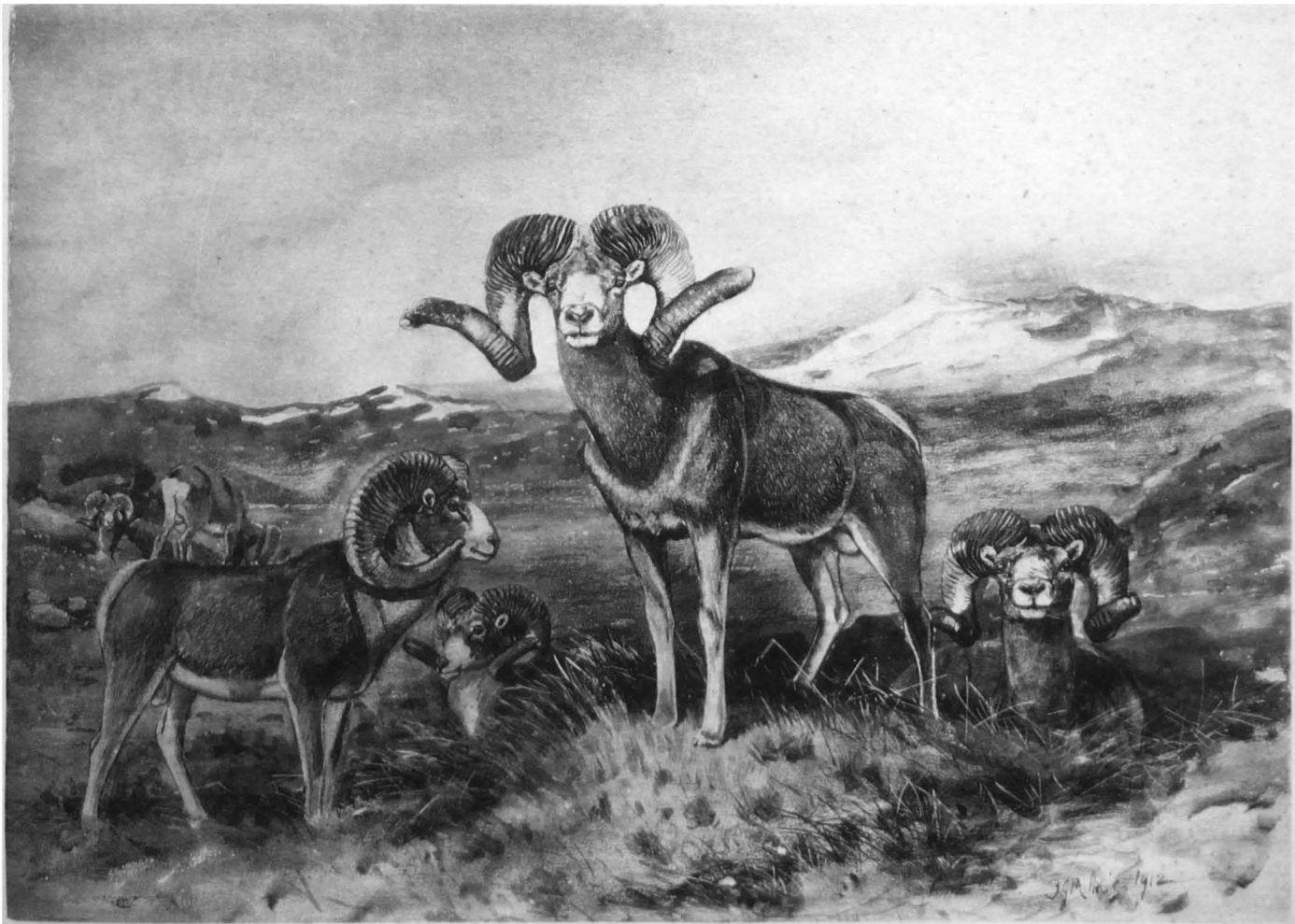


UNKNOWN MONGOLIA



MONGOLIAN WILD SHEEP.

Ovis ammon.

By J. G. MILLAIS.

UNKNOWN MONGOLIA

A Record of Travel and Exploration in
North-West Mongolia and Dzungaria

BY

DOUGLAS CARRUTHERS

GOLD MEDALLIST OF THE ROYAL GEOGRAPHICAL SOCIETY

WITH THREE CHAPTERS ON SPORT

BY

J. H. MILLER, F.Z.S.

AND A FOREWORD BY

THE RIGHT HON. EARL CURZON OF KEDLESTON,
G.C.S.I., Etc.

*WITH 168 ILLUSTRATIONS, PANORAMAS
AND DIAGRAMS, AND 6 MAPS*

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APPENDIX

APPENDIX A

THE DUNGANS

IN the brief sketch, given in Chapter XIII, of the inhabitants of Dzungaria only slight mention was made of the Dungans, or Tungans, as the Mohammedan Chinese of the north-western parts of the Empire are called.

These people, however, claim much attention, and a more detailed description of them is required, not only on account of the peculiar position they hold in the Chinese Empire, but on account of the disturbances they caused in past times and the danger they threaten to become in the future. Moreover, in a book dealing with countries forming the frontiers of Islam and Buddhism, the fact of a considerable and increasing population of Mohammedan Chinese calls for further information on the subject.

The Dungans of Dzungaria are located on the outskirts both of the Chinese Empire and of the Islamic world. They are in an entirely different position to the Mohammedan Chinese of the central provinces, for, instead of being isolated, they are in close proximity to the great Mohammedan centres of Central Asia, and the vicinity of this great Mohammedan population—both in Chinese and in Russian Turkestan—grants them an increased prestige.

It is not surprising to find a strong Mohammedan element in China when we realize the fact that, not only had the power of Islam spread from the Atlantic to Central Asia within a century of the death of Mohammed, but that the Arabs themselves had been in communication with China for nearly two centuries before the birth of Islam. We have to remember that, when the first waves of the Arab conquest spread across Central Asia, China was in closer communication with, and more influenced

by, Western Asia than it is even in these days. Early in the seventeenth century China was in actual danger of experiencing the savage onslaught of Kutaiba, the Arab conqueror of Central Asia; for, after bringing the lands bordering on the Chinese Empire under his subjection, the Arab general seriously considered the question of demanding the submission of the Celestial Empire. On one occasion they even came to blows, the Chinese army of 200,000 men being defeated; but the flow of Islam into Western China was finally arrested by the death of Kutaiba and the overthrow of the Omeyide dynasty. The spread of Islam is one of the marvels of history, and it is not strange that an Empire with a number of Mohammedan protectorates, as China has, should produce a "half-caste" element professing this faith.

