



Turkestan and Persia

Explorations in Turkestan, with an Account of the Basin of Eastern Persia and Sistan

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(14) First appointments of army officers to the Imperial Service to be for five years, and a language test to be imposed.

(15) The Provincial Service to be divided into two services, a Provincial, or Indian, Service, and a Junior Service, the pay of the former to range from 250 rs. to 800 rs., and that of the latter from 80 rs. to 400 rs., and some modifications in recruiting to be introduced.

(16) Indians to be employed in a certain proportion of the Provincial and Junior Services.

(17) Imperial and provincial officers employed on cadastral or similar work to be seconded, and their places filled in the department.

(18) An additional officer to be appointed as an assistant to the officer in charge of the photographic and lithographic office, the two to then include the mathematical office in their charge.

(19) Local governments to reproduce their own cadastral maps, and no drawing of extra departmental work to be thrown upon the Survey of India Office.

(20) The question of the removal of headquarters from Calcutta to be postponed for the present.

T. H. H.

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## REVIEWS.

### ASIA.

#### TURKESTAN AND PERSIA.

‘Explorations in Turkestan, with an Account of the Basin of Eastern Persia and Sistan.’ Expedition of 1903, under the direction of Raphael Pumpelly. 4to. Washington: 1905. *Maps and Illustrations.*

THIS work, a massive volume of 324 quarto pages, excellently illustrated with maps, photographs, plates, and diagrams, forms a most valuable contribution to geographical science. It is published by the Carnegie Institute of Washington, and records the geographical work of an expedition sent out by that institute in 1903, under the direction of Mr. Pumpelly, “for the purpose of making a preliminary examination of the Trans-Caspian region, and of collecting and arranging all available existing information necessary in organizing the further investigation of the past and present physico-geographical conditions and archæological remains of the region.” The reasons for selecting this particular field for research are stated to be—(1) The existence of a school that still holds the belief that Central Asia is the region in which the great civilizations of the Far East and of the West had their origins; (2) the supposed occurrence in that region in prehistoric times of great changes in climate, resulting in the formation and recession of an extensive Asian Mediterranean, of which the Aral, Caspian, and Black seas are the principal remnants.

The party consisted of Mr. Raphael Pumpelly, with Mr. R. W. Pumpelly as his assistant; Prof. William M. Davis, Sturgess Hooper professor of geology Harvard University; and Mr. Ellsworth Huntington, Carnegie research assistant. Each of the above has contributed separate portions of the volume. The space at disposal is inadequate for more than a brief reference to each.

Mr. Raphael Pumpelly himself furnishes a paper on “Archæological and Physico-Geographical Reconnaissance in Turkestan,” in which he states the purposes of the

expedition, sums up the conclusions arrived at by each member of his party, and propounds recommendations regarding the scope of future investigations. He does not appear to have done much individual research in this expedition, but his remarks on such personal observations as he made of the old tumuli and sites of ruined towns are very interesting.

Prof. Davis's contribution is styled "A Journey across Turkestan," and records observations made on a journey from the Caspian to Askhabad, the Kopet Dagh mountains, Merv, Samarkand, Tashkent, Andijhan, across the Tian Shan mountains to Lake Issik-kul, and thence homewards *viâ* Vyernji and Omsk to St. Petersburg. The time spent in Turkestan was from May to August, *i.e.* three months. From an authority of wide-world renown such as Prof. Davis we naturally expect observations and conclusions of great interest and value, and these expectations are here fully realized.

Mr. R. W. Pumpelly contributes "Physio-geographical Observations between the Syr Darya and Lake Kara-kul on the Pamir," wherein is recorded observations made on his journey from Osk *viâ* the Kizil Art pass to Kara-kul and back, June 23 to July 17.

To Mr. Ellsworth Huntington we are indebted for not only two, but the two largest portions of the volume. The first, "A Geological and Physio-graphic Reconnaissance in Central Turkestan," presents the results of a journey of two months—August and September—from the Issik-kul lake, over the Tian Shan range, to Chadir Kul and Kashgar; thence *viâ* the Terik pass to Osh, to Karategin in the Alai range, and northwards to Marghilan. The second, under the title of "The Basin of Eastern Persia and Sistan," records the observations made on a journey of three and a half months (November, 1903, to March, 1904), from Transcaspia to Seistan and back. Among the principal physical phenomena brought to notice by the above observers are the following:—

Prof. Davis reports traces of an old shore-line about 600 feet above the western shore of the Caspian sea, and a very distinctly marked one about 200 feet above the east side of the same sea. In the mountains near Issik-kul he claims to have found clear evidence of two, and probably three, glacial epochs.

