells. There are here at present twenty-seven wells, and probably as great a number abandoned, and each well gives, if properly attended to, excellent clear and cool water, especially when it is covered up and left untouched for several hours. We remained at these wells for nearly a whole day, and it was near 7 A.M. before we started further. The road took a sharp turn to the right, as though leading directly into the heart of the steppe. The traces of artificial irrigation continued for about 7 versts, and they then disappeared, appearing again about 4 versts beyond, though not in the same regular form as at the wells. About 12 versts from the wells we arrived at the gates, as it were, of an enormous wall, which bore a greater resemblance to an artificial structure than to a natural conformation of the soil. Three versts beyond this point the valley of the River Atreck appeared in sight with the river itself winding in zigzags between high and verdant banks.

To the left of the road, and on a high mound, stands a little stone edifice, which is called Bayát-Hadjí, and forms the tomb of a Mussulman who had performed the pilgrimage to Mecca. This monument gives the name to the whole of the surrounding country. There are no settlements here, but the Atabai Turcomans, who are semi-independent and semi-submissive, roam in the neighbourhood. Beyond the Atreck is the Persian frontier, and an old fortified camp, which served to protect our detachments in 1869 and 1872, stands on the bank of the river.

10th August.—We were compelled to stay at Bayát-Hadjí a whole week. I rode 22nd for a considerable distance down the course of the Atreck, and, in spite of the excessive heat of the last three months, the banks were everywhere covered with luxuriant vegetation. Large bushes, which sometimes approach the size of small trees, grow between the edge of the river and the high shelving banks. Grass grows so abundantly in the valley of the Atreck that thousands of horses might be fed there, and the quality of the grass is very good. About 10 versts below Bayát-Hadjí the banks begin to be boggy. Here a different vegetation presents itself, and with it reeds

appear, which, on being brought to the camp by the Turcomans, the horses ate greedily. About 40 versts from the mouth of the river in Hassan-Kuli Bay, the marshy zone merges into an impassable swamp or "tundra," which, from the Russian or right side of the Atreck, is connected with a salt marsh, and from the left, or Persian side, is bordered by steep heights known under the name of the Persian mounds.

Ascending the Atreck, its very steep banks gradually narrow the basin of the river, and the valley opens out again in the form of small islands in places where the Atreck during its overflow separates into two streams.

From Bayát-Hadjí we proceeded up the Atreck to "Chat" or "Chid," but the bed of the river is not seen from the road, and the steppe itself presents a picture similar to that on the road from the hills of Karadjí-Batyr to Bayát-Hadjí. We continued to advance along an excellent road, which did not, however, run in a straight line, at times approaching nearer to the river and receding from it at other places. On the first day after our departure we traversed 20 versts, and then made a halt. The head of the column had advanced a considerable distance further; the guide having mistaken the road, missed a turning to the Atreck which led to an open space on its banks, where we should have halted. Notwithstanding the 15 versts that had been uselessly traversed, the column halted about 4 versts from the Atreck on an open plain, which resembled an enormous terrace. We remained at the foot of this terrace until the following morning. The country here is very picturesque, and masses of thick "gribinchuk" border the banks, so that at midday it is quite shady. This place, at which we halted for a day and night, is called Yatchly-Olun. On the following day we again struck the old road, and having traversed about 20 versts, turned off to the Atreck, and halted until the following morning at Domakh-Olun locality. Domakh-Olun is a very convenient halting-place, and is also somewhat like a terrace, but the descent to it is tedious. The bank is steep to the water on our side, while from the Persian the river is reached by a long wide road. From this place we proceeded for 22 versts more, and halted at Chat. The road presented no extraordinary features, and runs close to the Atreck in a tortuous manner. The incline from our side, which comprises the bank of the river, is so full of depressions and holes, as to render the cultivation of this bank impossible.

About 10 versts before reaching Chat, the road turned to the left, receding from the Atreck; on the right side large "auls," or settlements, are visible at a place called Bairam-Olun (Holiday Ferry), a beautiful river-terrace animated with abundant verdure, but the descents on each side of the stream are narrow and inconvenient. The large "auls," the inhabitants of which did not fly from us (though they belonged to the Atabai tribe, who bear us no love), possess large flocks of sheep. Nearly all the shepherds had white asses of an excellent breed. At length we reached Chat. This is the most repulsive place along the whole Atreck, although, from a strategical point of view, the most important, because it is here that the River Sumbar flows into the Atreck, and the delta may, if fortified, be converted into an impregnable position. The Sumbar is that dirty stream which, uniting with the waters of the Atreck, makes the latter turbid; the water in the Sumbar is bitter salt, with a mixture of injurious salts, and its narrow stream is of a dirty green colour. We have been already a week at Chat. Fifty versts higher than Chat rise two enormous rocks out of the Atreck, forming a sharp delimitation of the geological structure of the country, as well as of the river itself. This place is called Su-Sium. Above Su-Sium the water in the Atreck again becomes clear, the bed stony, and the banks covered with a rich vegetation; the grass here grows up to one's waist, and whole copses of oak dot the surface of the country. Wild grapes also grow in abundance. Pheasants are also numerous. Unfortunately the road becomes impassable for

camels, and 10 versts further on becomes very difficult even for horses. One hundred versts beyond Chat the course of the Atreck can only be followed on foot, and to make the road practicable three months would at least be required. At the 108th verst beyond the ridge of rocks that rise perpendicularly to the Atreck, are to be seen ruins of enormous forts, which must have existed at some distant period. Their names were not accurately known. The local inhabitants call them Komnuk-Kileh, and on the right side of the Atreck they are called Oklan-Kileh.* Traces of irrigation are to be seen at this place on all the neighbouring steppes. The bank itself resembles a series of gardens, and the elevated plateau is abundantly covered with grass. It would be possible to pasture any quantity of cattle here, but wildness and desolation reign around.

For two weeks past the barometer has shown from 35° to 38° Réaumur in the shade. In the sun the temperature far exceeds 40°. In the morning there are only 14°. Rain fell only once for about half an hour in large but few drops. The sky is cloudy only in the morning, and the heat commences at midday. The wind, which covers everything with sand, is so violent, especially in the evening, that not unfrequently the tents have been broken. Even inside the tents it is necessary to use lamps for writing at night. The steppe is desolate in appearance from the dust, and the heat, flies, &c., cause no small inconvenience. Life, however, is still possible, even at Chat.

August 22 (September 3), 1878.

