

## THE DISTRIBUTION OF THE ANCIENT POPULATION OF THE MERV OASIS.

In examining the ruins of the Merv Oasis one of the most striking features is the apparent density and wide distribution of the population in the past as compared with the present. Wherever villages exist to-day there are traces of ancient occupation; but, more than this, there are also large areas which must once have been densely peopled, although now they are deserted. From Gechekran and Kurtli Tepes, out northward past the two Kishmans to Ak Bai and Takir Bai in the midst of the sand, or westward beyond Luchuk Tepe, and northwestward past Yaz and Guibekli Tepes to Uch Tepe with its three mounds in the sand, and thence westward to Arvali Tepe, there is to-day no sign of habitation. Yet this whole region must for the most part have been thickly populated at one time, as is evident not only from the mounds, but also from the great amount of pottery that covers the ground. For instance, among the low sand-dunes between the two Kishmans, or between Uch and Guibekli Tepes and on over the deserted clay plains to Airakli and Munon Tepes lie great tracts where the ground is covered with potsherds far more thickly than in any of the modern villages. Such, too, is the case west of Uch Tepe for 2 or 3 miles, till the sand-dunes begin, and east of Kara Tepe, where the main distributary of the Murg-ab flows out to lose itself in the desert. North of Yelotan, according to the Russian superintendent of the dam at that place, ruins are abundant for a distance of 15 or 20 miles, while west of the Murg-ab they extend nearly half as far.

In all these places and many others sand is encroaching steadily over what were once cultivated fields. Nowhere, so far as has been noticed, is land being recovered from the sand, although the opposite process is taking place rapidly. Year by year the outposts of humanity are being drawn inward toward the centers of Merv and Bairam Ali, and the Turkomans who formerly watered their flocks and cultivated a few fields at the extremities of the distributaries of the Murg-ab are obliged either to betake themselves to wells and become wholly pastoral, or else to move inward and become agricultural. Thirty years ago the water of the main distributary is said to have reached Sheik-i-Mansur, although now Top Taranchi, 40 miles upstream near Gumush Tepe, is the limit. Another branch reached Kara Burun at every flood-time 10 years ago, but now it flows only to Aravali, 45 miles farther upstream, and even at that point the people are obliged to depend on wells for their main water-supply. In the same way it is only seven years since the canal that now ends at Kurtli Tepe flowed 4 miles farther to West Kishman.

These facts do not necessarily mean that the total amount of water has decreased during the last quarter of a century. They show nothing as to that question, either one way or the other. What they indicate is a change on the part of the people from a state of semi-nomadic pastoralism to one of sedentary agriculture by reason of the changes that have followed the Russian occupation of 1884. In the old days the nomads allowed the water to flow nearly at will in almost the natural channels, and the villages and fields were located along the