Mr. Huntington, in the higher Tian Shan, found proof of three, and later in the Alai range of five, glacial epochs, between some of which there were long interglacial intervals. He reports records of climatic oscillations, shown not only in moraines, but in valley terraces, and considers these to be members of a group of sympathetic glacial phenomena.

Prof. Davis has noted in the Kopet Dagh and eastern mountains evidence of longitudinal dislocation accompanied by great block uplifts, formed apparently after the wearing down of the mountain masses to a peneplain, and preceding an active dissection of the elevated mass.

Mr. R. W. Pumpelly reports evidence in the Alai of a block uplift, followed by a block tilt, both with a dislocation to the north. He correlates these movements with the glacial geology, making the block tilt an interglacial event.

The conclusions finally arrived at by the expedition as a whole are, that the recent physical history of the region is legibly recorded in glacial sculpture and moraines, in orogenic movements, in valley-cutting and terracing, in lake expansions, and in the building up of the plains, and that progress has been made in correlating these events, inasmuch as the block uplifting and tilting have been correlated with the growth of the Fergana lowlands, and the relation of the glacial expansions to the valley-cuttings in the Trans-Alai range has been clearly recorded. Full information is claimed to have been found of a progressive desiccation of the region from a remote period. Abandoned sites, great and small, of human

occupation, evidently of great antiquity, have been found widely distributed, and it is concluded that a correlation of these physical and human events may be obtained through a continuance of the investigation, and that archaeological excavations will throw light on the origin of Western and Eastern civilizations.

The above brief sketch of the work and records of the party under Mr. Pumpelly will suffice to bring to notice a remarkable advance in the scientific treatment of the physico-geographical problems of a country. However virgin a field of research Turkestan may be, one cannot but be greatly impressed by the mass of new information collected and recorded by the present expedition in the making of what is claimed to be but a preliminary reconnaissance of the country. If so much has been done by systematic and scientific observation in journeys of such short duration, we are indeed justified in expecting important results from further and prolonged exploration conducted under the same scientific system. It is, however, only reasonable to expect that some at least of the conclusions now formulated will be modified by further research.

The geographical world will look with interest for the records of further work by these same authors, and it is greatly to be hoped that other geographical communities may be tempted to conduct physico-geographical research on the advanced scientific principles adopted by the Carnegie Institute.

A. H. M.

## AFRICA.

### THE MASAI.

'The Masai: their Language and Folklore.' By A. C. Hollis, with introduction by Sir Charles Eliot. Oxford: 1905.

None of the Central African peoples revealed to the outer world during the latter half of the nineteenth century have received more careful and adequate treatment than the Masai nomads, whose outstanding physical and mental characters, social and military institutions, religious notions and traditions could not fail from the first to attract the attention of anthropological students. The graphic picture presented by Joseph Thomson's 'Masailand' has been greatly enlarged by Merker's 'Die Masai,' lately noticed in the *Journal*, and is now all but completed by the present work, the value of which is not a little enhanced by Sir Charles Eliot's comprehensive survey of the whole field. This is all the more timely since the people themselves are, under various adverse circumstances—rinderpest, small-pox, famine—steadily declining, their numbers having in recent years fallen from perhaps 50,000 to scarcely more than 12,000 in the British section of their former domain. It was, in fact, this threatened extinction or fusion of the race in the surrounding Bantu populations that inspired the present work, in which Mr. Hollis has sought, before it was too late, to give a full account of the language, "the customs and beliefs of this interesting people, all given in the words of the relaters themselves." The result is most satisfactory, and Sir Charles Eliot is fully justified in declaring that the book is one of the most valuable contributions yet made to the anthropology and philology of British East Africa.

Sir H. Johnston's suggestion that the Masai are an early blend of Nilotic Negroes and Galla and Somali Hamites is here accepted as probably correct. This view at once explains the curious intermingling of Negro and Caucasian physical characters that has been noticed by all observers, and at the same time accounts for the peculiar structure of the Masai language, whose affinities are here shown to be with the Bari, the Latuka, and other Nilotic tongues, and not at all with