In my last letter I informed you that the road along the Atreck, 8 versts beyond Su-Sium, proved inconvenient for pack animals, and that it was therefore necessary to abandon the line of the Persian frontier,† that is, the course of the Atreck, along which we had hitherto proceeded, and to strike a new road. After making the necessary surveys we turned to the left, at a place called Alun-Yak (where there is a ferry across the Atreck, 22 versts from Chat), and proceeded over the high Sugun-Dagh chain, after having crossed the ridge which exists between the Atreck and Sumbar. The Sugun-Dagh forms, together with these two rivers, a triangle, the smallest angle of which is at the point at which the Atreck receives the Sumbar, and is equal to about 48°, whilst its opposite side, that is, the line of the Sugun-Dagh, presents a distance of 50 versts. This line commences at first with a gentle ascent at Alun-Yak, and then rises steeply over an extent of 24 versts. At the foot of the most abrupt part of the ascent there are springs of excellent water; these springs are called Kabeli-Katje, and are separated from the steep ascent by a deep precipice. Strangely enough, the water in the springs is completely black, and yet its colour does not affect its taste. The particles of black mud which it holds in suspension are easily precipitated, and the water becomes quite clear. The grasses in the neighbourhood of the springs are very luxuriant, date and pomegranate trees being also found in abundance at this spot. The ascent and descent of the Sugun-Dagh, the highest point of which I estimate at 2000 feet, extends over a distance of 16 versts (10 miles); the descent terminates

* The names here given probably mean "the girl's fort" and "the youth's fort," according to the usual love legend attaching to similar localities. *Oklán* will stand for *Oghlán*, "a boy," and *Komnuk* for some Turcoman word meaning "a girl," which I do not recognise.

† From this it would seem that the Russians really intend to claim the main stream of the Atreck for their boundary throughout its course, which, if admitted, would bring within their border the valley of *Mona*, *Shirwán*, and even *Kuchán*, while *Bujnoord* would be immediately on the frontier. Hitherto Persia has maintained that the Atreck line of demarcation applies only to the course of the river from *Chat* to the sea. Above that point she claims as Persian territory all the valleys watered by affluents of the Atreck on the right bank.

at the small river Chandyr, which falls into the Sumbar. There is a spring of cold and clear water, containing, however, particles of lime, at the point of junction of the Chandyr with the Sumbar. In spring, it is said that the former stream has a very rapid current, but its appearance, as we observed it in the summer, was not at all imposing.

At 25 versts from Chat we crossed over to the left * bank of the Sumbar. The country traversed by us along the right bank of this river is of a similar nature to that of the elevated steppe stretching along the Atreck; the chief features are clay, mud, sand, and deep fissures, and hillocks of various shapes, forming narrow, and oftener broad, defiles through which the road trends. There are no considerable elevations. Receding from the Atreck the soil becomes more and more barren, the vegetation scantier, and yellow in appearance, succulent grasses disappear, and prickly shrubs predominate.

The appearance of the steppe and hillocks is dreary and monotonous; no good water is to be found, that in the Sumbar being bitter and salt to the taste. Our night halt at Har-Olun was a very trying one, owing to the scarcity of good water. Commencing from the Chandyr to the point of its fall into the Atreck no drinkable water was found. This can only be explained by the circumstance that both the Chandyr and Sumbar had at this time (August) become dry in many parts of their course, and the remaining water had become impregnated with the saline soil through which these rivers flow.

At Sharol-Daú, 5 † versts beyond Har-Olun, and 1½ † verst below the fall of the Chandyr into the Sumbar, we crossed over to the left bank of the Sumbar. After a very difficult passage over the river (the banks being here very high and precipitous), we continued our advance along the left bank of the Sumbar (between the Sumbar and Chandyr), and reached an elevated mountain, called Bek-Tepeh, belonging to the spurs of the Kuren-Dagh. The whole distance traversed by us along the bank from the Sharol-Daú to Bek-Tepeh is about 40 versts; the march was a difficult one, in consequence of the scarcity of water and barren soil. It was only at Bek-Tepeh that we again struck the Sumbar; the water here was rather better, though muddy, the bitter saltness of taste having completely disappeared. The course of the Sumbar at this point is more rapid, the volume of water greater, the bed harder, and the evaporation of the river less. Here we again crossed over to the right bank, and proceeded along a bad though deeply-trodden camel's path, and again reached the Sumbar, having receded from it about 10 versts, in order to strike the head of the defile, which extends between the more elevated spurs of the Kuren-Dagh, extending perpendicularly in the direction of the Sumbar. This defile, and the locality adjoining the river, is called Ters-Akon. Here we finally separated from the Sumbar, and proceeding through the waterless defiles of the Ters-Akon and through the Morgo defile (belonging to the Kaplan-Dagh range), reached the ruined fort of Hadjan-Kileh. ‡

Bent-Essent, September 5 (17), 1878.

Leaving behind us the fortress of Kizil-Arvat, where our Cossacks, under Arnoldi, distinguished themselves last year in an unequal combat with the Tekehs, we crossed the undetermined though really existing line of frontier between Russian territory and the land inhabited by the Tekehs, who recognise no authority over themselves. I consider the extreme point of this line of demarcation to be the fortress of Hadjan-Kileh, which is flanked on one side by the Tekeh fort of Kizil-Arvat, and on the other by the Kara-Kileh fort; in front, then, is a line of Tekeh forts, the more important of which are Bami, Buirma, &c.

The road from the River Sumbar, which we left at Ters-Akon, to Hadjan-Kileh

* Right (?).

† 18 versts and 4 versts respectively, according to the Russian semi-official map.

‡ Usually called *Khoja-Kileh*.

passes through long defiles formed by the spurs of the Kuren-Dagh; they are severally known under the names of Dairon, Nishik, Sund, Turugai, and Kuvmius (?). The entrances into these defiles are very narrow, and present the most dangerous places for caravans. The road winds through them along steep ascents and descents, and only two horses can proceed abreast at a time along it. The most dangerous portion of the route terminates at about 12 versts before reaching Hadjan-Kileh. It would be neither difficult nor expensive to construct a good road through these defiles; if this were done, the caravans would derive great benefit from it, and the defiles would no longer serve as hiding-places for the marauding Tekeh bands. Beyond the defiles, in the direction of Hadjan-Kileh, the vegetation becomes extremely rich, and wild boar and other game are found in great abundance. In these respects the country is similar to that stretching along the banks of the Aтрек.

In close proximity to Hadjan-Kileh stands an old deserted earthwork in the shape of a regular quadrangle, flanked by two conical crenellated towers, about 2 fathoms in height. The upper platforms of these are protected by a low wall, pierced with apertures for musketry firing. A similar fort, though of smaller dimensions, and with one tower only, is passed at a place 3 versts before reaching Hadjan-Kileh. This *kileh*, or "small fort," proved to be a Tekeh habitation; it was surrounded by cultivated and well-irrigated fields, the water being obtained from a small rivulet, which flows through the neighbouring bushes and reeds, and ultimately reaches Hadjan-Kileh. Not far from the latter place, and in the middle of the so-called Tekeh oasis, there is a fine spring, which yields an abundant supply of water, and which forms the source of the rivulet that flows on in the vicinity of the small fort, 3 versts distant from Hadjan-Kileh. At this point, from a hill on the right, is obtained a fine view of the Goklan fort of Kara-Kileh, and of the surrounding country, which is well cultivated and thickly populated. Ascending a high hill on the left, at Bent-Essent (which likewise stands high), the whole Tekeh oasis presents itself to the view, dotted with numerous dwellings. On the immediate horizon is seen the fort of Bami, an awkward structure, resembling Hadjan-Kileh; beyond again appears Fort Buirma. The Tekeh oasis, although producing cotton in some places, cannot be described as a fertile land; small patches of cultivated ground alternate with stretches of brushwood and dry sterile salines.