In the days following the introduction of Islam into Central Asia, China had dominion over many tribes of Turkish descent who were the earliest to embrace the new religion. These people came of a fighting race, and on several occasions were able to aid China when troubles at home found her in a difficult position. For example, we are told, that in the middle of the eighth century some 4,000 "Arabs" (probably Uigur, Tadjik, or Usbeg Mohammedans from the present-day Chinese and Russian Turkestan) came to the assistance of the Emperor of China and helped to quell a rebellion. These troops, we are expressly told, never returned to their original home, but settled in the home provinces of China and married Chinese wives. It has been suggested that these people were one of the sources from which sprang the five *or more* millions of Mohammedans who now thrive within the Empire. On other occasions, also, people of Mohammedan faith settled in China. Records exist which tend to show that, at the end of the eighth century, there were as many as 4,000 families residing in Sianfu, who had originally come from Central Asia. These people had entered China for various reasons, and, owing to the difficulty of returning home,—caused by the unsettled state of Central Asia at that date,—they had asked permission to remain as settlers. The Chinese granted them their desire, and used them as mercenaries, paying them a monthly allowance.

Another proof of the theory that the Chinese Mohammedans are of Turki origin, is found in the derivation of the title "Hui-hui," by which they are known throughout the Empire. This term, according to Dr. Bretschneider, was given formerly to the Uigurs of Northern Mongolia, a people of pure Turki origin who were afterwards driven out of Mongolia, and formed a kingdom in Southern Dzungaria and Chinese Turkestan. These people embraced Islam, and were no doubt the main source from which emanated the Turki Moslem communities in China Proper. It is easy to understand how, in time, the name came to be applied to all Moslems.

The next great movement which brought China into close communication with Western Asia and Islam was that resulting from the conquests of Jenghis Khan. This great Mongol conqueror destroyed the capitals of the Islamic civilization, and the seats of Mohammedan learning, and, by virtue of this, China, under the Mongol Emperors, became almost the sole protector of Islam in Central Asia. Vast numbers of Mohammedans now began to flock into China. Jenghis Khan himself spared the lives of all those who could be of use to him, and transported Arab and Persian skilled artisans, and men of learning into Cathay. This resulted in the establishment of a strong Mussulman community in China, which increased rapidly in power and in wealth, which kept its religious independence, although it lost its individuality as a nation, and which rapidly assimilated its neighbours and surroundings, until the entire community became Chinese in all but name.

The Chinese Moslem can generally be distinguished from other Celestials by his physiognomy, his build, and some small details in his habits. So closely, however, do they sometimes approach each other in type, that they are almost indistinguishable except for certain differences discovered only after much observation. On the whole, it was the manner and bearing of the Dungan that most impressed me and proved him as different to his fellow-subjects. Energy and keenness, even if mixed with some insolence, make him preferable to deal with. Usually of a fine build, with a bridged nose and a modified almond-shaped eye, the Moslem always shows some trace of his

Turki origin, and his habit of following the Mussulman custom of shaving the lower portion of the upper lip enables one to identify him in far Western China. I am unaware if this habit is adopted by all followers of the Prophet throughout China Proper.

It is said that the Mohammedan can be detected by his manner of speech, and that many speak dialects of corrupt Mongolian or Turki origin; but this detail could only be distinguished by scholars who are well acquainted with the various and confusing dialects of the Chinese language.

It will be noted, therefore, that the Mohammedan Chinese were originally "half-breeds," and, consequently, through increased virility, they have had an advantage which has enabled them to become an important and numerous element of the Chinese Empire. Islam does not appear to have been propagated in China either by the sword or by the making of converts, but solely by the rapid increase of an originally small community of foreigners, who married Chinese wives and naturally brought up their families in their own faith. The most significant remarks on this subject were made by the writer Du Halde in 1735, which I will quote from Mr. Broomhall's *Islam in China*. He speaks of the "Mohammedan sect, settled above six hundred years ago in divers provinces, where they live in quiet, because they take no great pains to extend their doctrine and make proselytes. In ancient times they increased their numbers solely by the alliances and marriages they contracted; but for some years past they have made a considerable progress by help of their money. They everywhere buy up children whose parents, unable to educate them, make no scruple to sell them. During a famine which wasted the province of Shantung they purchased above ten thousand. They marry them, and either buy or build a considerable share of a city, and even whole country towns, to settle them in. Hence, by little and little, they are grown to such a head in many places as not to suffer any to live among them who goes not to the mosque; by which means they have multiplied exceedingly within three hundred years."

The exact number of Mussulmans within the Chinese Empire cannot be estimated with any degree of certainty. The Moslems

themselves, who alone have any idea of their numbers, exaggerate the total to such an extent, in their endeavour to increase their prestige, that the figures cannot be relied upon. The estimates vary in a bewildering way from 3,000,000 to 70,000,000; but it seems that some reliance is to be placed in Mr. Broomhall's carefully collected data and general summary of the maximum and minimum Mussulman population of the different provinces. The conclusion he comes to, is that the total number of Mohammedans within the Empire is somewhere between 5,000,000 and 10,000,000. This, of course, includes the Turki-Moslem population of Sin-Kiang,—which probably amounts to between 1,000,000 and 2,700,000 of the total,—as well as the true Chinese Moslem, the Hui-hui, or Dungan.

In spite of recent persecution the Moslems retain a strong hold on what they possess, and, owing to their greater virility, increase more rapidly than the Chinamen, and are therefore able to keep up their numbers and make good the check caused by recent insurrections, and the massacres which followed. It is, however, probable that the Moslems have, on the whole, lost and *not* gained ground during the last fifty years.

Whether the pan-Islamic movement will cause a religious revival or not, remains to be seen. Closer relations may spring up between the Chinese and the Central Asian Moslem communities, owing to the definite advance of the Moslem nomadic tribes from Russian Central Asia into China, and to the rapid increase of the resident population of Dungans in Dzungaria. In fact, the chain of Islam across Asia is now complete.

There is small likelihood, however, of a complete understanding taking place between China and her Moslem subjects. The feeling between the two sections is more bitter to-day than before the insurrection of 1862-77. The Moslem in China is also probably more fanatical than his far western co-religionist, who is slowly becoming accustomed to European ideas and to the advance of science and increased facilities of communication. Travellers in China state that only amongst the Moslems do they meet with studied insolence and undisguised dislike. The rebellions of 1862-77 tended to prove that the fanatical feeling existing between the Moslems and Chinese had in no sense abated.

