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CONTENTS.

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No. 1. *July.*

MAPS.

No. 2. *August.*

MAPS.

No. 3. *September.*

MAPS.

No. 4. *October.*

MAPS.

No. 5. *November.*

MAPS.

No. 6. *December.*

MAPS.

special lecture; and here I would like to say that Lieut. Pennell, her commander, Lieuts. Rennick and Bruce, Mr. Drake and Mr. Lillie, have worked incessantly in the ship and on the less frequented coasts of New Zealand for nearly three years. They have been ably and loyally assisted by the seamen and stokers of the *Terra Nova*—worthy fellows, whose bye-word has been, "*Play the game.*"

The PRESIDENT: We have decided not to have any more speech-making this evening, but I will ask you before you separate to join me in passing a vote of thanks to Commander Evans and his gallant comrades for the part that they have played in the moving drama which has been placed before us to-night, and to Commander Evans himself for the paper he has delivered to us. I think the matter which will have struck us most in listening to that paper was the fine and generous tribute that he paid to the men with whom he wrought and who are here with him this evening. Well deserved has that tribute been. I ask you, ladies and gentlemen, by clapping your hands to join with me in this final note of appreciation.

LOST GEOGRAPHICAL DOCUMENTS.*

By Sir CLEMENTS R. MARKHAM, K.C.B., F.R.S.

I HAVE thought that it might be of some slight service, in furthering the objects of the Congress, if I submitted to the consideration of this Sub-section a few remarks. They will be based on knowledge acquired during the course of various researches, and will refer to the losses sustained in the past of precious materials for the study of historical geography, and on the best measures for their discovery and preservation in future.

I need not dwell at any length on the importance of this branch of the science of geography, on the one hand, to the study of physiography, which is another branch of that science, and on the other to history.

Some knowledge of geography, or the advice of a geographer, is a necessity to a historian. I think that, amongst our great historians, Mr. Freeman was the most deeply impressed with this necessity. He felt the need not only of a general knowledge of geography, but especially of a knowledge of historical geography, of the physical changes in a region which are recorded in history. He was guided a good deal by a very eminent physiographer and geologist now living, and thus his descriptions of the scenes of great events were accurate as well as more graphic. His accounts, too, of the routes taken by armies owed their correctness to the study of historical geography; notably, the march of William the

* Contributed to Sub-section (*a*) of Section IX. of the International Congress of Historical Studies, 1913.

Conqueror from York to Chester. Similar examples of the importance of historical geography to the historian might be multiplied almost to any extent. The battle of Sluys could not be understood, indeed, would be unintelligible, without a knowledge of the physical changes in that region; and for a comprehension of the siege of the same town of Sluys, nearly three centuries later, a geographer's knowledge is equally indispensable. How soon one detects the historian who has not visited the scenes he describes, and has overlooked the teachings of historical geography!

Seeing, then, the great value to the historian of the materials which it is the office of the historical geographer to place within his reach, we must be impressed with the importance of preserving those materials, and of diligently and systematically seeking them out, as well as with the disastrous consequences of the loss of so many precious journals and other documents. These losses, which have occurred in all countries, are most deplorable, and, it is to be feared, to a large extent irreparable. They constitute a blank, or rather several blanks, perhaps never to be filled up in the world's history.

I can only refer to those heavy losses which have come to my own knowledge, and over which I have had to mourn; but it is worth while to cast a glance over them. Doubtless other students know of many more.

Where, then, is the work of Nicholas of Lynn recording his discoveries? Chaucer has told us of the Oxford student's preparation for his great enterprise. We see him in the lodgings he hired from the carpenter and his young wife, with his Almagest of Ptolemy, his astrolabe and his angrim stones on a shelf at his bed-head. We are told how young Nicholas loved to deck his chamber with sweet herbs; how he made melody on his psaltery and sang the *Angelus ad virginem;* how he was well known for his courtesy; while we may look upon his love passage with the carpenter's wife, and his consequent trouble, as Chaucer's fun to make a good story. Next we hear of Nicholas as a Carmelite monk at Lynn, and as starting on an expedition of discovery in Norway and the Far North. He fixed his latitudes with that astrolabe which used to be on the shelf at his bed-head when he was a student at Oxford. He reported that there were islands round the pole. I believe that he must have discovered Spitsbergen. But the record is lost.

There certainly was a book, and its title was 'Inventio fortunata.' Gerard Mercator is quoted by Hakluyt as having seen it, and as stating that Nicholas of Lynn had travelled in Norway, and to islands in the Far North; that he described all these places, and determined their latitudes by an astrolabe. My friend Nansen is the first writer who has treated Nicholas of Lynn seriously. He shows that the work of Nicholas was known to Las Casas, and also to Martin Behaim, who, on his globe, places the islands round the pole, as described by Nicholas; Claudius Clavius and other mediæval cartographers were also indebted to our Oxford student.

Well, the book is lost to us. It could not have been in England three centuries ago, or Hakluyt would have been sure to have found it. There is evidence that copies were in existence in the Low Countries, in Germany, in Spain at that time. Surely we must not lose all hope of finding it some day. Until then the important story of the enterprise of Nicholas of Lynn is lost.

Next there was the voyage of discovery undertaken to find the fabled island of Brazil. We only hear of it in the chronicle of William of Worcester, who says that the expedition was commanded by one Thylde, the most scientific seaman in all England; that he went in search of the unknown land in July, 1480, and was absent sixty-four days. There must have been a journal; but it is lost.

The case of John Cabot and his lost journals is still more striking. We know that the famous navigator sailed from Bristol, re-discovered Newfoundland, and returned safely from his first voyage. But we only know it from the news letters of two Italians who happened to be in England; Cabot's own journal is lost to us. The second voyage of John Cabot was probably the most important, and of it we have no account whatever. Nansen is inclined to explain this by supposing that Cabot never returned. It may be so, but if he did return there must have been an account of the voyage. The loss of the journals both of the first and second voyage of John Cabot is very serious, and I fear that there is little or no hope of ever finding them.

The narrative of the important voyage of Button to Hudson's bay is also lost, and we should be left in total ignorance of it, if it had not been for the particulars given by Luke Fox in the introduction to his narrative.

These are only a few of the losses that historical geography has sustained in this country, just those which have affected me personally. In other countries quite as many losses have to be deplored. For instance, as regards the discovery of New Granada, the narrative of the Conqueror himself, by far the most important document on the subject, is lost. For the history of the Incas of Peru at least a dozen important works are lost, which are referred to by Blas Valera and Velasco. The dangers incurred by precious manuscripts are manifold. The Bishop of Palencia despatched the first expedition destined to make a voyage, by Magellan strait, to Peru. One ship safely reached Callao, and the journal was landed. It was entrusted to the old soldier-chronicler Cieza de Leon. He had it in his pocket when the two armies of La Gasca and Gonzalo Pizarro were facing each other. There was a rout of Pizarro's followers and some confusion. When evening closed in, the precious manuscript was no longer in his pocket. Thus the narrative of the first voyage from Europe to the west coast of South America was lost to us. The narrative of the first voyage from Chile to the Strait is also lost.

Turning to the Far East, we have to deplore the loss of one of the earliest narratives of a journey to the capital of Tibet. A Dutch traveller

named Van der Putte, in 1730, reached Lhasa and wrote a narrative. It is lost. All that remains of the results of his very remarkable journey is a small skeleton map in the museum at Middelburg. But the list of losses to historical geography is a very long one, and these few instances will suffice to show the need for the careful preservation of materials in the future, and for diligent searches to discover both what is known to have been lost, and what is still unknown.

There have been long periods of neglect, but at intervals men, to whom posterity owes a great debt, have arisen, who have been penetrated with the importance of preserving the record of historical events. It is to King Alfred that we owe the preservation of the accounts of the voyage of Other, and of the voyage of Wolfstan. Map-makers were diligent, throughout the middle ages, in collecting information. The labours of the editors of the thirty-three editions of Ptolemy during the renaissance, from 1472 to 1572, fill one with admiration. Then Richard Eden was the father of English historical geography. Coming up to London from Queen's College, Cambridge, the sight of the gorgeous public entry of England's Queen Mary with Philip, the King of the New World, nearly lifted the young student out of self command. He resolved on the spot to set about some work which might fitly commemorate such an event. To this we owe his 'Decades of the New World' of 1555, the little black-letter volume which Eden found such great difficulty in getting printed.