A further extract of some interest, from the 'St. Petersburg Journal' of March, 1876, may be now read, regarding the ruined cities of Dehistán:—

General Llomakin, profiting by the prolonged stay he was compelled to make near Lake Bugdaily as much by the necessity of giving his camels time to rest as by the object of finally adjusting relations with the Charva Yemuts, confirming the elders they had elected, and deciding some points of law, employed the spare time in visiting the ruins of two ancient cities, the probable relics of Kharismian times, named one Mestorian and the other Meshed, the former 36½ versts south-east of Bugdaily, and the latter 5 versts further.*

The road was easy and crossed a remarkably fertile country, the whole of which appeared well adapted for cultivation, as its name—Bugdaily—expresses, as it signifies "granary," as also does the appellation of "king of lands" given it by the natives. The soil improves the nearer one gets to the above-mentioned ancient cities,

* A full account of these ruins, as given by Arthur Conolly and Vambéry, with my remarks on the history of the cities of Dehistán, will be found in the Society's 'Proceedings,' vol. xx. p. 180.

as also beyond them in the Atreck Valley. The Turcomans report that some of them have in the rainy season sown corn, maize, and djoghena* in these districts with extraordinary results; corn returning 40 or 50 fold, maize 150 to 160 fold, and djoghena as much as 200 fold; such crops could not be obtained even at Khiva, where they are exceptionally fine, owing to the overflow of the Amu-Daria, which covers the country with a fertilising mud.

Mestorian or Mestdovran must formerly have been one of the most important cities of Central Asia, if one may judge from the remarkable aqueducts leading into it, which were the chief arteries of an entire system of irrigation canals thoroughly watering the whole country, and from the number of its buildings, the remains of which exist to this day. On the road from Bugdaily to Mestorian are the ruins of a fortress named Kitchik-Kileh, consisting of a large artificial mound, on the top of which are to be seen the remains of brick walls. Continuous series of similar forts leave this point, one in the direction of Mestorian, and beyond it to the district of Chat (at the junction of the Sumbar with the Atreck), the other to Kara-défé on the Caspian, south of the Green Mound (Zelënoi-Bougor). There is reason to believe that the object of this line of forts was to protect the great aqueduct, which used to cross the steppe in this precise direction from the Atreck, by Mestorian, to Kara-défé. Concerning the aqueduct, thanks to General Llomakin's expedition, we possess the following information:—

The feeding of this vital artery of ancient Kharism was provided by the Atreck. A portion of its waters, diverted in all probability by means of a dyke established in the locality named Chat, some versts above the mouth of the Sumbar, was received into a canal, which is still to be seen, about six sagènes † broad and one ell ‡ deep, which followed the southern slope of the Sugun-Dagh (a ramification of the Kuren-Dagh, dividing the valley of the Sumbar from that of the Atreck) and pursued its way to N.N.E., as far as the Sumbar, a length of about 35 versts.

Before reaching the Sumbar, the canal divided into two branches, the lower of which reached the river 6 versts above Chat, and the higher 10 versts from the same place.

The two branches crossed the Sumbar, the glen of which in this place was certainly not less than 70 sagènes in breadth (the breadth of the stream being 2 or 2½ sagènes and the steep banks not less than 14 sagènes in height), on two large stone bridges, on which were placed immense pipes made of brick. The Turcomans say that remains of these pipes may still be seen on the left bank of the Sumbar, and that they are large enough to admit the body of a man, that is to say, about an ell in diameter. On the right bank of the Sumbar, called here Geuktey, remains of these aqueducts are easily to be distinguished. The lower branch passes to the south of the mound of Dada-Goumbet, then towards the mound of Bairam Hadji-Tepeh, and is lost not far from it in a deep marsh. The upper branch crosses to the north of the mound of Dada-Goumbet, then between the heights of Dekchano and Bengdivan, and then takes a north-westerly direction for Mestorian, and Kara-défé near the Green Mound.

The course of this ancient aqueduct was carefully explored by General Llomakin's orders, and it was found that the canal, three or four ells in breadth and one ell in depth, is perfectly visible throughout its entire course, with the exception of certain spots where the sands have effaced its traces. As far as Dekchano it keeps on the sur-

* "Millet" (*Holcus spicatus*), the D'horeh of the Arabs.

† Sagène, Russian fathom, 7 feet English.

‡ Russian ell of 28 inches.

face of the ground, but beyond that, where the ground is lower, it is carried on an artificial embankment about one *sagène* in height, upon which it crosses the steppe to the Caspian Sea. There is reason to believe that the building of this embankment was for the purpose of supplying means of irrigation to the country. As a fact, a great number of lateral branches leave the canal and the embankment both north and south, and end in the direction of ancient buildings of various sizes now ruined, but which have all retained their names in the country.

This remarkable aqueduct measures from the Sumbar to Mestorian about 65 *versts* in length, from Mestorian to Kara-défé nearly 50 *versts*, and from the Atreck to the Sumbar, as we have mentioned above, nearly 35 *versts*, making a total length of nearly 150 *versts*. In 1872, Colonel Stebnitzky in descending the Atreck saw, about 40 *versts* below Chat, a canal about 5 *sagènes* in breadth, leaving the Atreck in a north-westerly direction. He was told that this canal was about 60 *versts* in length, and went to Mestorian, from which it would appear that this ancient city was supplied from several quarters at once.

Perhaps the restoration of these ancient watercourses would not be an impossibility, and would not entail any excessive expense, thanks to the application of the technical resources at the disposal of our engineers of the present day. If the works should ever be undertaken, there is reason for believing that the object would be materially assisted by the Turcomans themselves, who would have everything to gain from the re-establishment in these districts of an abundant system of irrigation, which would restore their pristine fertility.

As regards the city of Mestorian itself, judging by the ruins in existence, it consisted first of a citadel surrounded by a moat and earthen rampart, then of two other enclosures with thick high walls built of enormous bricks of more than half an ell square and of excellent quality. These enclosures were flanked by large towers at the angles and also on the sides. The citadel was in the shape of an irregular square, the sides of which measured from 300 to 560 *sagènes* in length, so that it must have occupied about a square *verst* of ground.

This space, as well as the vicinity of the citadel within a radius of 2 *versts*, was covered with remains and fragments of brick quite as good as those forming the enclosure walls. They were the ruins of the buildings and houses of the city, the foundations of which could be traced in some places. The mass of the *débris* is so considerable, and so well preserved, that it would be possible to make use of them for building a large new town. Among the edifices not entirely ruined may be mentioned the great gates of the town and the mosque of Chir-Kabir, a Mussulman saint who is still held in the deepest veneration, and to whom numerous miracles are attributed. Inside the citadel may be seen two minarets half fallen, but still measuring 13 *sagènes* in height with a diameter of 3 *sagènes* at their base; they must have had a total height of 20 *sagènes*, and had a spiral staircase in the interior. Also there were the lower walls of a building which must have been either a palace or a mosque. All the buildings were striking from their fine architecture and noble proportions; while the materials of which they are built are not less remarkable, being of brick which is as hard as stone, and often carved and ornamented with friezes in relief, arabesques, and well-executed inscriptions. The latter are sometimes in various colours illuminated with flowers, and the letters one quarter of an ell in height.