The mention of the Chinese Moslems of Sin-Kiang, or the New Dominion, called for these further details on the subject of Islam in China. With regard to this region, the Dungans—the general term for the Chinese Moslems of the far western province—are concentrated in Southern Dzungaria, whereas the remainder of Sin-Kiang is almost entirely peopled by Turki Moslems, who were doubtless the progenitors of the half-bred Turki-Chinese Dungans, with whom, however, they now possess nothing in common beyond the religious point of view.

It appears that the Dungans are mostly colonists from the Moslem populations of Kansu and Shensi. The name has a doubtful origin; Vambéry suggests that it means “convert,” and that the Dungans of Dzungaria represent the Chinese who were converted to Islam in the fifteenth century by an Arab taken by Timor, or Tamerlane, from Damascus to Central Asia. The colonists, transported thither by the Emperor Kienlung in the eighteenth century, also embraced Islam and added to the number of Dungans.

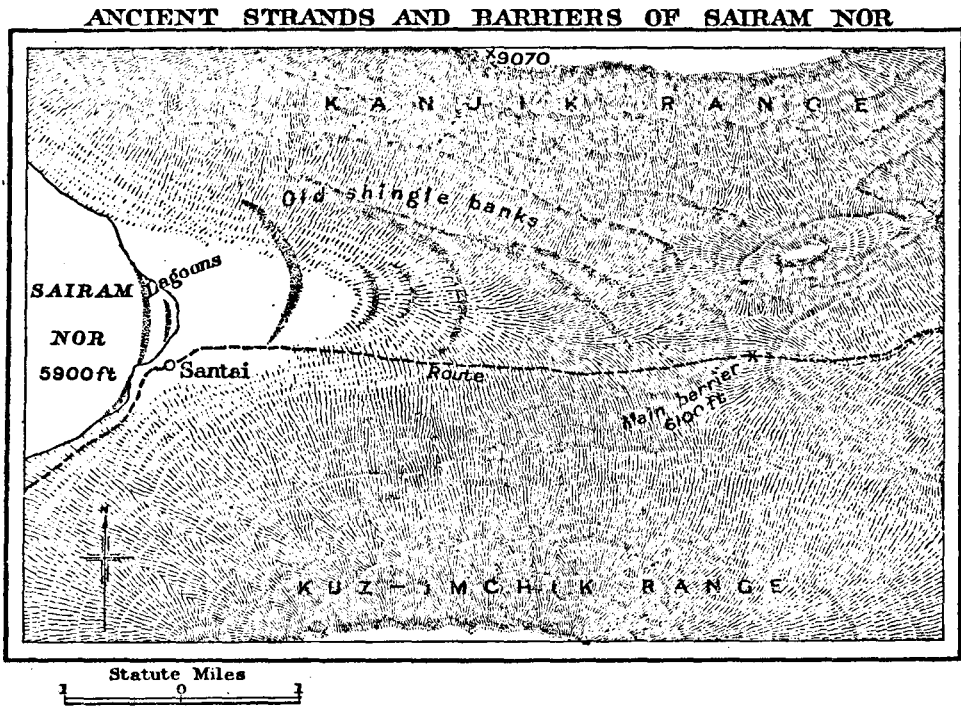
Vambéry's theory of the *conversion* of the pure Chinese to the Mohammedan faith remains, however, without confirmation, although several writers agree with his explanation of the term Dungan. Amongst these is Abd-ul-Aziz, a Mullah of Kulja, who wrote on the Moslems of China. The name Dungan, or Tungan, according to him, is derived from the verb *tunmek*—“to turn”—in the Turki language, as used in Central Asia. The word has become familiar to Europe through the Russians who have adopted it from their Turki subjects in Turkestan. Abd-ul-Aziz does not believe that the Arabs had anything to do with the origin of the Dungans, as their physiognomy and customs are Mongolian; but he does not mention to what extent he considers that the Turki people of Central Asia mingled with, and married, Chinese women in the past.

Other writers, again, affirm that all attempts to discover the exact meaning of the word Dungan have proved unsatisfactory. In China Proper the Moslems are always called “Hui-hui”; the most accepted translation of the word signified by the character “Hui” is the phrase “to return,” which may be the equivalent of the Arabic “Islam”—“to return and to submit.”

APPENDIX B

THE ANCIENT STRANDS AND BARRIERS OF SAIRAM NOR

SAIRAM NOR is a lake-basin situated in the mountains to the north of Kulja, at an altitude of 5,900 ft. above sea-level. The mountain-wall surrounding the basin is complete, except at a narrow opening on the east, between the Kanjik ridge on the north and the Kuz-imchik on the south, through which, it appears, that the basin once drained to the Ebi Nor basin on the Dzungarian plains below. At the eastern end of the Sairam Nor basin, there



are signs that the level of the lake was once much higher than it is at the present day, and that in all probability the area was transformed into a lake-basin, at no very distant date, by the formation of skrees from the Kanjik and Kuz-imchik ridges, which raised a barrier and enclosed the drainage. The distance between the eastern edge of the lake and the barrier is about five miles; the whole of this area was once occupied by the lake, as proved by the succession of shingle-banks which remain, showing where once the strong west winds heaped up those

barriers, in the same way as they are doing on a minor scale at the present day.

Along the eastern edge of the lake these barriers are in actual process of formation. As will be seen by the diagram, there are two completely formed shingle-banks enclosing lagoons and a third one not so completely formed. In the course of time the lagoons will dry up and more shingle-banks will be left high and dry on the shore. An almost imperceptible rise leads to another very large, crescent-shaped bank; beyond this are two small banks, and then another large one; farther still, at a longer interval, is the last bank before arriving at the actual barrier of skrees, which is the watershed between the lake-basin of Sairam Nor and the valley draining to Ebi Nor.

All the banks conform to the shape which the eastern end of the lake must have had when the water-level stood at that of a given bank; this is especially noticeable at the oldest or most easterly one. The banks are, of course, now covered with soil and support the scanty steppe-flora such as is found round the edge of the basin. No lagoons or shingle-banks were seen in any other part of the lake.

The prevailing wind is from the west, the Sairam Nor plateau having a reputation for winds of extraordinary violence. These, when concentrated in the narrow neck formed by the Kanjik and Kuz-imchik ridges, have their strength intensified, and the gradual heaping up of shingle-banks takes no great time. A proof of the strength of the winds was given us when we passed along the southern edge of the lake in the month of January, for we noticed that its frozen surface was so covered with gravel and grit blown on to the ice that it was brown instead of white. All this was gradually being swept up towards the eastern end, and no doubt eventually went to add to the accumulation of material which is being slowly banked up there.