Eden was the forerunner of Richard Hakluyt, who devoted his whole life to the discovery and preservation of narratives and journals of enterprises by sea and land. He was an indefatigable labourer in this field of research, and thought nothing of riding several hundred miles on the chance of finding some old veteran who had been a member of an expedition of which he could find no account. He saved great numbers of documents from oblivion which are quite essential for the history of the early maritime enterprise of our country: and his principal navigations is a vast storehouse of information, and a monument to the indefatigable labours of this great benefactor to his country. The mantle of Hakluyt fell on a less able successor, and, invaluable as are the volumes of 'Purchas his Pilgrims,' we have to lament many injudicious curtailments and omissions, such as the log, and above all, the map drawn by Baffin of his discoveries. Its loss led to a series of cartographic blunders extending over two centuries. Englishmen were by no means alone in their efforts for the preservation of records. Peter Martyr and others laboured with the same objects in Spain, Ramusio in Italy, much good work was done in France, and later the voluminous collections of De Bry were published. In the eighteenth century, collections with the same laudable objects continued to appear in this country, Harris's voyages in 1705 and 1764, Astley's voyages in 1745, Churchill's collections, containing several hitherto unpublished narratives, in 1747, Pinkerton's voyages and travels in 1808, and Kerr's collections in 1815 to 1824. The admirable works of

Dalrymple, Burney and Hawksworth preserved and recorded the work of voyagers in the Pacific.

In Spain, during the latter years of the eighteenth century, Muñoz was preparing for a great work on the history of Spanish America, by having numerous documents transcribed, which were buried in the archives of Simancas and Seville. His invaluable collection is now accessible to students, in the library of the Academy of History, at Madrid.

In our own days there has been some activity. Hakluyt, Ramusio, and Muñoz have not been without representatives in these our days. The Hakluyt Society was founded in 1847, and has continued to flourish, producing new editions of scarce or inedited works, bringing valuable manuscripts to light, and zealously and successfully continuing the work of its great namesake. Quite recently the historical geographers of the Netherlands have founded a kindred institution with the name of the Linschoten Society. In Spain my lamented friend, Marcos Jimenes de la Espada, was for years very actively and diligently employed in discovering previously unknown historical documents of value, and editing them with rare discernment and ability.

In Portugal an institution has recently been formed, entitled the Portuguese Society of Historical Studies, and it already has as many as ninety members. It has a quarterly organ, entitled *Revista de Historia*, of which four numbers have already been published. They contain original articles, results of the exploration of archives, notes on local history, reviews, and short notices. The Torre do Tombo is an immense mine of materials connected with the subject of historical geography, which is still largely unexplored. The library at Evora, too, is rich in similar treasures, including important letters from the Amazonian missions. I may give one example of the possible interest that may result from searches in the Torre do Tombo at Lisbon. Dr. Nansen, in his great work, mentions a correspondence between King Frederick I. of Denmark and Affonso V. of Portugal, in which the latter is said to have urged his Danish Majesty to despatch an expedition to the north. Hitherto searches for this correspondence have been unsuccessful. Still it may be there. One excellent course that has been adopted in editing the *Revista de Historia* is to publish short documents which have some historical interest, but which are not sufficiently long for separate publication. Such documents may be found in the archives of the state, or in municipal archives, and are often both valuable and interesting. The Portuguese Society of Historical Studies has a directing Council, which is at present presided over by Prof. Silva Telles, the secretary of the Lisbon Geographical Society, who will be remembered at Cambridge as having represented his university at the Darwin centenary. The Society also has the advantage of the services of Senhor Fidelino de Figueredo, whose learning and enthusiasm are guided by organizing ability and common sense.

I have a duty, which to me is also a pleasure, in giving some account

of the objects of this useful Society in Portugal to those learned colleagues who are assembled in London, to discuss kindred subjects. I am sure you will all wish success to the young Society in Portugal, which I have the honour to represent at this Congress.

There can be no doubt that there can be no better way of securing our objects than through the instrumentality of such institutions as the Hakluyt Society, the Linschoten Society, the Bibliophil Societies in Spain, the Society of Historical Studies at Lisbon, and others. There should also be individual effort and individual research. There is still an immense field to work upon, and there is still danger of the loss of valuable documents through indifference or carelessness of those in charge.

For example, I may mention one or two things within my own experience. When the East India Company was abolished, waggon-loads of papers were carted away and sold as no longer of any use. I was walking down Leadenhall Street when I saw one of these laden waggons with papers fluttering away, and as it passed me a bit of stick dropped out. I picked it up and took it home. It turned out to be one-half of an exchequer tally recording a sum of money borrowed by Charles II. from the Company. It had never been repaid, or the other half would have been returned. Many years afterwards I gave it to Lord Curzon as a curiosity for the Victoria Museum at Calcutta.

Another example. I was in the tower at the present India Office. There was a damp sort of gutter, and an old parchment-covered manuscript had been thrown over it to prevent people from wetting their feet. I picked it up. It was the original journal of the Arctic voyage of Captain Knight in 1611. There is an abstract in 'Purchas,' but this was the full journal. I had it printed in one of the Hakluyt Society's volumes, so that it is now safe.

I mention these two examples of what has happened to show that valuable materials for the history of geography are even now not perfectly safe from destruction.

There are still great mines of unexplored materials even in this country, but more in Spain and Portugal, as well as in France, Italy, and Germany. Much has been discovered quite lately, but future searches must be equally diligent and intelligent, and must extend over a long time before the history of geography can approach completeness. New discoveries are, however, constantly being made. It was only in 1886 that the large map of Olaus Magnus (Venice, 1537) was discovered at Munich, and the Zamoiski map (1467) was found at Warsaw two years afterwards. There was one notable result, among others, from these discoveries. The notorious map of the Zeni had held its ground, owing to the argument that it contained many names which were found nowhere else. They were all on the Olaus Magnus and Zamoiski maps, or else in the map of the Donis edition of Ptolemy (Ulm, 1482). Thus fresh discoveries serve to correct errors as well as to yield additional information.

But we have much more recent examples of important discoveries which will shortly be given to the world under the auspices of the Hakluyt Society.

It may be remembered that Captain Cook was rather surprised at finding that other navigators, apparently Spaniards, had visited Tahiti shortly before his arrival. We shall soon know all about these visitors. Dr. Corney has discovered, among the archives at Seville, a complete account of an important expedition despatched by Don Manuel Amat, the Viceroy of Peru, with a narrative of the voyage.

Another most important discovery respecting the voyage of Sir Francis Drake has been made quite recently, which will throw a new light on the procedure and conduct of the great navigator. While making researches in Mexico on points relating to the antiquities of that country, Mrs. Zelia Nuttall came upon a letter having reference to Drake's voyage. This led her to turn her attention to searches in that direction. The result was that she discovered a number of letters and depositions, chiefly from Spanish prisoners, who had been detained on board Drake's ship. All were previously quite unknown. Mrs. Nuttall then turned her attention to the archives at Seville, where her diligence was again rewarded. This learned and accomplished lady will shortly be able to give to the world a whole volume of previously unknown material, all relating to Sir Francis Drake's famous voyage.

These examples are sufficient to show how much diligence is still needed, and how many important discoveries are still awaiting the laborious searches of future historical geographers. If, as is undoubtedly the case, there are still vast regions unknown and unsurveyed for future travellers to explore, there is quite as large an undiscovered region, in the buried archives of the past, for the historical explorer to unearth and make known to us.

THE MONTE BELLO ISLANDS.*

By P. D. MONTAGUE.

The Monte Bello islands are a small group lying off the north-west coast of Western Australia, in approximately lat. 20° 25′ S., long. 115° 33′ E., 105 miles E.N.E. of the North-West Cape, and 40 miles from the mouth of the Fortescue river, the nearest point on the mainland. The group is situated at the northern end of an extensive shoal, which stretches in a southerly direction to within 15 miles of the mouth of the Robe river, including Barrow, a large island lying 12 miles S. by S.W. of the Monte Bello group. The southern portion of this shallow area, known as Barrow Island shoals, gives soundings up to $2\frac{1}{2}$ fathoms, and dries in patches at low water. It

* Royal Geographical Society, Afternoon Meeting, April 24, 1913. Map, p. 112.