A few fruit-trees still growing in the neighbourhood testify to the existence of gardens which formerly surrounded the city. General Llomakin never expected to meet with so remarkable a city, and came unaccompanied by either artist or photographer, but, nevertheless, had some sketches taken, some of the inscriptions copied, and a plan made of the town and of the route from Bugdally to it.

Five versts from Mestorian is another remarkable place, known in the country by the name of Meshed, which was likewise visited by General Llomakin in 1875. It is strictly speaking an ancient necropolis, as may be seen by the number of chapels, tombs, memorial stones, and mosques, of which a few only are standing. Among the latter is shown the Mosque of Chir-Kabir, which to this day attracts a crowd of pilgrims; the interior is always adorned by carpets, the offerings of the Sunnees. It also contains, according to report, an open coffer holding the sacred books, a hanging lamp, and vases for ablutions, and although in a desert place and without even a Turcoman camp near, no one dreams of touching these articles, which are placed under the protection of the religious feeling of the true believers. The legend relates that the saint Chir-Kabir was an Arab, and that in his time the Mongols expelled from Russia took possession of Mestorian; following them came the Kalmucks, who displaced the Mongols, and were in their turn driven away by the Kirghiz and the Turcomans. A skull dug up from one of the tumuli near the Mosque of Chir-Kabir would seem to have belonged to an individual of the Mongol race, judging by the prominence of the cheek-bones.

It will be understood from these Russian extracts that the general character of the country, about 100 miles in breadth, between the shores of the Caspian and the hills, is desert, with very few natural springs and still fewer wells. There are no permanent habitations, and the Yemut camps even are scanty, though in the spring, and especially near the foot of the hills, the pasturage is good. The great block of mountains which bounds Khorassán to the north, and runs in a general direction of W.N.W., gradually diminishes in height as it approaches the Caspian. West of Kizil-Arvát, where the range takes the name of Kuren-Dágh, the hills, though occupying a broad belt, are of very moderate elevation, but they rise again to a height of 4000 or 5000 feet at their northern extremity, where they are known as the Lesser and Greater Balkhán. The bed of the Uzboi, which is the old Northern Oxus, passes between these ranges; but whether there is a southern bed, the continuation of the Ochus of antiquity, also traversing the Kuren-Dágh, and passing to the north-west of the ruins of Mestorian, is a geographical problem not yet solved. Arthur Conolly, in the year 1826, certainly fell in with such a river-bed, about midway between Kizil-Arvát and the Lesser Balkhán, and followed the bed through the range to the upper plateau, measuring its dimensions and describing the honey-combed and water-worn banks in full detail, and there is much evidence to be obtained, both from Abulghazi, the king of Khárisim, who wrote in the seventeenth century, and Hamdullah, and from local tradition, all pointing to the fact that the southern arm of the Oxus, answering to the Ochus of the Greeks, did really find its way in that direction; but on the other hand, the Russian commanders, who have repeatedly marched from the Balkhán to Kizil-Arvát across the bed of the supposed Ochus, absolutely ignore its existence; and on the whole, therefore, I am rather inclined to think that Conolly's river-bed could only have been formed by some sudden local inundation, the Ochus branch of the Oxus having

joined the Uzboi to the east of the Balkhán Hills, and having flowed into the Caspian in that channel.*

I will now enter on some details in regard to the road to Merv. The Russians make use indifferently of both the lines which lead from the Caspian to the eastward, and which unite at Kizil-Arvát. The northern line, after skirting round the Bay of Balkhán, and crossing the Uzboi at the Aidin well, follows along the northern base of the Kuren-Dágh, all the way to Kizil-Arvát. Captain Napier, whose report on

* The heads of the argument drawn from ancient and modern sources in favour of there having been an old southern arm of the Oxus, or Ochus, have been given by me in the Society's 'Proceedings,' vol. xx., as already quoted, but I would now desire to place on record some further evidence all bearing in the same direction. A good deal must depend on the previous establishment of the existence of a city of Balkhán in the desert north-east of Kizil-Arvát, for, if there ever was such a city, there must have been a branch of the great river to feed it. The geographer Mokadassi then, in discussing the early history of Khárisim, says that in antiquity the Jihún flowed to a town behind Nissa called *Balkhán*, but that a canal having been opened from the river to convey water northward to *Kát*, the stream rapidly drained off in that direction, leaving *Balkhán* waterless and ruined. Yacút in the same way, following probably Mokadassi, notices *Balakhán* as a city behind Abiverd; and Ibn Athir (vol. ix. p. 267), in describing the flight of the *Ghuz* from Nishapoor to Dehistán before the arms of the Mahmúd of Ghazni, says that they took refuge in the hills of *Balkhán*, where was the ancient Khárisim. But if there was a great city anciently in this locality, we need not any longer puzzle over the geographical difficulty in the *Vendidád*, which places Nissa between Merv and *Bakhdi*, for the *Balkhán* of the Ochus would exactly suit that indication, while Bactria is quite out of place, and its capital, moreover, *Balkh*, was a Buddhist city, where Zoroastrianism probably was, but very partially, admitted. This, then, would explain why the name of *Khárisim*, very celebrated in Magian tradition as the district where the eternal fire of *Jamshíd* was preserved, is not mentioned in the *Vendidád*, though cited in a hymn to Mithra. In the Zoroastrian scheme *Bakhdi* would represent the Southern Oxus, as *Urván*, or *Urgenj*, represented the Northern Oxus, *Khárisim* merely denoting the tribe—of Aryan origin, though classed by Strabo and Quintus Curtius with the Dahæ and Massagetæ—which in the time of Alexander dwelt along the Ochus, but migrated to the northward when the river changed its course. The Chorasmi are also classed both by Pliny and Ptolemy with the Candari, and *Kandar* was the old name of Bikand, near the point of the Oxus bifurcation. This district of Bikand, again, seems to represent the Fa-ti of the Buddhist Pilgrim, west of *Pou-ho* or Bokhara; and south-west of *Fa-ti*, at 50 miles distance, was *Ho-li-si-mi-cia*, undoubtedly *Khárisim*, a name which must, it would seem, have thus applied in the seventh century to the valley of the Ochus, rather than to that of the Northern Oxus (see Julien's 'Hiouen-Tsang,' tom. i. p. 22). The only other item of evidence that I will cite is a passage in the "Book of the Great Map" (Bolschoi Tschertesh of the Russians), which, following some ancient tradition, notices a river opposite to Bokhara, named the *Ugus*, which fell into the Caspian after a course of 1000 versts, and was quite independent of the Northern Oxus. The resemblance of the Russian *Ugus* to the Oguez of Napier is striking, and may very possibly represent the name written $\text{O}\chi\text{o}\varsigma$ by the Greeks. I will only further say that, though it is quite possible the moving sand-hills of the Khiban desert may have covered the ruins of Balkhán and have obliterated all traces of the upper bed of the Ochus, yet that will not explain the absence of any such channel through the ridge of high land between *Kizil-Arvát* and *Moola-Kári*; and if the Russian surveyors therefore report decisively on this point, as it is said they do, we must accept the explanation that the Oguez joined the Uzboi to the east of the Balkhán Range, and that Arthur Conolly's river has no real existence in geography.

