

creased in size, and new springs appeared lower down in its bed, as has already been stated. Apparently, in this region, as in all Central Asia, there was an increase in rainfall from about 1893 to 1900, between times of lessened precipitation. The extraordinary abundance of water at Karakir was due probably in part to the increased rainfall, but much more to what may be called an accident. The newly opened watercourse, so it seems, happened to be located in such a position that for ten or twelve years, and perhaps to the time of my visit, the stream continued to deepen its channel. It maintained its volume by continually penetrating to and drawing upon new layers of soil lying well below the level of ground-water, and therefore completely saturated. The temporary increase in rainfall, culminating in 1900, seems to be part of one of the periodic variations of climate which Brückner has shown to take place once in about thirty-six years in all parts of the world. Such changes appear competent to explain the minor changes in the villages and vegetation of the Chira region, for instance the abandonment of Dumuka at the end of a temporary dry period in 1841. They cannot explain the broader facts of the progressive abandonment of cultivated areas and the death of vegetation from north to south. If the climate of to-day is like that of the time when the old town north of Karakir flourished, there is no reason why the vegetation around the ruins should have been dead for centuries. To-day, if all the water of Karakir were free to flow as far as it could, it would not reach the ruins.

On leaving the ruins, we spent a day and a half in traversing an almost absolutely barren area of reddish or yellowish