DRUCE; M. B. H. EVANS; Captain R. B. ENGLAND; A. FRAUSTADT; G. T. FERNEYHOUGH; M. LE Dr. F. A. FOREL; Sir JOHN GRINLINTON; D. G. HENRIQUES; J. G. HITCHFIELD; Admiral Sir R. VESEY HAMILTON; PRINGLE HUGHES; C. L. HACKING; C. E. HOVEY; J. G. HAMILTON; Lord HEADLEY; Captain A. R. HULBERT; G. B. HUDSON; E. S. HANBURY; Sir CLEMENT HILL; H. P. JAMES; D. W. KETTLE; Captain A. KENT; Sir J. G. KENNEDY; C. T. KNAUS; P. G. LAURIE; Rev. W. L. LANG; W. J. LAIDLAY; I. S. LISTER; Lieut. J. H. LEVESON-GOWER; F. L. LANGDALE; N. T. METHLEY; V. T. MURCHÉ; G. S. D. MURRAY; F. J. MACAULAY; GEO. A. MUSGRAVE; E. L. MITFORD; HENRY MORRIS; WILLIAM MURE; W. W. MARTIN; Lieut. B. S. NINNIS; Captain L. E. G. OATES; R. H. PRANCE; A. W. PAUL; Sir ROBERT PULLAR; W. C. PARKINSON; H. J. PEARSON; Commander E. W. PETLEY; Mrs. EMMELINE PORCHER; J. R. RADFORD; C. J. ROBIN; Admiral Sir F. W. RICHARDS; Sir WILLIAM ROBINSON; Colonel Sir E. C. ROSS; E. G. RAVENSTEIN; D. W. SUMMERHAYES; Sir E. SASSOON; Major FRANK SIMPSON; Lieut.-Colonel S. G. T. SCOBELL; Major P. B. SMITHE; Captain A. W. STIFFE; AUGUSTUS SMITH; EDWARD SPICER; HENRY SALT; J. C. STIRLING; F. STAFFORD; Captain R. F. SCOTT; J. H. W. SHEANE; B. LEIGH SMITH; G. B. TUNSTALL-MOORE; Sir W. E. M. TOMLINSON; Lieut.-Colonel F. C. TROLLOPE; EDWARD TYER; T. H. THORNTON; BENJAMIN TAYLOR; Sir HENRY VAVASOUR; SIDNEY WEETMAN; Sir J. WERNHER; T. S. WHITAKER; Rev. C. HILL WALLACE; D. W. M. WOODWORTH; Sir RAYMOND WEST; J. PONTIFEX WOODS; J. A. WINDHAM; Lord WENLOCK; JOHN WESTLAKE; LEVI W. YAGGY; FREDERICK YOULE; LADY YOUNG.

CORRESPONDENCE.

The Tsang-po.

Mishmi Hills, April 18, 1913.

IN connection with the question of Kintup's exploration of the Tsang-po, referred to in Mr. Field's letter in the March number of the *Journal*, I think that the following may be interesting.

I recently met a Tibetan who has frequently travelled in the lower Tsang-po valley. Fifteen years ago he passed down the river into the Abor country as far as Mobuk (or Gobuk), some 5 or 6 miles south-east of Shimong. He confirms Kintup's report in a remarkable way, especially as regards the villages in the Abor country, though in two cases Kintup has apparently reversed the positions of two adjacent villages. This might be expected in relating his story from memory more than a year after the places had been visited.

The Tibetan tells me that above the junction of the Nagong Chu and the Tsang-po the latter river flows through a gorge through which there is no road. This confirms Kintup's report. He had never heard of any falls of the Tsang-po itself, though there are falls on a tributary; the river is said to come down in rapids. It is quite possible for rainbows to be formed over rapids, and I have seen them myself over the Lohit river.

The Survey report on Kintup's journey says, "The Tsang-po is 2 chains distant from the monastery (where Kintup and his Chinese lama were stopping), and about 2 miles off it falls over a cliff called Sinji-chogyal from a height of about 150 feet. There is a big lake at the foot of the falls, where rainbows are always observable." I do not think that from the above quotation it is by any means certain that

Kintup actually visited the falls. It reads as though he were reporting information he had gathered. Possibly the records of the Survey of India may have more definite information, or perhaps Lama "U.G.," who is, I believe, living in Kalimpong, could elucidate this point.

The Tibetan who gave me the above information had actually heard of Kintup, though he did not know any details of his movements. He tells me that many years ago a man was sent by the Indian Government to find out in what direction the Tsang-po flowed. The Government, he says, were anxious to prove that the holy waters which flow past Lhasa eventually find their way to Buddh-Gaza. The man cut thousands of logs of different sizes and of a peculiar shape, and threw them into the Tsang-po. These logs were afterwards found at Buddh-Gaza, together with others which had been thrown into the upper waters of the Ganges and Lohit, thus proving that these three rivers united in the most holy of Buddhist places.

We may, perhaps, allow rumour in Tibet to add a little romance to the foundations laid by Kintup's journey.

F. M. Bailey, Captain.

MEETINGS OF THE ROYAL GEOGRAPHICAL SOCIETY, SESSION 1912–1913.

SPECIAL MEETING AT THE ROYAL ALBERT HALL.

May 21, 1912.—The Right Hon. Earl Curzon of Kedleston, G.C.S.I., G.C.I.E., etc., President, in the Chair.

Reception of Members of Captain Scott's Antarctic Expedition. Paper by Captain Evans, R.N.

RESEARCH MEETING.

May 22, 1913.—H. Yates Thompson, Esq., Vice-President, in the Chair.

The paper read was:—

"A Statistical Study of Wheat Cultivation and Trade, 1881–1910." By J. F. Unstead, M.A., D.Sc.

Anniversary Meeting, May 26, 1913.—The Right Hon. Earl Curzon of Kedleston, G.C.S.I., G.C.I.E., etc., President, in the Chair.

The Secretary read the Minutes of the last Anniversary Meeting, which were confirmed and signed by the President. The election of new Fellows was announced.

Elections.—*Eckley B. Coxe; Arthur Samuel Cuff; Prof. Harry W. Foote; David Hawkins; Mrs. Marion Burnside Macleod; Rev. Roger C. Morrell; G. Stuart Seaton; Arthur P. Stockings; Lieut.-Colonel Arthur Tilney* (17*th Lancers*)*; Miss Daisy Wimbush, B.A.* (*Lond.*).

Presentation of Medals and Other Awards.

The President: The next item on our programme is the presentation of awards. You are all of you familiar with the circumstances in which and the reasons for which we have decided to make the particular awards of the present year. Of the two Gold Medals that are usually given one only is being awarded on the present

western side of Jebel Shushina, as the route between these two points was known to be difficult owing to the Kharashaf patch. The relative positions of this peak and the camp in Bu Gerara were fixed by compass survey. The group was then moved in longitude till the peak was on the long compass ray. As the position for the camp in Bu Gerara thus found corresponded to well within a minute of the longitude found by chronometric meridian distance from Kairowin, on the assumption of the zero rate found for the stay in Camp I. and the journey between Kasr Farafra and Mut, this astronomical position was accepted. The watch ran down in Kairowin after a set of observations had been made. Another set was taken when the watch had been restarted, and from these the distance to Kasr Farafra was ascertained. A position for Camp II. and an absolute longitude by lunar altitude in Bu Gerara were rejected as bad; so, too, were some of the pairs of theodolite observations (FL and FR) taken in other camps.

ACROSS THE CHUNG-TIEN PLATEAU.

By F. KINGDON WARD, B.A., F.R.G.S.

LI-CHIANG FU, formerly the capital of the powerful Moso kingdom reduced, so it is said, by Hunanese soldiers whose mixed descendants now form the population of the city, is by no means the pretentious place which the designation Fu (since repealed, in the case of all cities save provincial capitals, by the present government) would seem to imply, being but a small unwalled city on the edge of an irregularly shaped plain, 8200 feet above sea-level, and completely encompassed by high mountains. Though the original centre of the Moso kingdom, yet pure Moso are, in my experience, to be found rather in the neighbourhood of Wei-hsi, above the Mekong, than round Li-chiang. Of Tibetan origin, their religion is a form of Tibetan Buddhism, but they have their own priests and monasteries. The mixed Chinese and Moso people of the city and surrounding districts are called by the Chinese simply Li-chiang families, though they still call themselves *pen-ti* (aborigines), resenting the term Moso.