Khorassán was published in vol. xlvi. of the Royal Geographical Society's Journal, says of the line, from the information of the Turcomans, that "the country is broken by sand-hills and low rocky ridges, the last spurs of the Elburz, which extends in that direction across the desert as far nearly as Balkhán. The tract is said to be elevated above the desert north and south of it, and to have a few springs and pools of fresh water, and in spring abundant pasturage in some places frequented by the Yemuts." The entire distance from Kizil-Arvát to Krasnovodsk Fort is given by the Russians at 253 miles, but to Moola-Kári, the Russian post at the inner end of the Balkhán Bay, it is only 160 miles, which is easily traversed by the raiding Turcomans in three days. The southern line, conducting from Chikishlar by Chat and Khoja-Kileh, is somewhat shorter than the northern line, but is more difficult for the passage of troops. It seems to have been preferred by the Russians in all their recent operations, in consequence of the facilities it affords for obtaining supplies from within the Persian frontier to the south.

The Russian invasion of the Turcoman country which is now pending may be thus briefly described. During last spring, a strong force was landed at Krasnovodsk, a portion of which made a reconnaissance towards Kizil-Arvát, while a large detachment was sent south to Chikishlar. The northern column was subsequently marched southward, and the whole force concentrated at Chikishlar in July. The letters just read describe the march from Chikishlar to Khoja-Kileh in August and September; shortly afterwards, owing to failure of grain food, the Turcomans having cut off a caravan bringing up stores and provisions from Krasnovodsk, and the Persian supplies promised from Bujnoord not having arrived, Llomakin was obliged to retire, pursued and pressed by the enemy, from Khoja-Kileh to Chat, and subsequently to withdraw a great part of his force to Chikishlar, where it still remains. He held his ground, however, at Chat, where a permanent fortified post is now being established, and preparations on a large scale are also going on upon the sea-coast for resuming the invasion in the early spring. In the meantime the Turcomans have reoccupied Khoja-Kileh, and having taken heart from their success in the autumn, will probably offer a very determined resistance when the Russians again advance.

The country of the Tekeh Turcomans commences at Kizil-Arvát, and continues in a more or less connected line the whole way to Merv, the distance by the nearest line being about 400 miles; but it is hardly possible that any disciplined army could follow this direct desert route. The only convenient line for the march of a Russian force would be along the foot of the hills the whole way round to Serakhs, and then across the desert at its narrowest point by the high road from Persia to Bokhara, a detour which would increase the distance from 400 to about 450 miles.

The skirt of the hills along this line is called, as it is well known, the "Atock," and is divided into three districts: the Akhal Atock, the Deregez Atock, and the Kelat Atock; the Akhal Atock, which extends for about 160 miles from Kizil-Arvát to Deregez, is entirely inhabited by the Akhal division of the Tekeh tribe of Turcomans; and I will now read you a brief description of the country, chiefly derived from Captain Napier's reports published in the Society's Journal, but supplemented from other sources.

The original settlement of the Akhal Tekeh, on the borders of Persia, was contemporaneous with that of the Merv Tekeh, of whom they are an integral portion. The whole tribe was brought from the "Labáb," or banks of the Oxus, and have since maintained themselves successfully in spite of frequent attempts to subdue or to dislodge them, and in spite of the retirement of the main body to Merv. Their success has been due to their own warlike qualities, aided by the weakness of Persia, the feuds of rival border chiefs, and their disaffection and treachery.

The name "Akhal" applied to this tribe, is borrowed from one of their chief "obahs," or camps, near which are the ruins of a large Persian town and mounds of fire temples. It served in former days to distinguish them from the Tekeh settled on the Tejen, and on the Kelat "Atock."

The country occupied by the "Akhal" consists of a strip of fertile land, varying from two or three to sixteen miles in width, and extending from Kizil-Arvát, about 160 miles (W.S.W. from Balkhán Bay) to Gawars, the most easterly settlement. It is plentifully watered at intervals by small streams flowing from the northern face of Elburz. Between the lines of the streams the desert stretches up to within a few miles of the base of the mountains.

The ruins of several towns, said to cover large areas, are to be found on the banks of the larger streams at Kariz, Akhal, Askabad, Annau, and Nissa. The ruins at the last point, which is about 50 miles north-east from Bujnoord, are said to be the most remarkable. The town is said to have been the centre of a district known as "Sham-i-Koochak," or "Little Syria," presumably from its beauty and fertility. Both the mountains and hill-skirts are devoid of trees, but afford fine pasturage.

The Turcoman "obahs" lie scattered along the base of the hills wherever there is sufficient water and pasturage, and have a more permanent character than the settlements of the other tribes, there being in fact little room between the mountains and the desert for migrations. Each "obah" consists of a number of tents pitched within reach of a stone enclosure that serves as a place of refuge from the sudden attacks of their Koord neighbours, to which the nomads are constantly liable.

The position of the Akhal "Atock" is exceedingly strong. To the north it is protected by an almost waterless desert, the shortest line across which is twelve days' march for a caravan, and is practicable only for small numbers. South of it extends a mass of lofty mountains, with few passes practicable even for mule carriage. West, 130 miles of barren desert intervene between it and the sea.

The fertile soil and good water supply of the "Atock" enable the Turcomans to raise all the grain necessary for their own consumption, and a considerable quantity of cotton, rice, and silk. They have no ready market for surplus produce, and require little beyond that which their own fields and looms supply them with. Having fine pastures and excellent blood, their attention is most devoted to horse-breeding, and in local estimation the produce of their studs is unequalled. Their horses are large and powerful, and usually of finer shape than those of the other tribes.

The number of tents or families of the Akhal are variously computed, some estimates giving as high as 20,000. A comparison of Persian and Turcoman estimates, the first being usually depreciatory, the latter always exaggerated, gives an average of about 8000 tents, or 40,000 souls, which is probably very near the truth. One-fifth of this number must be adult males.

The principal settlements of the "Akhal" are at Akhal, a permanent camp of 500 tents often increased to 1000 of various sections; Goombali, 1000 tents; Kariz, occupied only temporarily; Harrik-Kileh, Askabad, and Annau.

A very few additions to this description are all that is necessary. Firstly, I would remark that this Akhal country is the true Nisæan Plain of the ancients, where the famous Nisæan horses were produced. The city of Nissa, whose ruins Captain Napier had heard of, was the old Parthian capital, containing the royal sepulchres. Originally, no doubt, it was an Aryan settlement, as it is mentioned in the scheme of primitive colonisation recorded in the *Vendidád*;* but it attained its chief celebrity under the Parthians, and indeed has continued as late as the time of Abulghazi, that is, to within the last 250 years, to be the most considerable place on the frontier,† this pre-eminence being as much owing to the richness of the neighbouring pastures as to the importance of the position, at the point where the high road from Khárisim after crossing the desert entered the Khorassán Hills.