The precipitation of rain in summer and snow in winter is considerable, and the area which drains into the lake would be sufficient to cause an overflow, were it not for the fact that the drainage seems to be exhausted by the surrounding country, before it reaches the lake. It is noteworthy that there are no streams entering the lake above ground, neither did there appear

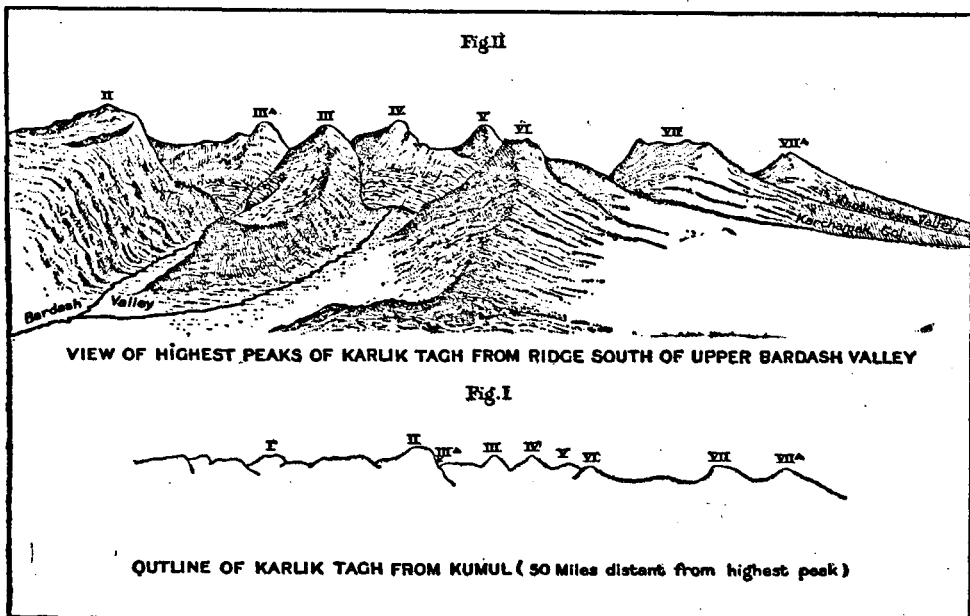
to be any water-courses which might carry the surplus of water, during especially heavy rainfalls. Sairam Nor is probably formed entirely by spring-water, which is counteracted by evaporation. Although the natives would not use the water, we found that its salinity was scarcely noticeable. The native story that ruins are to be seen below the water, may be another proof of the comparative recent formation of Sairam Nor.

APPENDIX C

THE SUMMITS OF KARLIK TAGH

As a guide to future travellers, and for any one who may be urged by a desire to climb the unconquered peaks of Karlik Tagh, I add this note and the accompanying diagrams, to show the position and comparative altitude of the highest points of the range. Further exploration—of an alpine nature—will alone show to what extent my deductions are correct; the adjoining sketch may, however, stand as a groundwork, and the numbered peaks as a standard, on which to base further work.

Fig. 1 shows the view from Hami, or Kumul, at a distance of fifty miles from Peak No. II. It is only from such a distance



that a general view of the highest points can be obtained ; on approaching closer the outlying foot-hills hide all the peaks west of No. VII, and add to the difficulty of taking reliable clinometrical readings. From a point a few miles to the south of Peak No. VI, and in a direct line between it and Hami—where the first sketch was made—I obtained another clear view of the same peaks. These two sketches prove to be almost duplicates of each other.

From the first, I placed Peak II, as the highest point visible on the south side of the range, although I had doubts as to Peak I, for it seemed to lie so far back that it might have even equalled No. II ; but a chance view of Nos. I, II, IV, and VI from the Khamar Pass between the Edira and Bardash valleys, proved to me that No. I was of considerably lower altitude. Peak I lies at the head-waters of the Edira Valley, and from its two small glaciers spring the two sources of the Edira River.

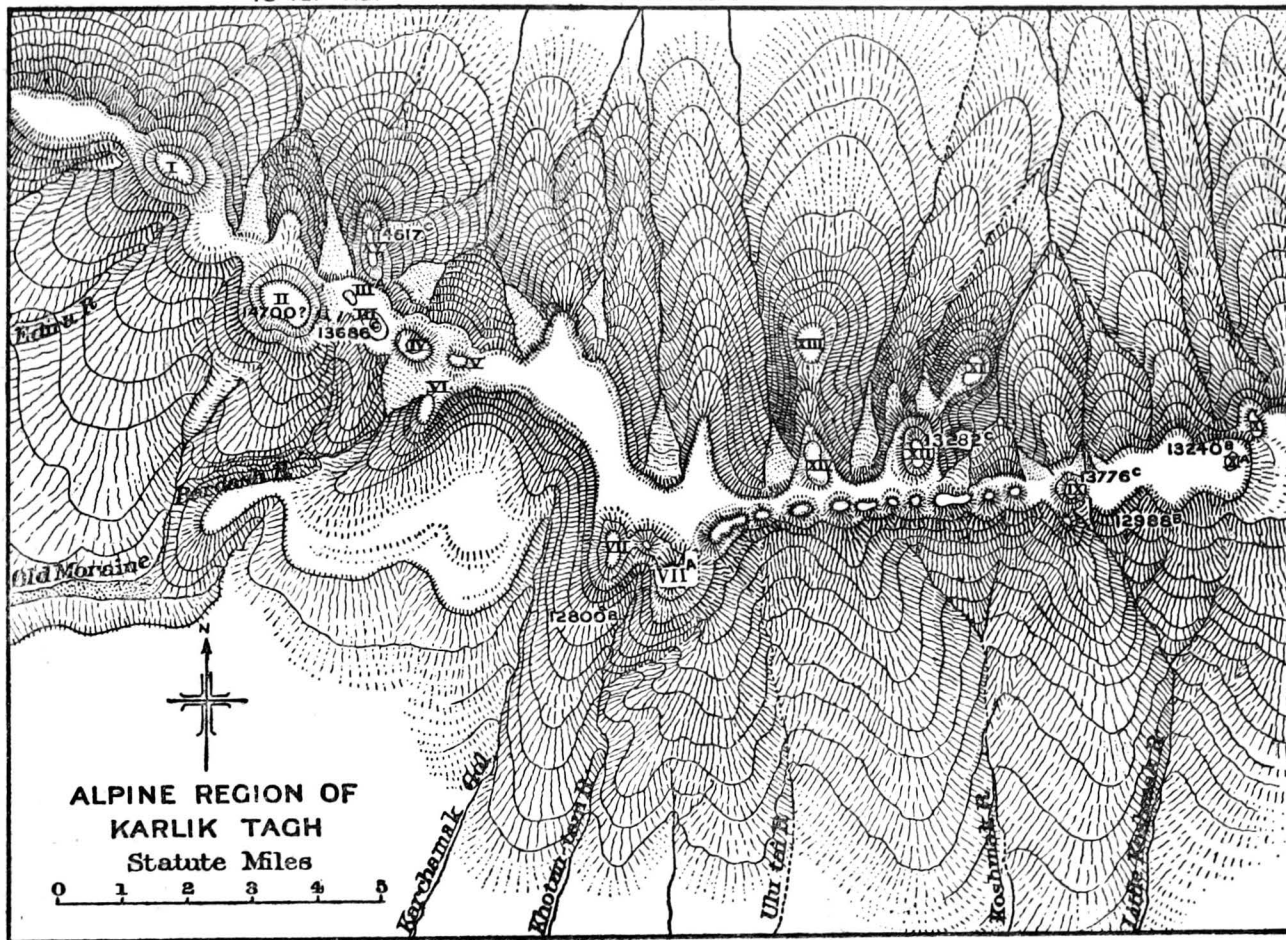
Peaks II, III^a, III, IV, V and VI are all reached by the Bardash Valley, and all, with the exception of No. V, lie in a semicircle around the head-waters of the Bardash River, and drain into it. The exact position of No. V remains undecided ; it either stands on the watershed between Nos. IV and VII and drains into an unexplored right affluent of the Karchamak, or it is a high peak which lies entirely over the watershed (*i.e.* on the north side).