The quickest but by no means the most favoured route between Li-chiang and A-tun-tzŭ is viâ the Chung-tien plateau, a route which on account of its loneliness and its high passes, particularly that over the dreaded Pei-ma-shan, is carefully eschewed by the Chinese muleteers, while even the Li-chiang men can rarely be persuaded to go beyond Chung-tien. Consequently it is necessary to employ Tibetan animals the whole way, waiting in Li-chiang till a Tibetan caravan comes in, or going to Chung-tien with local animals, to change animals there—a plan which I adopted since for botanical work. Chung-tien was a more favourable place in which to be stranded than Li-chiang.

Making a short stage the first day across the narrow plain and up over

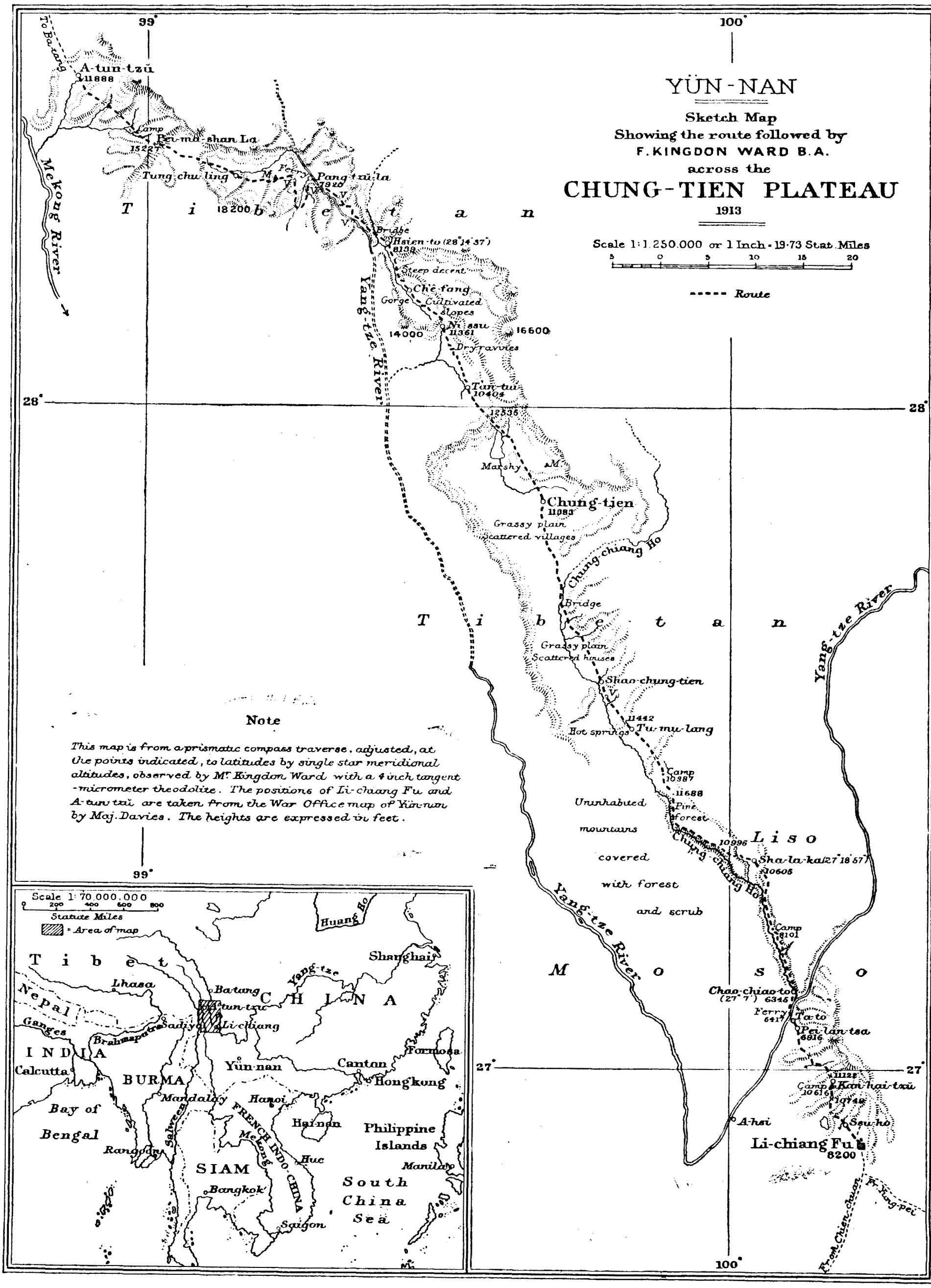
the shoulder of the Li-chiang snowy range, we reached the charming little flat of Kan-hai-tzŭ ("dry lake"), and to the hiss and rattle of a sudden furious squall of rain, pitched camp. The flat, which is surrounded by wooded hills presenting in spring a beautiful mingling of green, yellow, and red leaves unfurling, of gloomy changeless conifers, and of rhododendrons in blossom, and overshadowed to the north-east by the great pile of the Li-chiang range, is completely under water in summer, though at this season the streams from the marshy ground, converging into a deep muddy pit the sides of which clearly display a dozen successive water-levels, find a way out under the limestone rocks. Being far too narrow to drain off the water as fast as it pours into the lake during the rains, however, the exit is doubtless soon choked with silt and rendered useless.

Next day we crossed a low pass and descended to the drier pine-clad slopes of the Yang-tze. Far below rolled the great river just setting out on its long north loop, its yellow water gleaming in the sunshine, its narrow valley bristling with tiny villages and fields of wheat, peas, beans, and not a little of the banished opium. The people are mostly Li-chiang families living in substantial houses of mud and timber, with tiled roofs.

The ferry-boat is a fine big scow, and took our fifteen mules with their loads and about a dozen persons across in one journey. The water was turbid with mud brought down by the melting snow, and the river had no claim now to the name *Fleuve Bleu*, which the French have given it on account of its glorious colour in winter. Though there was a fair current running, not the slightest rapid was visible for as far as we could follow the river with the eye, but a few miles below the ferry, where we turned off to follow up the Chung-chiang, the Yang-tze swings round a corner and suddenly entering a gloomy gorge by a portal not unworthy of the great Bellows Gorge in the famous reaches of Hupeh, bursts its way right through the Li-chiang range, which further west has apparently barred its passage.

On the fourth day we crossed the Chung torrent at Chao-chiao-to, and continued up the narrow valley, generally at some height above the river. It seemed impossible that any fish could make its way up such a roaring cataract, yet here were men scrambling along the edge of the river, casting with long bamboo rod into the whirling foam, and in the evening they brought two fish into camp, fine fellows, brown and speckled like trout, which indeed they resembled, the largest weighing six or seven pounds. It was good eating.

After a night of rain a clear day followed, and the snow-peaks of the Li-chiang range were often visible at the heads of the valleys to the east. Leaving the main river, which for some miles thunders through an impassable ravine, we ascended through magnificent conifer forest, many of the trees attaining upwards of 100 feet in height, and crossing a pass, 10,600 feet above sea-level, descended to a couple of Liso huts and pitched our fifth camp. It was a splendid night, though cold, the stars blazing like diamonds, and here I took my third observation for latitude. All