There seem to have always been three great roads from the north joining Khárisim with Khorassán and independently of the western caravan route by Dehistán. One of these entered the hills at *Duran*, and conducted through the *Abzar* Pass to *Bujnoord*; the second emerged from the desert at Nissa, and passed by the Garmáb Valley to *Kuchán*, while the third led from Abiverd by Deregez to Toos and Nishapoor. The second line, by Nissa, which was continued to Nishapoor, was the most frequented and was furnished with a line of caravanserais at the different halting-places in the desert. It occupied 12 stages, but except *Suburni* on the northern limit of the desert, 20 farsakhs from Khárisim and *Shaharistán* of Nissa, on the southern border of the Steppe, the geographers supply no names.‡ Near to Nissa is the "Obah" of *Geuk Tepéh*, or "the blue mound," which the Russians are said to have

* Having already fully explained the ancient history of Nissa in the Society's 'Proceedings,' vol. xx. p. 179, I need not give any further references.

† The chief places noticed by Abulghazi along this frontier are *Duran* (always given as *Duruhn* in the French translation), *Nissa*, *Yawsurdi* (which I take to be *Gawars-urdu*, "camp of Gawars"), *Abiverd* and *Mehna*. *Faráweh* seems to have been no longer known. The *Gadar* of Isidore, a city of Parthyene and dependent on Nissa, may possibly be represented by *Gawars*.

‡ Yacút, the geographer, fleeing from Khárisim on the approach of the Tartars in 1220 A.D., crossed the desert by this route, and does not seem to have suffered any particular hardship in the journey. For *Suburni*, see Ibn Athir, vol. xi. p. 247. Birúni gives the distance across the Steppe from *Kát* (near the present Russian fort of Petro-Alexandrovsk) to *Nissa* as ten caravan stages, and he names the central station in the desert *Miyán-gáh*, "the middle place."

selected as their permanent station for controlling the Akhal, and which requires therefore to be noticed in some detail.

“ With the district of Kuchán, Geuk Tepeh,” we are informed, “ communicates by the Garmáb Valley, up which runs the best existing road. It is also about the nearest point of the Atock to Khiva. South-eastwards all the Akhal settlements lie open to it, and if it were occupied by Russia, the neighbouring tribes must either submit or move away to Merv. The three ‘obahs’ of Geuk Tepeh, Akhal, and Yengi Kileh which lie together, have a population estimated at 5000 families, the largest number by far to be found at any one time in one place in the Atock. There is ample pasture and corn land, watered by the Garmáb stream, which is called by the Turcomans the Sekez-áb from its division in former times into eight irrigating branches, and is said to have a constant discharge of 10 feet section, with a rapid current. A large mound now known as the Karaoul Tepeh, marks the site of extensive ruins, and the plain for some distance is said to be covered with broken bricks and pottery.”

The extreme eastern limit of the Akhal Tekehs is at the Obah of Gawars; beyond that point, after an interval without camps, commences the Deregez Atock, which is a district of great importance in itself, and of still greater importance in connection with the expected Russian advance on Merv. Deregez is a Persian district along the northern slopes of the great range, and shut out from the desert beyond by a chain of lower hills.* It is about 40 miles from west to east, by 30 miles from north to south, well watered, fertile, and populous, and mainly owes its celebrity to its being held by Toork and Kurdish tribes, who are exceptionally brave, hardy, and inured to war. It would be impossible for an army to pass from the Akhal Atock to Merv without traversing Deregez, for the desert comes up close to the foot of the northern hills. It is, moreover, the natural base for any serious operation against Merv, and it may therefore be regarded as certain that after the final subjugation of the Akhal Tekehs, should this ever take place, there will be a Russian occupation of Deregez, either with or without the consent of Persia, preparatory to a final movement on the Tekeh stronghold, between the arms of the Murgháb. Captain Napier, whose visit to Deregez is described in the Society’s Journal, estimates the population at about 18,000, distributed between three large villages and some

* Deregez has no place either in ancient or modern geography, the district having been a dependency of *Abiverd*, which, as is well known, is mentioned both by Pliny and Isidore, and until quite recently has been an important place. It is probable that the *Epardus* of the Greeks which was lost in the sand, and which has accordingly been usually identified with the modern *Tejen*, may have derived its name from this same district of *Abiverd* (water of *Verd* or *Everd*), the two streams of the *Tejen* and *Abiverd* having been at one time absorbed in the same sandy swamp before reaching the *Ochus*. Persian tradition derives the name of *Abiverd* from a certain hero of romance, *Baverd*, son of *Gudarz*, to whom the city was supposed to owe its foundation.

thirty hamlets, and he says that there is room in the valley for at least 5000 more. At present only sufficient grain is raised for the consumption of the inhabitants, but the communication is easy with *Kuchán* and *Shirwán*, which are among the best corn-producing districts of Khorassán, so that every facility would exist if a Russian force were encamped here for filling up supplies before crossing the desert.

The final operations against Merv will always be of considerable difficulty, whether the march be attempted directly across the desert from Deregez or Kelat, or whether a detour be made to the south, so as to reach Serakhs, and thus gain the high road leading to the Oxus. Captain Napier estimates the distance from the eastern extremity of the Deregez Atock (say from *Abiverd*, the ancient capital which gave its name to the district, but which is 30 miles beyond the inhabited part of the Deregez Plain) at 160 miles, and says that it is traversed by camels, or laden mules, in six days; the Tejen, which is the last remnant of the Heri-Rud, here shrunk to a rivulet, and absorbed shortly afterwards in the sands of the desert, being crossed in the second stage, and a few wells of brackish water being found at the other halting-places between the Tejen and the nearest arm of the Murgháb; but there is no instance that I am aware of, of an army having ever attempted the "trajet," certainly not in face of an enemy, and I doubt exceedingly if General Llomakin, unless under circumstances of the most pressing urgency, would undertake so perilous an enterprise.* It is far more likely that the Russians from Abiverd, which, though well watered, is now uninhabited, would traverse the Kelat Atock by Chardeh and Mehna to Serakhs, leaving the famous plateau of Kelat-i-Nadiri some 10 or 20 miles to the right. The distances along this line are approximately as follows:—From the last Akhal "obah" at Gawars, to Abiverd, through the Deregez Atock, 70 miles; to Mehna, along the Kelat Atock, 60 miles, and on to Serakhs, 70 miles, giving the whole distance from Kizil-Arvát to Serakhs at 360 miles.

The Deregez and Kelat Atocks have not, perhaps, as fine pasturage as the Akhal Atock, but they have much greater advantages in regard to soil and water, the rivers being more numerous and of larger volume, while the plain when cleared of sand is found to be covered everywhere with an alluvial deposit. In ancient times *Nissa* and *Abiverd* were sister capitals, and *Mehna*, south of Abiverd, was also a place of some consequence, being the chief city of the district of *Khawerán*, which was one of the most fertile portions of Khorassán.

Kelat-i-Nadiri, from which the Kelat Atock takes its name, is a natural fortress of extraordinary size and strength. A plateau 18 miles

* The high road described by Isidore seems to have led direct from Abiverd to Merv, as the distance is only 58 scheni, or about 170 miles, from the frontier of the Nissa district, through Abiverd to Margiana, but the Ochus may at that time have contained water which would have greatly facilitated the transit.

in length, and containing an area of about 150 square miles, is surrounded by a ridge of precipitous rocks, from 50 to 60 miles in circumference, and rising to a height of 1500 feet above the general level of the country. Captain Napier, who thoroughly examined the fort and described it in full detail (see Royal Geographical Society's Journal, vol. xlvi. p. 75), says that "it can only owe its origin to some violent convulsion of nature, acting upon a limited area with sufficient force to elevate and distort the whole surface. Even so the wonderful completeness and uniformity of the chance disposition of the mountainous masses forming the barrier, is beyond all conception, a phenomenon probably without parallel, and of which the most accurate drawings could alone convey any distinct impression."