The next group of peaks eastwards is composed of Nos. VII and VII^a, which, with VII^b lying in between the two (but invisible from the positions at which the accompanying sketches were made), form a semicircle around the head of the Khotun-tam valley. The summit of Peak VII would be accessible from the ridge which lies between the Khotun-tam and Karchamak valleys, and a very extensive and instructive view of the alpine region would be obtained if an ascent were made.

East of Peak VII^a the range runs out in a straight, narrow, serrated ridge to Peak IX, the most easterly summit visible from the south. It keeps a very even altitude ; there are no cols or passes, and only a few peaks stand out as landmarks distinguishable at a distance. Peak IX lies behind the highest source of the Little Koshmak Valley ; east of this the ridge extends for about

To Tur Kul

Headwaters of Uturuk River



four miles at an altitude just below that of perpetual snow. Peak X, which we ascended to a height of 13,240 ft., lies over the watershed on the north side, and is not visible from the south. On the northern side there are many outlying peaks,—spurs of the main ridge and equal to it in height. The most prominent of these are Nos. XI, XII, XIII, XIV, and XV. Between Peaks XIV and XV is an alpine region, which I was unable to fill in in detail; the configuration of this part of the actual watershed remains doubtful. I think that there is a wide expanse of snow-field, and that the range is deeper here than elsewhere, which hindered me from recognizing—from the north—my old points such as Peaks II to VII.

The culminating point of Karlik Tagh was estimated by the first explorers at 12,000 ft. Kozloff, in 1895, put the altitude of the highest peak at 15,000 ft. A later estimate was that obtained by Stein's surveyor, who marked two principal peaks,—which seem to correspond to my Nos. I and II,—and puts their height, by clinometer, at 12,930 ft. and 13,070 ft. respectively.