YÜN-NAN
Sketch Map
Showing the route followed by
F. KINGDON WARD B.A.
across the
CHUNG-TIEN PLATEAU
1913
Scale 1:1,250,000 or 1 Inch = 19·73 Stat. Miles
Route
Note
This map is from a prismatic compass traverse, adjusted, at the points indicated, to latitudes by single star meridional altitudes, observed by Mr. Kingdon Ward with a 4 inch tangent-micrometer theodolite. The positions of Li-chiang Fu and A-tun-tzu are taken from the War Office map of Yün-nan by Maj. Davies. The heights are expressed in feet.
99°
100°
28°
27°
To Ba-tang
A-tun-tzŭ
11888
Mekong River
Camp
Pei-ma-shan La
15227
Tung-chu-ling
Ferry
Pang-tzŭ-la
Tibetan
18200
Bridge
Hsien-to (28°14'37")
8139
Steep decent
Che-fang
Gorge
Cultivated slopes
Ni-ssu
11361
14000
16600
Dry ravines
Tan-tui
10404
12535
Marshy
Chung-tien
11083
Grassy plain
Scattered villages
Chung-chiang Ho
Bridge
Grassy plain
Scattered houses
Shao-chung-tien
11442
Tu-mu-lang
Hot springs
Camp
10387
11688
Pine forest
Uninhabited mountains covered with forest and scrub
Liso
10996
Sha-la-ka (27°18'57")
10605
Chung-chiang Ho
Camp
8101
Yang-tze River
Moso
Chao-chiao-to (27°7')
6346
Ferry
6417
Ta-to
Pei-lan-tsa
6916
11125
Camp
Kan-hai-tzŭ
10616
A-hsi
Seu-ho
Li-chiang Fu
8200
From Chien-chuan
Fr. Yung-pei
Scale 1:70,000,000
Statute Miles
Area of map
Tibet
Lhasa
Nepal
Ganges
Brahmaputra
Sadiya
Batang
A-tun-tzu
Li-chiang
CHINA
Yang-tze
Huang Ho
Shanghai
INDIA
Calcutta
BURMA
Yün-nan
Canton
Formosa
Hongkong
Mandalay
Hanoi
Bay of Bengal
Hainan
Philippine Islands
Rangoon
Salween
Mekong
FRENCH INDO-CHINA
Hue
Manila
SIAM
Bangkok
South China Sea
Saigon

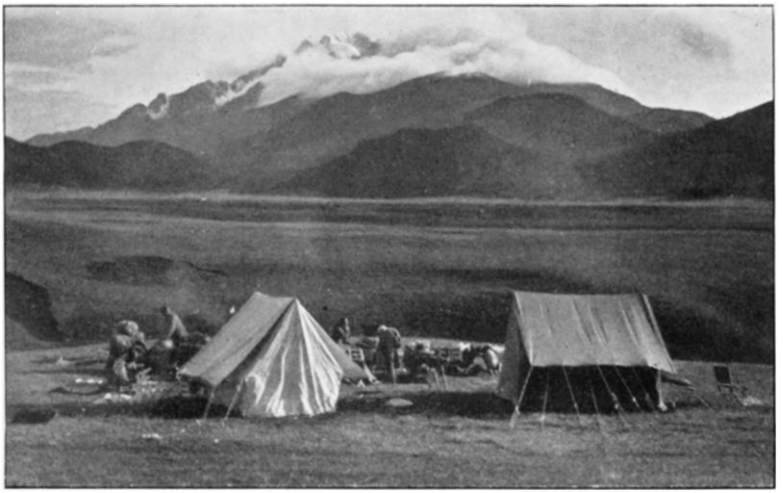
this forest-clad country is very sparsely populated, and after leaving Chao-chiao-to, we had passed none but scattered huts.

Next day, climbing a high spur, we presently emerged on to a ridge far above the Chung river, and continued so all day through pine forests and over plateau country ablaze with pink rhododendron, finally pitching camp in an open marshy meadow at an altitude of nearly 11,000 feet. To the west, the mountains, still covered with snow, though of no considerable altitude just here, are said to be uninhabited right away to the Yang-tze, and all round us the pine forests and scrub-covered hills were as forlorn and deserted as can well be imagined.

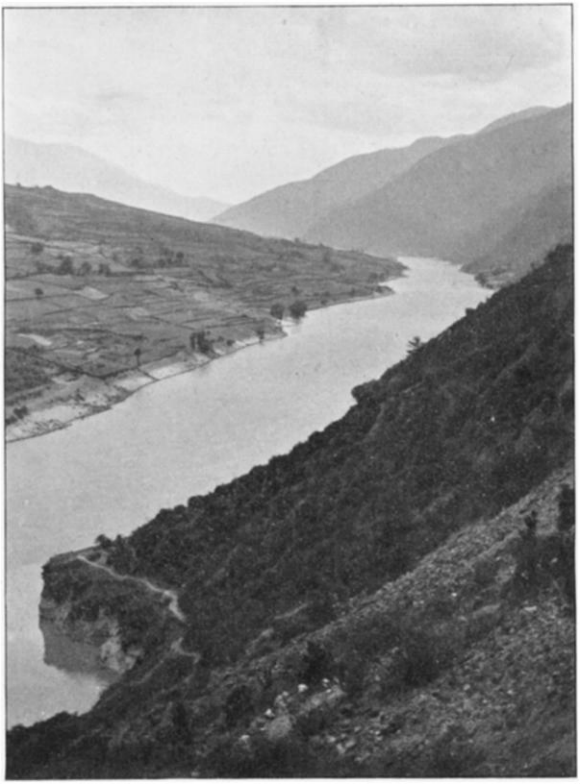
At noon next day we set out again, crossed a low pass, and descended abruptly from the wooded country to a broad grassy valley; it required no second glance to convince one that these big square houses dotting the green turf, these scaffoldings, these tall poles with narrow tattered flags fluttering from them, and these herds of shaggy yak belonged to none other than Tibetans. We had entered the grazing country, with all those glaring contrasts which such a fundamental change of livelihood implies.

For the remainder of the day, and all next day, we traversed one narrow plain after another. The river, now flowing swiftly but quietly between high sheer banks of sand and gravel, has in the course of its meandering left higher terraces to the east, and the tributaries from this side having cut across them and at the same time left terraces of their own, the valley presents a curious spectacle, in places reminding one somewhat of the Bournemouth chines, in other places of the artificial dykes seen in the Fens. Scattered along the valley are substantial houses, rarely more than a dozen together, usually only three or four; they are not flat roofed, but built with gable ends and roofed with shingles kept down by stones. There is some cultivation, but for the most part the ground is too marshy, and is given over entirely to grazing. Here and there the valley, which averages a mile and a half or more in breadth, is constricted by a spur jutting out from the main eastern range, crossed by a low pass.

Towards dusk on the evening of the eighth day (we had made very short stages, and the last mules had added an extra day's journey) we reached the village of Chung-tien, nestling against a low range of hills which here divides the valley. I was now glad to enter the big dark kitchen of the inn and warm myself by the crackling fire, the leaping flames of which, curling round an immense iron pot in the centre, afforded the only illumination, and indistinctly lighted up the central pillar (a pine trunk round which I could not nearly clasp my arms), the heavy smoke-grimed beams above, the clean family altar with its rows of shining brass cups, and the painted walls fading away into the gloom beyond. I had not been in the room half an hour before an officer in uniform, followed by two soldiers, one of whom swung a lantern a yard high, entered, and accosting me with scant ceremony, spoke thus:

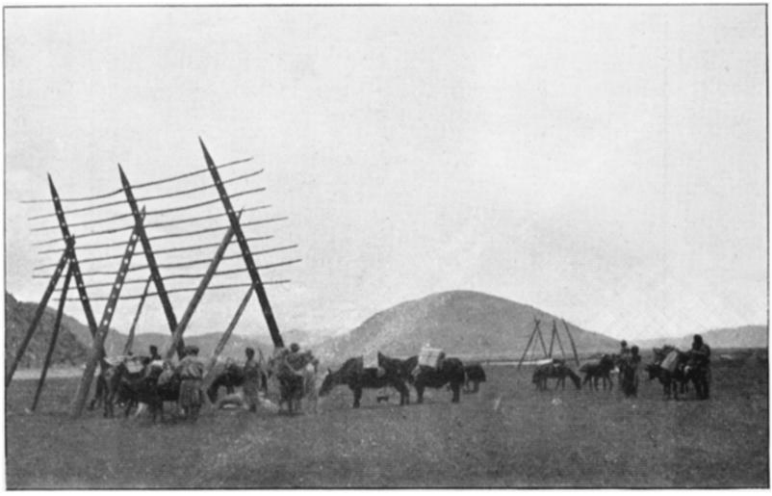


CAMP AT KAN-HAI-TSI, LICHIANG RANGE IN BACKGROUND.



THE YANG-TSE AT THE FERRY BELOW KAN-HAI-TSI.

A CORNER OF CHUNG-TIEN.



A HALT ON THE CHUNG-TIEN PLATEAU.

"Do you understand Chinese?"

"A little."

"Where are you going?"

"To A-tun-tzŭ."

"Have you a passport?"

"Yes, it is in my baggage; I will send it to the Yamen to-morrow."