From the Kelat Hills there is also a short cut across the desert to Merv, distant about 120 miles, but we are told that it is quite impracticable to the march of an army, though the Tejen stream supplies water at the end of the first caravan stage.*

I must repeat, then, that if Merv is ever attacked by a Russian column from the Caspian, the troops will, in my opinion, have to operate along the high road leading north-eastward from Serakhs.† The road from Serakhs to Merv measures something over 100 miles, and the distance is usually performed in six marches. The desert is here "a level, hard, flat surface," according to Burnes, quite different from the sandy plain between the Murgháb and the Oxus, and Blocqueville, who accompanied the Persian expedition against Merv in 1860, mentions that water can be laid on this road for a considerable distance by damming up the Tejen stream and digging a small canal along the line of route. There are also wells of brackish water, and cisterns, more or less ruined, at all the halting-places. In fact, although this interval between Serakhs and the Murgháb River is part of the great Turcoman Steppe, and is no doubt badly supplied with water, it has never proved any real impediment to the march of an army. In 1860 a large Persian force, well supplied with artillery, and carrying provisions for three months, with an immense quantity of baggage, crossed the desert without difficulty in the middle of summer, and it

* Ibn Dusteh, who wrote early in the tenth century, says that the Herat River, after irrigating the land at Serakhs, took the name of *Khushk-Rúd*, or "dry river," and was lost in the sand at a place called *Al-Ajumeh*, or "the marshes," between Serakhs and Abiverd. In the time of Yacút (A.D. 1225), the stream hardly reached as far as Serakhs, the inhabitants of that town being dependent on wells for their drinking water in summer.

† Although the name of *Serakhs* is not found under that or any similar form in ancient geography (the *Siroc* of Isidore, near Nissa, being certainly a different place), yet it is no doubt an ancient city, being ascribed in Persian tradition to the same age as Nissa and Abiverd. Its present name was probably given to it by the Turanian tribe, which occupied it during the Sassanian period, and whose ruler, according to Birúni, had the family title of *Zadúyeh*, a name which calls to mind the *Zabos* of the Kadphises coins, the distinctive title of the *Kozoul* or Kujúr tribe.

is pretty certain, therefore, that at a more favourable season of the year a Russian column skilfully led would be equally successful. To try to force the passage of the Murgháb, however, after crossing the desert, against 40,000 Tekehs entrenched behind formidable earthworks, and defended on each flank by extensive inundations, would be a more difficult operation, the probable result of which I need not at present discuss. It will be sufficient to recapitulate the leading features of the geographical argument I have here submitted. The distance from the Caspian to Merv by the Akhal country and Serakhs is about 700 miles, and to keep up communications by a line of posts along this interval would be a very serious operation indeed. From the western end of the Deregez Atok, moreover, to Serakhs, a distance of 200 miles, the line would pass through Persian, or quasi-Persian territory, and Russia therefore could not of course undertake such a movement without an understanding with the Government of the Shah. In the matter of supplies, also, food could not be possibly obtained in the districts traversed by the Russian columns. Either provision caravans must follow the troops from the Caspian, which along a line of 700 miles would entail enormous expense and risk, or grain must be supplied from Khorassán. The surplus grain available from Bujnoord and Kuchán has been estimated at 700 tons, equal to about 5000 camel loads, and if this were placed at the disposal of the Russian commissariat the passage of the troops would be most essentially facilitated. Altogether, having considered the question from these several points of view, I have come to the conclusion that with the cordial co-operation of Persia the occupation of Merv by Russian troops from the Caspian, starting from Chikishlar and Krasnovodsk, and supported by an auxiliary column from the Oxus, would be comparatively easy; that if Persia were merely neutral, not supplying food or carriage, but, on the other hand, not raising territorial difficulties, the operation would be difficult, but might possibly succeed; but that if Persia were decidedly opposed to the Russian movement, and refused to permit any infringement of her territorial rights, the march from Akhal to Merv would be impossible.*

* I do not propose to give any account at present of the ancient or modern history of Merv. It is probably one of the oldest capitals of Central Asia, and would require a special monograph for its adequate illustration. It is not, however, by any means the unknown place that it is generally supposed to be, a number of travellers having passed through Merv, in the course of the last fifty years, on their passage either from Herat to Khiva, or from Meshed to Bokhara, and having, most of them, published their observations on the town and district. Among these travellers I may cite Burnes, Abbott, Shakespeare, Tylour Thomson, Dr. Wolff, and Monsieur Blocqueville, the last-mentioned being a French gentleman, who accompanied the Persian army in the expedition against Merv of 1860, and, being taken prisoner by the Tekehs, was kept in captivity for fourteen months. He published an account of his adventures amongst the Turcomans in the 'Tour du Monde,' 1866.

The following discussion took place on the reading of the Paper :—

Captain W. GILL, R.E., said it was now nearly six years ago since he was in the neighbourhood of the Atreck. It was a remarkable fact that the shore of the Caspian had changed in the way which Sir Henry described. When he (Captain Gill) was off Chikishlar, the boat from which he approached the land could not reach the shore within two or three miles, as there was a long, shelving bank. The change in the nature of the shores of the Caspian might possibly have been caused by the diversion of the Oxus, that river containing an enormous body of water. But this was only a theory. There could be no doubt, however, that at the present time it was difficult to land anywhere on the south-eastern corner of the Caspian. The Russians had now only the physical difficulties to contend with, for no vessels besides their own were allowed on the sea. The Island of Ashurada, and the bay to the west and south, were very well sheltered, and would accommodate a considerable number of ships, the water being of good depth. The island formed certainly an admirable position, except for its exceeding insalubrity, the fevers there being of a severe type. It formed an excellent spot from which to send supplies to the interior. There were three roads towards Merv from the west, or, at all events, three ways of reaching that place. The first was the road to the north, from Kizil-Arvát along the northern slope of the Atock. The second followed the River Atreck, and a third ran along to the south, passing by Shahrud and Meshed. The lower course of the Atreck has been well described in the Russian letters, which had filled up the gap in our knowledge of the details of this river, although it had been well known that there was an easy road the whole way up the Atreck. The road on the north was an excellent one, being well watered and furnished with supplies. Kariz was pointed out to him as being specially well supplied with water. The different ranges of mountains had all more or less the same characteristics. They were high, with roads and passes through them, but probably not one-tenth of the passes were known to geographers. They afforded excellent positions for small bodies of cavalry, and a long baggage train moving up along the northern slopes of the Atock would be liable to attacks from small bodies descending from the mountains through passes known only to themselves. There were several points of great strategical importance, Bujnoord being one, if the road of the Atreck was considered. There were two roads from it to the Atreck, one by a narrow defile to the east, following the river Babaman, the tributary of the Atreck on which Bujnoord is situated, the other a difficult road over the Kuh-Akhir Range. These two passes could easily be held by a force in possession of Bujnoord, and would render that place an excellent point for attacks upon any column attempting to move up the Atreck Valley. Kelat, as Sir Henry Rawlinson had pointed out, was a very extraordinary place. It was a plateau enclosed by mountains, was well watered, and grew corn enough to support all its inhabitants. When he was there the people looked unhealthy and sick; but as a fortress it was one of the most remarkable places in the world. There were only two or three very narrow passes through the mountains by which it was surrounded, and it was not commanded by anything within range of artillery. The Tekeh tribe were certainly a very important people, inhabiting as they did the whole of the country to the north of the Atock, and possessing a very fine breed of horses. If properly officered, they would probably form a magnificent body of cavalry. Their horses were perhaps unequalled by any others in the world; they were not small, like Arabs, for he had seen some 16 hands high; they resembled English horses, but with a little more bone, and the distances they covered in a day were quite astounding. The people themselves were always ready to fight with anybody, and were only too anxious to be taken under the protection of the English. They would