APPENDIX D

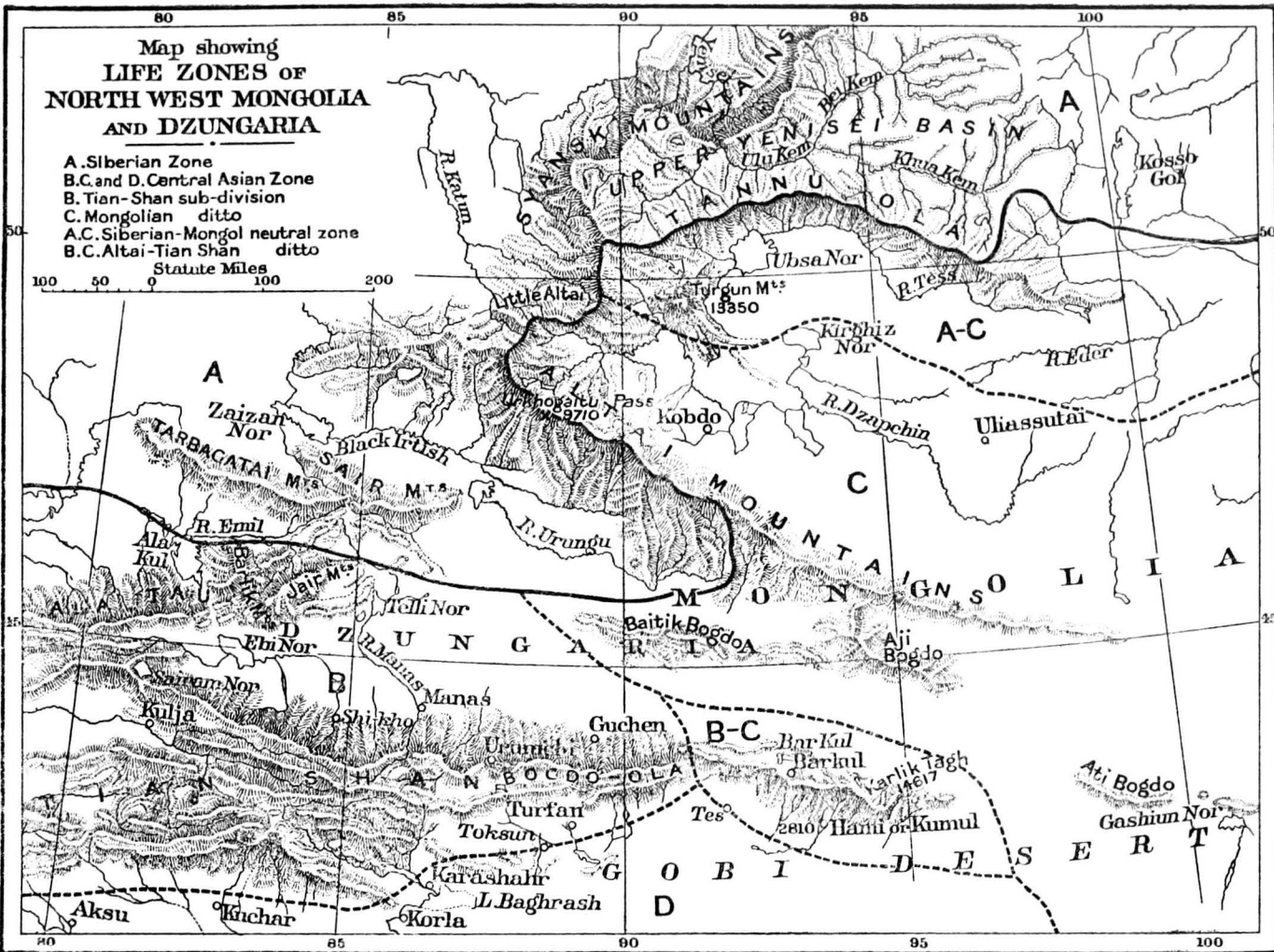
THE LIFE-ZONES OF NORTH-WESTERN MONGOLIA AND DZUNGARIA

THE portion of Inner Asia comprising the countries described in these volumes, forms a somewhat remarkable area as regards the distribution of Asiatic flora and fauna; it also contains the lines of demarcation between the ranges of many different species. Although the whole of the Yenisei basin, North-western Mongolia, and Dzungaria are situated within one zoographical area—the Palæarctic, yet the variety of altitude and climate that they contain and the extent of latitude that they stretch over, as well as the variety of flora they produce, allow the existence of a remarkable variety of animal life. These regions include the easterly range of many European and Western Asiatic species, the southern limit of a great many Siberian varieties, the northern range of some Chinese and Indian, as well as the entire range of a few species peculiar to this part of Asia. As

Map showing
**LIFE ZONES OF
 NORTH WEST MONGOLIA
 AND DZUNGARIA**

- A. Siberian Zone
- B. C. and D. Central Asian Zone
- B. Tian-Shan sub-division
- C. Mongolian ditto
- A.C. Siberian-Mongol neutral zone
- B.C. Altai-Tian Shan ditto

Statute Miles
 100 50 0 100 200



a whole, Mongolia has a representative fauna of the Central Asiatic type; but its northern edge, bordering on Siberia, includes a considerable number of species peculiar to the temperate forests of the northern Palæarctic region. This is especially noticeable in the Uriankhai country, between the Syansk and Tannu-ola ranges, which, although lying within the boundaries of Outer Mongolia and being in itself a terrace between the Siberian plain and Mongolian plateau, yet possesses a fauna and flora entirely Siberian. Dzungaria has, on the whole, a Central Asian fauna, but a few Siberian species range thus far into the heart of the continent.

We can, first of all, draw a main dividing-line between typical Siberian and Central Asian flora and fauna; this will roughly follow the southern limit of the forest-zone. The southern or Central Asian portion of this division will again be subdivided by the insular Tian Shan mountain-group, which forms in itself a peculiar and isolated faunistic and floristic zone. Another dividing-line is necessary between the Tian Shan and Altai, to show the exact limits of the special types peculiar to each region. The first great faunistic division to be delimited is that between Siberia and Inner Asia. In the course of our journey we first passed the line of demarcation between these two areas in the neighbourhood of the Tannu-ola Mountains. This watershed between Arctic and Mongolian drainage may be taken as the junction of the two zones, although, of course, they overlap and there is a broad neutral zone between them.

Broadly speaking, the Tannu-ola is the *southern* limit of such species as the reindeer, moose, beaver, many fur-bearing animals, squirrels, black-game (*Tetrao tetrix*), hazel-grouse (*Tetrastis bonasia*), and capercaillie (*Tetrao urogallus*); the same range forms roughly the *northern* limit of such Central Asian types as the wild-sheep (*Ovis ammon*), wild-horse (*Equus prjevalskii*), marmots, and a host of small mammals.

The neutral zone, of which I spoke, consists mainly of mountain-groups such as the Altai and Turgun, or Kundelun, which extend southwards into Mongolia across the watershed of Arctic drainage; these by their altitude compensate for the more southern latitude. On these mountains we find that the ranges

of many Siberian and Mongolian species overlap. The Turgun Range, for instance, is more truly Mongolian than the Tannu-ola. This forms the northern limit of the yak; it is here we first meet with the *ovis ammon*,—although it formerly ranged on to the southern slopes of the Tannu-ola; here, too, begin the snow-leopard, the marmot, and the snow-cock. Siberian types are represented by the ptarmigan (*Lagopus rupestris*), which ranges thus far over the Tannu-ola.

The Altai Range is difficult to define as belonging exclusively to either faunistic zone; but I should continue the line of demarcation, which runs the length of the Tannu-ola, along the Little Altai and thence in a south-easterly direction along the crest of the Great, or Mongolian Altai to the head-waters of the Black Irtish. In other words, all that part of the Altai which drains into the Arctic should belong to the Siberian, whilst the remainder should represent a portion of the Mongolian zone. The Urungu basin should probably be included in the former. Beyond the Altai, in a south-westerly direction, lies the lowland of Dzungaria, which connects the plains of Siberia with the plateau of Mongolia, and across which continues the line of demarcation between the two main life-zones, as well as another secondary line to show the subdivision between Altai—whether Mongolian or Siberian—and Tian Shan fauna.

The first and most important line, which we have so far traced to a point on the crest of the Altai somewhere between the sources of the Black Irtish and the Urungu rivers, now continues across the central plains of Dzungaria, cuts in between the mountain groups of Barlik and Urkashar on the south and the Sair and Tarbagatai on the north; and runs westwards into Northern Turkestan. This line forms the southern limit of the Siberian larch tree (*Larix sibirica*) and the northern limit of the Chukar partridge (*Caccabis chukar*) and the Tian Shan spruce (*Abies schrenkiana*). But most forms peculiar to the Tian Shan area stop at the Ala-tau, and do not extend their range across the Dzungarian depression, or Gate, to the Barlik Mountains.

Practically the whole of Dzungaria belongs to the Central Asian zone, which includes the subdivisions of the Tian Shan and Mongolia. The plains form a neutral ground for some widely

distributed species, whose ranges here meet and overlap. The saiga antelope (*Saiga tartarica*) of the Russian and Siberian steppes, for instance, extends across Dzungaria as far as Long. 92° East, but no farther; the wild-ass (*Equus hemionus*) also ranges as far eastwards, its place being taken farther east by Prjevalsky's wild-horse. On the 90° meridium of Longitude, Prjevalsky found that the ranges of these two overlapped.

The southern border-range—the Tian Shan, together with the Ala-tau and Barlik groups, constitute an isolated area in the midst of the Central Asian zone, while in the east the Altai Mongolian forms another subdivision which needs careful demarcation.

A certain amount has been written and much conjectured, as to the probability of the "overlapping" of the Altai and Tian Shan fauna and flora in the ranges of Barkul and Karlik Tagh. The traveller Grum-Grjimailo considered that he had established a sure proof that the Barkul and Karlik Tagh Mountains should be distinguished from the Tian Shan and included in the Altai system (see *Geog. Journ.*, vol. xiii, 1891); but I think that his evidence goes to prove that these ranges form a *neutral* ground between the two main mountain-systems. Orographically they belong to the Tian Shan group, but, from the point of view of their flora and fauna, they show affinities relating to both systems.