"You are not going on to-morrow, then?"

"No, I have no mules yet; the Li-chiang muleteers do not wish to go on."

The officer bowed and withdrew, and I was left to reflect further on the rise of western China, the great shadow of a military domination which is slowly overspreading the country.

On the following evening the ssu-wu-chiang, or military official, called and took tea with me, and two days later (being now marooned in Chung-tien for lack of transport) I returned the call, and was entertained for half an hour by the several heads of the military faction. As for Chung-tien itself, situated in the midst of this bleak grassy plateau, at the headwaters of the numerous streams which pour down their waters from the snows to north and east, there is little to be said for it. Solid wide-roofed houses jutting out at all angles into the narrow crooked streets, a fine temple now partly occupied by the soldiers, and the village pump, round which all the gossip of the place is daily exchanged, sum up its external appearance. I made the altitude 11,300 feet, while Major Davis gives it as 11,500, the same as A-tun-tzŭ; the Chinese, however, say that it is higher than A-tun-tzŭ, though they are judging it only by appearances, and by the fact that it is much colder than the latter place.

The people are of mixed Chinese and Tibetan, or perhaps Moso origin, numbering between 150 and 200 families, and the pure Tibetan element finds representation in the big lamaserai at the valley head, 5 miles distant, a village in itself. The various Tibetan tribes, as one may call them for lack of more precise information, or at all events the Tibetans of the various settled valleys and plateaux of the Marches, have each, amongst the women, their own method of binding the hair, which thus forms a good index to where a woman comes from. In Li-chiang it is a single pigtail hanging down; in Chung-tien three pigtails hanging down, but a day's march to the north it is a score or more of narrow plaits gathered together below and continued in an artificial plait of considerable substance, the whole being then bound on top of the head like a low turban. In A-tun-tzŭ the fashion is a single thick plait, artificially lengthened, bound round the head and finished off with two silk tassels. And so on—instances might no doubt be multiplied throughout the Marches. It would seem that the tyrant custom dies harder with women than with men, since the former adhere to many of their own, particularly in the matter of dress, long after the latter have conformed to Chinese fashion. This, however, is less true of the Tibetans, who are little influenced by the Chinese, than

of the smaller and more isolated tribes of Yunnan. In these bigger trading centres where the Chinese have long since established themselves, however much the women may conform to Chinese custom in the matter of dress (and this seems to be little beyond the wearing of trousers beneath the skirt), each still keeps a complete native dress for weddings, festivals, and so on.

After spending four days in Chung-tien I obtained *ula* from one of the officials, and we started again on May 28, with yak and ponies. North of Chung-tien the ground is very marshy, and green as an English lawn, here and there cut up by low hills, between which we presently obtained a fine side peep at the monastery. It was a beautifully clear day, and from the low pass we had a splendid view over the broad plateau, rimmed in on three sides by pale limestone crags which towered above us; to the south-east, near the source of the Chung-chiang Ho, was a fine snowy range, all those streams which rise north of Chung-tien on the plateau itself, apparently finding their way into a lovely little lake situated at the extreme end of the plateau.

Descending to the village of T'an-tui smothered beneath peach trees and golden pæonies, our yak and ponies were next day exchanged for thirty-five porters, nearly all women; soon we were far down in the hot dry ravine, and another march brought us to the Yang-tze, here flowing due south. For five hours we travelled up that ugly bare valley without crossing a single stream of water; toiling up and down the rough-hewn path, the parched rocks flinging the hot air back at us, now a thousand feet above the river, now not a hundred, far away round ravine after ravine, all as dry as the Sahara we travelled, till my lips cracked and I was ready to drop with thirst. At last we found ourselves amongst piles of gravel and numbers of small naked children, coloured gamboge from their occupation of sifting sand in the wind; there were other groups down by the river washing the sand—they were the gold-seekers of Pang-tzŭ-la. Here was the big triangular ferry-boat awaiting us, and we were soon across and climbing up to the village. How warm and sunny it was here! The minimum thermometer did not fall below 61° Fahr., and though we were nearly 8000 feet above sea-level, they were already harvesting the wheat. Two nights later we were freezing in our tents on Pei-ma-shan at 13,700 feet.

For the four days from Pang-tzŭ-la to A-tun-tzŭ over the Pei-ma-shan pass (15,300 feet) we had mostly donkey transport, and A-tun-tzŭ was reached on June 3, where glorious sunshine awaited us after the snow and rain of Pei-ma-shan.

NEW LAND NORTH OF SIBERIA.

THAT the possibilities of geographical discovery on the larger scale are by no means exhausted is proved by the news received during October, of the discovery of new land in the ocean north of Siberia, at no great

of pools and groves—the product of mirage. That rare creature, the so called " wild cow " of the Arabs, was only seen in captivity, at Ma'an ; it is a species of antelope, the *Oryx beatrix* of science, and perhaps, it is said, the " reem " or " unicorn " of the Bible ; yet, with its suggestion of a hump on the back, it might well claim some cousinship with the little Brahmani bulls of Benares.

Nor are traces of human life by any means lacking. There are no roads, it is true, nor even paths, across the desert ; but at long intervals may be seen small heaps or low columns of stones, which have been set up by the Bedouin as landmarks in the trackless waste. Bedouin camps, with their low black tents and picturesque groups of Arab men and women, dogs and camels, are very occasionally seen from the train. Still more rarely a swift-trotting dromedary, or *thelul*, carrying the desert post, glides rapidly by. But in the 500 miles that separate Ma'an from Medina there would seem to be only two settlements worthy the name of village—those of Tebuk and El Ula.

The Commission did not travel further south than Medain-i-Salih, and the notes relating to places situated between there and Medina are of necessity based upon hearsay.

SIR AUREL STEIN'S NEW EXPEDITION IN CENTRAL ASIA.

By Sir AUREL STEIN, K.C.I.E., D.Sc.

In May last the Secretary of State's sanction was received for the long-planned expedition by which I wished to resume my geographical and archæological explorations in Central Asia and Westernmost China. H.E. the Viceroy and the Government of India had from the start accorded generous support to the plan. By the close of July I managed to complete in Kashmir the practical preparations for the journey, which is likely to extend over two years and a half. Much of my time was still claimed by work on the publication of the scientific results from my Central Asian explorations of 1906–08. In order to facilitate the extension of the proposed fresh topographical labours the Surveyor-General of India had kindly agreed to depute with me my experienced old travel companion, Rai Bahadur Lal Singh, Sub-Assistant Superintendent of the Survey of India, and to make available also the services of a second surveyor, Muhammad Yakub Khan, along with all necessary equipment and an additional grant.

For the initial portion of my journey, to the border of Chinese Turkestan on the Pamirs, I chose a route which was new to me and which had a special interest for the student of the geography and history of the Hindu-Kush regions. For long years I had wished to explore the valleys of Darel and Tangir, prominently mentioned in the accounts of

early Chinese Buddhist pilgrims who passed there on their way from the uppermost Oxus to the Indus and the sacred sites of the Indian North-West Frontier. The disturbed political conditions of the local tribal communities had rendered those territories so far wholly inaccessible to Europeans. But in recent years Raja Pakhtun Wali, of the Khushwakt family once ruling Yasin and Mastuj, had succeeded in gradually establishing a chiefship of his own among these small Darel republics. The friendly relations into which he had entered a short time ago with the Gilgit Political Agency opportunely enabled the Honourable Mr. Stuart Fraser, Resident in Kashmir, to secure the Raja's permission for me to visit those valleys. For the prompt use made of this chance I owe special gratitude to Mr. Fraser and the Indian Foreign Department.

Leaving the Kashmir valley on August 2, I travelled to Chilas on the Indus by the route crossing the high passes of Barai and Fasat. The bulk of our baggage was sent ahead with the second surveyor by the Gilgit road to await us in Hunza. It was a very useful precaution, for already on the first eight days the tracks followed proved in many places impracticable for laden animals. Apart from the appropriate Alpine training undergone here, I found an antiquarian interest in this route. There is good reason to assume that it was by this direct line of communication to the Indus that the Chinese obtained those supplies from Kashmir which, according to the record preserved in the T'ang dynasty's Annals, enabled them about the middle of the eighth century A.D. to maintain for a time imperial garrisons in the valleys south of the Hindu-Kush.