make excellent irregular cavalry. The district of Deregez, when he was there, was governed by a Kurd, and a very fine specimen of a man. His district was surrounded on three sides by the Turcomans, but he had managed to keep it in good order, and by care and pluck kept the Turcomans out of it. It was one of the richest and most flourishing districts in the whole of Persia. The Russians represented their frontier as coming down to the Atreck, but that would give them the northern mountains with the passes through them, and would render their advance by the Atock perfectly secure even from the Persians or any power in alliance with them. Knowing the importance of this, they had produced maps in which the features of the country were quite distorted, and in which the Atreck looked a natural and innocent frontier. The Atreck frontier would include Deregez, which was entirely Persian, as well as a great many other Persian villages. The great moral to be drawn from the consideration of the physical and political features of this region was that which Sir Henry Rawlinson had so clearly brought out,—that if Persia were friendly, the Russians would have no difficulty whatever in advancing by any of the roads which they chose; if Persia were indifferent, they might have difficulties; but if Persia were inimical, they would find it quite impossible to advance, on account of the mountainous nature of the country, which afforded excellent means of attack, and enabled very small bodies to harass the long convoys that would be requisite. A great deal of the country near the Atreck was very fertile, and produced large crops of grain. Deregez especially was very rich.

Mr. R. MICHELL did not think the level of the Caspian could ever have been affected by any addition from the Oxus. He rather thought that the changes were due to slow upheaval of the land, and that the same cause had altered the courses of the rivers. All the mountain systems in Asia extended east and west, bearing out his theory that there was in course of formation a backbone to the Turcoman region. Such an upheaval would have the effect of dividing the waters, and causing the Oxus in the course of time to turn to the north, while the Tejen and the Murgháb turned to the south. Many facts strengthened that view. For instance, in the ruins at Mestorian, lately visited by the Russians, there were water conduits or aqueducts along the tops of the walls, showing that at one time the water flowed above the level of the soil upon which the city stood. It was difficult to imagine that any works which the Russians might undertake would ever restore the country to its former state of fertility. Nor is it likely that they will ever undertake any such a task, for in their own country, before they had a proper macadamised highway, the Russians rushed into railways; and if they neglected roads in their own country they would not be likely to construct them in the deserts of Asia. Sir Henry Rawlinson had not touched at any great length on the subject of Merv, and yet it was owing exclusively to him that our attention and interest had been attracted to that place. He thought the English knew more about Merv than the Russians did. No Russian had ever been there except the Sergeant Effrencof in 1789, and a captive of that nation who had been languishing there for years, but who had not been heard of recently. This man seems to have addressed letters to the English Government in preference to his own. He thought the interest in Merv was temporary and transitory, for when the Russians once occupied it they would probably go forward in a more southerly direction. He was of opinion that it was a pity we should debar ourselves the right of free discussion of the geography and ethnography of the interesting country of the Turcomans, which could hardly be considered as part of Turan proper, being perfectly independent of *Uzbekistan*, simply because the Russian explorations were in the form of military and political encroachment.

The CHAIRMAN (Sir Rutherford Alcock) said, in modern times no country had profited so much by geography as Russia, and no country had been better served

by its scientific staff of explorers. The courage, endurance, and determination that they had shown in penetrating the wilds and deserts of Central Asia and Mongolia deserved all praise, and those who were least disposed to admire the motive with which Russia was carrying forward those explorations, could not deny her officers their meed of admiration for the energy and skill which they had shown. There was one conclusion to be safely drawn from the geographical features brought before the Meeting, namely, that whatever might be the intentions of Russia in reference to Merv, she must have Persia's consent before she could occupy that town from her present line of advance. That was a matter of political geography, and therefore, though the Society did not deal with politics, they were quite at liberty to take note of so important a fact. Mr. Michell had gone far to confirm what was reported to have been said quite recently by a Russian ambassador, "that the Russians never thought of Merv till the English began to talk about it." But we are not bound to place implicit trust on the accuracy of an assertion, so little in accord with what is known from other and less questionable sources.

The Basin of the Helmund. By C. R. MARKHAM, C.B., Secretary R.G.S.
(Read at the Evening Meeting, February 24th, 1879.)

Map, p. 224.

THE western portion of Afghanistan includes the inland basin of the River Helmund, and the smaller inland basin of the Abistada Lake. It is comprised in one of those river systems without any outlet to the sea, which occupy a vast area in the interior of Asia, where the drainage flowing from a circle or semicircle of mountains is formed into a lake or morass at the lowest level it can reach. Such are the basins of the Caspian and the Aral, of the Balkhash and Baikal, of Lake Lob and the Tibetan plateau, of the Heri-Rud and the Murgháb, of the Helmund and the Abistada Lake.

The two latter form the subject of the present paper. They are surrounded, except to the westward where the Helmund drainage is emptied into the Sistan morass, by a vast amphitheatre of lofty mountains. To the eastward is the great chain of the Western Sulimanis, forming the water-parting between Afghanistan and India. To the north is the ridge connecting the Hindu Kush with the Sulimani, and the continuations of the Hindu Kush mountains, known as the Koh-i-Baba and the Siah-Koh. To the south are the Khoja-Amran Range and the desert of Baluchistan, and to the west is the depression of the Persian desert and the Lake of Sistan, which receives the surplus waters of the Helmund Basin. These limits enclose a mountainous region which is 420 miles in length by about 250 in its greatest breadth.

The basin of the Helmund is classic ground, and is the scene of many of the ancient Persian tales as related in the pages of Ferdosi. The tyrant Zohak, who overthrew the Persian monarchy then represented by Jamshid, was in turn overthrown and driven out of Iran. His memory is preserved in the castle of Zohak near Bamian, and his



W. J. Turner R. G. S., Del.

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MAP OF
THE TURCOMAN STEPPE
 and
NORTH KHORASSAN
 to illustrate Sir H. Rawlinson's Paper
 'The Road to Merv'

ENGLISH MILES
 20 0 20 40 60 80 100

Routes taken by the Russian forces towards Merv
 Approximate direction of ancient roads

W & A. K. Johnston, Edin' and London.

Pub^d for the Proceedings of the Royal Geographical Society 1879.