The Altai and Tian Shan mountain systems approach each other to within a hundred miles, the intervening space being occupied by high steppe, which forms the first rise from the Dzungarian lowlands to the Mongolian plateau. This eastern extension of the Tian Shan chain, which approaches so closely to the Altai Range and which extends far into Mongolia before disappearing in the Gobi Desert, is composed of the ranges called the Bogdo-ola, Barkul, and Karlik Tagh, and, still farther east, the Ati Bogdo. It is somewhere amongst these mountains that the true dividing-line exists between the two subdivisions.

The western portion of this line has been already determined as lying between the Barlik-Urkashar and the Tarbagatai groups; thence it runs across the plains towards the south-east; on reaching the Baitik Bogdo the line divides into two, which enclose a neutral zone before meeting again in the Western Gobi.

The southern of these two branch-lines cuts across the Tian Shan system at the Tou-shui plateau between the Bogdo-ola and Barkul ranges, and thence passes along the south of the Karlik Tagh. The northern line runs south of the Baitik Mountains—the almost isolated range between the Urungu River and Bogdo-ola Mountains, and thence continues towards the east, either *embracing* the Ati Bogdo in the neutral zone or leaving it to the Altai-Mongolian subdivision. All to the north of these lines is Altai and Mongolian, to the west and south is Tian Shan and Chinese Turkestan fauna; but the neutral zone, thus enclosed, has a strange mixture of both fauna and flora. This area is composed chiefly of the Barkul and Karlik Tagh ranges; the most easterly portion—the Ati Bogdo—must remain in an indefinite position, for I have not been able to find sufficient details regarding its fauna to place it definitely within either.

Of the fauna of the Karlik Tagh, the wild-sheep is of a species peculiar to the Tian Shan (*Ovis ammon karelini*), and it is the same with the wapiti, ibex, and roe-deer; the snow-cock and rock-partridge are also Central Asian varieties. The forests of the Karlik Tagh are chiefly composed of the Tian Shan spruce (*Abies schrenkiana*). But, on the other hand, the presence of larch (*Larix sibirica*) gives the Karlik Tagh the aspect of Altai scenery; and the existence of certain mammals,—such as picas, or tailless hares (*Ochotona*), and mole-rats (*Ellobius*) of species closely allied to those of the Altai system—show the affinity that the fauna of this region has to that of the Altai. The brown partridge of this region is the Mongolian variety (*Perdix daurica*).

The Ati Bogdo Range, which lies about 180 miles to the east of Karlik Tagh,—but is only connected with it by a succession of very low desert-hills,—probably belongs to the neutral zone. Kozloff, the Russian explorer, reports finding larch forests, wild-sheep, and roe-deer in this range; and in all probability these would prove to be of the same varieties as found on Karlik Tagh. Altai fauna extends even farther to the east, for it follows the long, low extension of spurs which run out in an east-south-easterly direction from the main Altai to the neighbourhood of Lat. 44° and Long. 401°. All these ranges contain the wild-sheep and the snow-cock peculiar to the Altai and North-

west Mongolia. There is a westerly delimitation to the neutral zone in a hard-and-fast line drawn across the Tou-shui (or Chiku-ching) plateau between the Barkul and Bogdo-ola ranges, which defines the beginning of true Tian Shan flora and fauna.

If we take the principal varieties of animal-life separately, and show their distribution, it will be seen how these zones conform or overlap, as the case may be. The wild-sheep, for instance, which are so typical of the large fauna of Asia, range, in suitable localities, over the whole of the area described, with the exception of the Upper Yenisei basin. The Mongolian zone holds the *Ovis ammon typica*, the Tian Shan has only the *Ovis ammon karelini*, while a small variety, *Ovis ammon sairensis*, exists on the isolated ranges mid-way between the habitats of the other two, namely, the Barlik, Urkashar, and Sair Mountains, which lie on either side of the main divisional line between Siberian and Central Asian fauna, in Northern Dzungaria. Of the goat tribe, ibex (*var. Capra sibirica typica*) are found over the whole area from Siberia to the Tian Shan, those belonging to the central part of the latter region being distinguished as a variety—*C. sibirica almasyi*.

The deer are well represented throughout the entire region, but the peculiarly local distribution of forests in Inner Asia causes their habitats to be unevenly scattered and spasmodic. Wapiti (*Cervus canadensis asiaticus*) and roe-deer (*Capreolus pygargus*) exist all over the Upper Yenisei basin and in the forested Altai; while closely allied varieties (*Cervus canadensis songarica*, or *eustephanus*, and *Capreolus pygargus tianshanicus*) range over the northern forested slopes of the Tian Shan, Ala-tau, and Barlik ranges, and extend eastwards as far as does the forest. The large wapiti probably stop at the Karlik Tagh, but the roe-deer range to the Ati Bogdo. Another species (*Cervus cashmirianus yarkandensis*), whose main habitat is Chinese Turkestan, ranges into Dzungaria, being found in the jungles of the Manas River. Musk-deer are found only in the mountains of the Upper Yenisei basin; the range of the reindeer, as described in Chapter VIII, does not extend southwards beyond the walls of this basin. Another northern form, the beaver, still exists in the uppermost sources of the Yenisei, and, it is said, in the

highest tributaries of the Black Irtysh in the Mongolian Altai. Many other fur-bearing animals range as far south as the main dividing-line between Siberian and Central Asian fauna, but no farther; although in some cases they turn up again, in slightly modified forms, in the Tian Shan.

The gazelle are typical of an arid climate,—such as Inner Asia possesses,—and they are generally to be met with in the open plains south of the main dividing-line. In Mongolia, however, a mountain—or rather a plateau—variety exists, and this gazelle (*Gazella gutturosa*) extends its range northwards on to the high steppes such as exist in Siberia at the head-waters of the Ob River. The common gazelle of the region is the Goitred Gazelle (*Gazella subgutturosa*) and its allies, which have a wide range from Western Asia to Mongolia. Bear are found wherever there is sufficient forest-area, and wild-pig range over the entire region both on plain and plateau; of both these forms, however, the Tian Shan zone produces slightly different varieties. Tiger are met with only in the most southerly portion of the region, and are of the small, thin-haired Central Asian type. The long-haired Manchurian tiger does not range into the neighbourhood of the Yenisei basin, which is the only portion of our region which might be expected to hold it. Snow-leopards are to be found on all mountain ranges as far north as the Turgun and Altai.