As soon as the hot and barren rock defile of the Indus was crossed, we found ourselves on ground offering ample scope for exploring work. Passing up the hitherto unsurveyed Hondur valley, with ruins of pre-Muhammadan times and plenty of abandoned cultivation, we reached the eastern border of Pakhtun Wali's latest conquests on the range overlooking the Khanbari river. Here we passed under the protection of the large and well-armed escort sent up by the Raja under his capable nephew, Shah Alim. Under a special stipulation no one from the Gilgit Agency was allowed to accompany us.

In order to avoid the excessive summer heat of the Indus gorges through which the usual route leads, I had asked to be taken to Darel by the mountains north-eastwards. It proved a difficult line of progress, but also one exceptionally suited for surveying operations. The great spurs descending from the Indus-Gilgit watershed, which we had to cross by a succession of high passes, furnished excellent plane-table stations. Extensive panoramic views were obtained towards the great snowy ranges across the Indus and on the headwaters of the Swat river, where trigonometrically fixed points could be sighted. Much hard climbing secured us similarly favourable conditions further on. It thus became possible, through R. B. Lal Singh's devoted exertions, to map within less

than a fortnight some 1200 square miles on ground which had never been surveyed or even seen by European eyes.

Work was facilitated by the excellent relations we were soon able to establish with Pakhtun Wali's trusted supporters forming our ever-watchful guard. Most of these alert fellows were outlaws from neighbouring territories, who had joined the chief's fortunes during the most adventurous period of his chequered career. They were themselves very interesting figures to study. There was also much to be learned among them about the time-honoured means and methods by which their capable leader, once a hapless refugee from Chitral, had carved out for himself this most recent of Hiudu-Kush kingdoms in true Condottiere fashion.

In the valleys drained by the Khanbari river splendid forests of pines and firs were found to clothe all the higher slopes. In places they had overrun the old cultivation terraces now abandoned, which could be traced everywhere in the wider portions of these valleys. Water for irrigation is abundant, and reoccupation is retarded only by the scantiness of population. In any case, it soon became clear that these mountain tracts enjoyed climatic advantages in the matter of adequate rainfall, conspicuously absent higher up on the Indus or elsewhere south of the Hindu-Kush.

The contrast with those denuded barren mountains to the north and east was even more striking when we reached the head of the main Darel valley. Among its magnificent pine forests and alpine meadows, I felt as if transported to Kashmir. But there was little chance to enjoy the fine alpine scenery while being constantly attacked by the fierce mosquitoes which infest all Darel and Tangir and cause bad sores even to local people. Even high up in the mountains we suffered severely from this plague.

On moving down to Mankial there revealed itself the openness of the main valley and the great extent of arable land. Much of the latter had passed out of cultivation long ago, and the great number of ruined sites fully accorded with this observation. The examination of these ruins kept me busy for several days. Most of them proved the remains of fortified settlements clearly of pre-Muhammadan date. By their construction on naturally strong rocky ridges bearing elaborately built terraces, and also by other features, they curiously recalled the extensive ruined settlements of the Buddhist period so numerous in the Swat and Peshawar valleys. It seemed like a distinct confirmation of the tradition preserved in the Chinese records as to the early historical connection between Darel and Swat. Near one of these ruins rapid excavation brought to light unmistakable remains of a Buddhist burial-ground in the shape of cinerary urns, metal ornaments, etc.

All archæological observations pointed to a much denser population than is now to be found in this territory. Yet even now Darel contains

a number of large crowded villages, and everywhere I came upon lingering traces of an inherited civilization a good deal superior to that of the neighbouring hill tracts. Thus the irrigation canals showed unusual skill in their carefully preserved solid stonework. On houses, mosques, and graves much fine wood-carving survives, showing decorative motifs which are directly derived from Graeco-Buddhist art as known to us from the ancient relievos of Gandhara.

The Darelis impressed me as a race weakened by centuries of internal disorder and needing a strong ruler. It was an interesting experience to meet Raja Pakhtun Wali in the castle he is building in the centre of his recently annexed territory and close to the site of its ancient capital. His human environment, like the methods by which he has established his rule, seemed to call up times long gone by. He showed every possible care to facilitate my journey, and I shall always think back with gratitude to the help and attention received, and with genuine interest to the ruler.

On my way down Darel, I was able to identify the site of an ancient Buddhist shrine where the Chinese pilgrims mention a miracle-working colossal image of Maitreya Buddha in wood. Continuity of local worship is attested here by a much-frequented Muhammadan saint's tomb. We then made our way westwards into Tangir by tracks difficult for load-carrying men. The trying climb was rewarded by the grand view opening from the Shardai pass, a truly ideal survey station. To the west it extended to the gap between precipitous snow-crowned spurs where the Indus makes its great bend southward. Independent tribal territory closes access to this famous defile; even from afar European eyes saw it now for the first time.

The Tangir valley, too, proved remarkably open and fertile. We visited there Jaglot, where Pakhtun Wali had established his original stronghold and withstood a memorable siege by the Gabarkhel tribesmen. Old animosities seemed to be still smouldering here, and special precautions were considered necessary to safeguard us from any fanatical attempt. In the great forest belt at the head of the valley hundreds of Pathans from Upper Swat and the Indus Kohistan were engaged in cutting the magnificent timber, a special source of revenue to the Raja. All arrangements worked smoothly to the end, and when on August 21 we had crossed the Sheobat pass, over 14,000 feet in height, I felt sorry to say farewell to Raja Pakhtun Wali's fascinating dominion and our hardy escort.

Our route now led due north through the mountain tracts of Gupis and Yasin. The former we entered by a pass, nearly 16,000 feet high, which had never been surveyed. The huge masses of rock *débris* left behind by ancient glaciers made it exceptionally trying, but it meant a short cut. In Yasin I found myself on the historically important route which forms the nearest connection between Oxus and Indus. There was

much to attest here Central-Asian influence. Besides interesting ruins of old forts, I traced Buddhist remains and much fine old wood-carving in houses, etc.

The glacier pass of Darkot, by which we crossed to the Yarkhan river headwaters, offered special historical interest as the gate by which a Chinese force despatched in 747 A.D. against the Tibetans effected its entry into Yasin and Gilgit. Considering the great natural obstacles, it was a remarkable military achievement, just as the successful passage of the Pamirs by a relatively Chinese army which preceded it. So it was a particularly gratifying find when I discovered a Tibetan inscription scratched into a large boulder on the track where it ascends a lateral moraine of the Darkot glacier from the south. It obviously is a relic of that Tibetan advance to the Oxus which the Chinese Annals record about the middle of the eighth century, and which the adventurous expedition just referred to was intended to stop.

Once beyond the Darkot our easiest route to the Chinese border would have led across the Baroghil saddle to the Oxus, and thence across the Afghan Pamirs. I had followed this route in 1906, and was, therefore, glad to move now by the parallel but little-known route which connects the headwaters of the Yarkhun and Karambar rivers with westernmost Hunza. On its south side it skirts an almost unexplored region of big glaciers and high ice-clad peaks. Other physical features, too, invest this route with special interest, but the obstacles encountered on this high ground are serious. So I had special reason to feel grateful for the effective help offered by Captain Stirling, commanding the Chitral Scouts, who joined me on the Darkot with fresh transport and accompanied me during four days' hard marching. Beyond we had a difficult task in getting across the Chillinji pass, *circ.* 17,400 feet above sea-level. The snow-slopes to be ascended were exceptionally steep, and had been rendered still more difficult by the snowy weather prevailing all through August. The great glacier over which the descent led proved fortunately less trying, and after thirteen hours' struggle over snow and ice we could bivouac in safety under the shelter of a moraine.

After this experience our progress though Hunza seemed easy. In the Chupursan valley the extensive areas of old cultivation furnished a feature of special interest. Neither want of water for irrigation nor climatic change seems to furnish an adequate explanation for their abandonment. Reoccupation is proceeding but slowly.

On September 6 we crossed the border of Chinese Turkestan by the Mintaka pass. I now found myself on ground familiar from two previous journeys. But the routes by which I had formerly reached it seemed quite "lady-like" compared with our recent tracks. During the five weeks since our start from Kashmir we had crossed altogether fifteen passes, between 10,000 and 17,400 feet in height, and nearly four-fifths of the total distance covered, over 500 miles, had to be done on foot.

