

during antiquity. It is hard to reconcile the two sets of facts, but it may be that climate is more changeable than has been supposed, and that since the dawn of history man has passed through more than one change between colder and warmer, or moister and drier conditions. If this has been the case, the course of history must have been deeply affected by geographic causes as yet uninvestigated."

Now, in the light of four years' further study, it seems probable that the canals were built during the first historic inter-fluvial epoch, probably between 300 and 800 A. D. If the climate were then so warm and dry as is indicated by the low stand of the Caspian Sea, agriculture would have been possible, and irrigation would have been necessary in places like Son Kul, which are now too cold and wet for either. The people who were forced out of the warm, dry lowlands by increasing aridity would naturally betake themselves to available spots in the highlands. They could not practice agriculture long at Son Kul because the succeeding mediæval fluvial epoch caused the climatic conditions to become unfavorable once more at a high elevation; although at lower elevations the habitability of the country became much greater.

A second illustration of the manner in which the climatic hypothesis, as exemplified in the curve of the fluctuations of the Caspian Sea, throws light on difficult problems is found in Turkey. Two thousand miles west of Son Kul, the Armenian lake of Gyoljuk, twelve miles long by two or three wide, lies at an elevation of 4000 feet among the Taurus mountains, between the headwaters of the Euphrates and Tigris rivers. In 1899 and 1900, when I mapped and