Of bird-life, there is not much to record, except regarding the ranges of resident, non-migratory species, such as the game-birds. From a collection of about 256 species, I scarcely found a variety that I had not already collected in Russian Turkestan, this alone showing how truly Central Asian is the fauna of Dzungaria. The distribution of the game-birds shows, however, certain distinctive areas. The northern forests hold the capercaillie, the black-cock, the hazel-grouse, and on the hill-tops the ptarmigan. Of these only the black-game extend to the Tian Shan, the ptarmigan reach to the northern part of the Mongolian Altai, the capercaillie and hazel-grouse go no farther southwards than the Upper Yenisei basin.

The dividing-line between the Tian Shan and Altai fauna demarcates the northern limit of the Chukar partridge, but the

Brown partridge (*Perdix perdix*) extends its range from Siberia into the Central Asian zone, being found as far as the Bogdo-ola Range. The Bearded, or Daurian Partridge (*Perdix daurica*), ranges from its true habitat—Mongolia, northwards into the Siberian zone and southwards into the Altai-Tian Shan neutral zone. Pheasants are, of course, found in all suitable localities throughout the entire area. The Mongolian pheasant inhabits the Ili Valley and all the Dzungarian river-valleys, such as the Borotala, Manas, and Irtish; while a rare variety (*Phasianus hagenbecki*) is found on the lower Kobdo River in North-west Mongolia. Two varieties of snow-cock are found within the region, one—*Tetraogallus altaicus*, is peculiar to the Mongolian-Altai zone, and the other—*Tetraogallus himalayensis*, ranges into the Tian Shan and Altai-Tian Shan neutral zone, from its true habitat, the Himalayas.

APPENDIX E

TERMS OF THE RUSSO-MONGOLIAN PROTOCOL ¹

THE following is a careful précis of the agreement, signed on November 3rd, 1911, between Russia and the Mongolian Princes, with regard to the rights and privileges of Russians in Mongolia and Mongols in Russia.

(1) Russian subjects shall, as in the past, have the right freely to live and travel in all parts of Mongolia, to conduct business, establish factories, and arrange affairs with all individuals or companies, official or private, whether of Russian, Mongol, Chinese, or other nationality.

(2) Russian subjects shall, as in the past, have the right to import and export at all times all products and manufactures of Russia, Mongolia, China, and other countries duty free, and to conduct free trade exempt from all duties and taxes.

(3) Russian banks shall have the right to establish branch banks throughout Mongolia, and conduct banking business with all individuals and companies.

¹ As published in the *Morning Post* of December 20th, 1912, and inserted here by kind permission of the editor.

(4) Trade can be conducted for ready money or on credit, but in the case of credit transactions the Mongol Princes or the Treasury cannot be held responsible for the credit of private individuals.

(5) No monopoly can be established either in commerce or manufacture. The Mongolian authorities shall not prevent Mongols or Chinese from doing business with Russian subjects, nor prevent their employment in Russian commercial industrial enterprises.

(6) Russian subjects shall have the right to lease or buy land in all towns and cities throughout Mongolia and establish commercial enterprises and manufactures, build houses, stores, and go-downs, and lease vacant land for agricultural purposes. Pasture-lands and places set apart for religious purposes are not included.

(7) Russian subjects are free to arrange with the Mongolian Government concessions regarding mining, forestry, fishing, and other business enterprises.

(8) The Russian Government shall have the right to establish Consulates in Mongolia wherever it is deemed necessary after consultation with the Mongolian Government. The latter shall have a corresponding right to appoint Mongolian representatives along the Russian frontier.

(9) Wherever Russian Consulates are established or Russian business is conducted, Russian trade settlements can be established, which will be under the administration of Russian Consuls, or, where there are no Consuls, under the administration of the senior Russian merchant.

(10) Russian post offices can be established throughout Mongolia, with postal services to the Russian frontier, at the cost of the Russian Government.

(11) Russian Consuls shall have the right to use Mongolian post-stations without charge provided that the number of horses to be furnished by the Mongols shall not exceed one hundred monthly nor the number of camels thirty.

(12) All Mongolian rivers flowing into Russian territory and the branches thereof are open to navigation by Russian subjects with Russian vessels. The Russian Government will assist the

Mongolian Government in the conservation of these rivers and the improvement of navigation by buoying and lighting, and Russian subjects shall, in accordance with Article 6, be granted areas on river frontages as stopping-places for Russian vessels, and can there build wharves and go-downs.

(13) Russian subjects desiring to transport goods and live stock shall have the right to use rivers and roads in Mongolia, and with their own money can build bridges, and establish ferries, and collect fees from the people using these bridges and ferries.

(14) Grazing-lands in Mongolia shall be reserved for the use of flocks belonging to Russian subjects when migrating, and such lands can be used for three months without payment, after which period charges can be made.

(15) All rights and privileges enjoyed hitherto by Russian subjects along the frontier for hunting, fishing, and the cutting of grass in Mongolia are confirmed.

(16) In regard to the procedure to be followed in connexion with business and other agreements between Russian subjects and Mongols and Chinese, it is provided that property transfers must be written and that the contracts must be submitted to Mongolian officials and the Russian Consuls for approval. If a dispute arises in a case it must be submitted to arbitration. If it is still unsettled, the case must be sent before a mixed tribunal, which shall be permanent where a Russian Consul is stationed. In other places a temporary tribunal shall be organized by a Russian Consul and the Mongolian Prince in whose territory the defendants reside, each side engaging to execute the findings of the Court, the Russian Consul on Russian subjects, and the Mongol Prince on the Mongols or Chinese.

(17) The protocol takes effect from the date of signature.

The protocol is drawn up in Russian and Mongolian in duplicate, and the copies were signed, sealed, and exchanged at Urga on the 24th day of the last month of autumn of the second year of the Mongolian Sovereign, or November 3rd, 1911.

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ERRATA FOR "MAP OF THE KARLIK TAGH AND
BARKUL MOUNTAINS"

1. For Bagdash read Bardash.
2. Barkul Dawan or Koshete Dawan, 8,700 ft.
3. Cart-track leads from Kumul via this track to Barkul.
4. Marsh-land at eastern end of Tur Kul as at western end.
5. Ara-Tam should be close below contour-line representing 4,000 ft.
6. Altitudes, 13,686 and 13,282 should be denoted 13,686°, and 13,282°
(clinometer reckoning).
7. Peak, Alt. 13,240 ft. was ascended.
8. Glaciers exist at the other two main sources of the Bardash River.
9. The names of Narin, Koral, Edira, Bardash, and Khotun-tam give
their names to the rivers on which they are situated.
10. The river to the west of the Shopoli Valley is the Narin.
11. For Bogdo-olo read Bogdo-ola.

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