Our descent along the Taghdumbash river to Tash-kurghan, the chief Sarikol settlement, was necessarily rapid. Yet I was able to use it, too, for fresh surveys of antiquarian interest. Thus I succeeded for a distance of over 40 miles in tracing an ancient canal of large size, long abandoned, but famous in local lore, which had once assured fertility to extensive areas along the right river-bank now almost entirely desert. It illustrates the great change which has come over Sarikol since the old Chinese pilgrims passed here.

After Tash-kurghan Kashgar was my immediate goal, and there I despatched my baggage by the usual caravan route through the mountains. I myself was anxious this time to reach the Turkestan plains by a new route, the valley of the Kara-tash river, which drains the great glacier-clad range of Muztagh-ata on the east. Owing to special difficulties this interesting ground has never been surveyed. The big floods from the melting glaciers make the narrow gorges of the Kara-tash river quite impassable in the spring and summer, and by the autumn heavy snow on the Merki pass equally closes the route to traffic. In the spring of 1906 my late surveyor, Ram Singh, had been completely baffled in his attempt to descend the valley. I was more favoured by chance now. An exceptional succession of early snowfalls had stopped the melting of the ice just in time to allow of my passage while the Merki Dawan was still open for laden yaks. But even thus the descent for two marches proved a distinctly difficult and in places risky business. The constant crossings of the river tossing between sheer rock walls could not have been effected without the opportunely secured Kirghiz camels, and none but these local camels could have negotiated such tracks as lead elsewhere along the foot of these precipices.

I was heartily glad when by September 19 we had emerged safely from the last of these gloomy rock gates, and a long ride two days later brought me back to Kashgar. There, under the hospitable roof of my old and ever-helpful friend, Sir George Macartney, K.C.I.E., now our Consul-Generel in Chinese Turkestan, I have been able to give my men a much-needed rest, and to complete the manifold preparations for our first winter campaign in the desert.

THE RECENT CROSSINGS OF GREENLAND.

THE years 1912–13 have been marked by an important advance in the exploration of the vast interior of Greenland, no fewer than three different traverses of the inland ice-sheet, one of them at almost its greatest extension in width, having been successfully accomplished ; * while the competence

* Four, if Rasmussen's outward and return routes are both counted.

328. *Maps and Illustrations.* 10*s.* 6*d.*) Here is a volume which can hardly fail to interest any Londoner, for though it is cast on scientific lines, there is much matter in it that is intelligible to the unscientific reader. Its compilation has clearly been a labour of love for the subject on the part of the various contributors, who include Messrs. H. R. Maynard and C. J. B. Findon (who write cleverly on the topography of the heath and its surroundings), Mr. Rudler on geology, Mr. E. L. Hawke on climate, Messrs. A. G. Tansley, H. B. Watt, and W. A. Whitton on various departments of botany, Messrs. H. Goodchild and H. Findon on birds, mammals, etc., respectively, Dr. F. O'B. Ellison on insect life, Mr. H. Findon on molluscs, and Mr. J. Burton on bird-life. The whole is carefully edited and unified, and forms a very noteworthy record of minute study; it is built up from a proper topographical foundation, and if criticism be not ungenerous it can only be directed (from the geographical standpoint) at the maps, which bear perhaps too clearly the imprint of the amateur.

'The Passing of the Turkish Empire in Europe.' By Captain B. Granville Baker. (London: Seeley. 1913. Pp. 335. *Map and Illustrations.* 16*s.*) This book discloses much historical erudition, and though it is based upon a journey whose incidents are narrated, the historical is the chief interest in it. The author illustrates it himself with line sketches and half-tones. A map is given, which, though not very clear, will presently possess no little historical value, for it illustrates, by shading, the territory, till lately Turkish, occupied by the Balkan ex-allies in the recent war.

'Travel Pictures: the Record of a European Tour.' By Bhawani Singh, Raj Rana Bahadur of Thalawar. (London: Longmans. 1912. Pp. viii., 287. *Illustrations.* 6*s. net.*) A Continental tour, undertaken in 1904, by the Raj Bana of Thalawar, prompted the publication of this modest volume of *impressions de voyage.* Bhawani Singh's observations are occasionally instructive, and, thanks to the simplicity and sincerity of the style, generally readable. He is evidently an omnivorous reader of guide-books, and most of the information is familiar enough. The persevering reader will, however, occasionally light upon some little-known fact. We should like, by the way, to learn his authority for the curious statement that the circular opening in the roof of the Pantheon at Rome (probably meant for lighting purposes) was originally intended as a means of exit for an eagle bearing the souls of the dead buried in this pagan temple.

ASIA.

Tibetan Borderlands.

'The Land of the Blue Poppy.' By F. Kingdon Ward. Cambridge: University Press. 1913. Pp. xii. and 283. *Maps and Illustrations.* 12*s. net.*

The borderland of Western China and Eastern Tibet is one of the most interesting parts of Asia. For a long time entry into Tibet from this direction was closed by the hostility and exclusiveness of the lama rulers of the country, who not unnaturally resented intrusion by Europeans, and even by Chinese, fearing that any influence from outside might threaten their own power.

This state of things has been considerably modified by the result of the Tibetan rebellion of 1905. In this rising both Chinese officials and French missionaries were killed, and the Chinese Government, awaking to the seriousness of the outbreak, sent an army to put it down. There was much severe fighting, for the Tibetan, though ignorant of the art of war, has plenty of courage. In the end the better organization of the Chinese prevailed, large numbers of the lamas were killed, and many monasteries destroyed. For the present, at all

events, the traveller finds Chinese garrisons established where Tibetans were formerly supreme.

Happily for geographical science, several travellers have taken advantage of this extension of Chinese rule to add to our knowledge of these regions. Captain Bailey has recently passed through this part of Tibet to Assam—the first European to accomplish this feat, for Prince H. d'Orléans and Mr. E. C. Young both took more southerly routes without touching Tibetan territory. M. Bacot and other French travellers have also contributed to our knowledge of this country, and now Mr. Kingdon Ward has given an account of his journeys on this frontier during a period extending from April to December, 1911. The result is a very interesting and readable book, which adds considerably to our previous information.

The author has a great gift for describing scenery—a fortunate circumstance for a traveller in such a magnificent country. In the six months that he spent in his botanical researches he was able to see a good deal of hitherto undescribed country, and his observations on the forests, the geographical features, and the climate of this region are both interesting and valuable. His sympathetic descriptions of the tribes he met with also add to our knowledge, especially as to their home life and customs. In one instance Mr. Ward is at variance with Prince H. d'Orléans, the only previous authority on a tribe called Lama,* whom Prince Henri considers very closely allied—at all events, in language—to the Min-chia. The emphatic denial of this connection by the tribesmen themselves does not really preclude the possibility of their common origin, and Mr. Ward seems to have overlooked the fact that Pe-tzü is merely the name applied to the tribe whom the Chinese call Min-chia.

One cannot help regretting that the author was not accompanied by a companion with a plane-table, who might have filled up many of the blank spaces on the map; but Mr. Ward is a botanist, and at the time of this journey had not qualified himself as a surveyor, so that we must be thankful to him for having spared time to make rough sketches, which will certainly be of use. The spelling of Chinese names does not seem to be the author's strong point. Wade's system is doubtless not perfect, but it is now so generally adopted by English travellers that it seems a pity not to adhere to it for Chinese names. It cannot, of course, be necessarily used for Tibetan or tribal names.

The author's photographs are excellent, and well illustrate both the country and its inhabitants. Those who have already travelled on this borderland will sympathize with Mr. Ward in his desire (since gratified) to return there, and those who have never visited it may well be tempted by the author's admirable descriptions and photographs to undertake the journey. H. R. T.

AFRICA.

British East Africa and Uganda.

'A British Borderland: Service and Sport in Equatoria.' By Captain H. A. Wilson. London: John Murray. 1913. *Illustrations and Sketch-map.* 12*s. net.*

Captain Wilson spent the period 1902–1906 in British East Africa and Uganda, serving part of that time on the Anglo-German Boundary commission. He has considerable literary gifts, and his descriptions of the country bring before us definite pictures not likely to fade quickly from memory. The flavour of the book is of the past, for in East Africa there have been considerable changes since

* Not to be confused with the word meaning a Tibetan Buddhist monk.