

# THE BASIN OF EASTERN PERSIA AND SISTAN.

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## INTRODUCTION.

At the beginning of the work of our expedition in Central Asia it became evident that the problem of the physical changes which have taken place in the Caspian basin since the advent of man is so complicated as to require the work of many years for its solution. It also became evident that if the history of the chief changes could be ascertained in smaller neighboring basins where there was reason to suppose that a similar series of events has taken place, the elucidation of the Caspian problem would be greatly facilitated. Accordingly, during the summer of 1903 our attention was turned to Issik Kul and the mountains of Turkestan; and later, on the approach of winter, I was dispatched southward to the remarkable basin of Sistan, in Eastern Persia. Not only the basin, but the country traversed in reaching it, proved to be full of evidences of very recent changes in physical conditions, and the time-scale established by their means is applicable in a large degree to the Caspian region, for the main line of evidence, the terraced character of mountain valleys, is found abundantly in both the Sistan and Caspian basins.

The records of antiquity and the work of previous explorers make it certain that both basins have long been inhabited and that their present sparsely populated condition is essentially different from that of the past. The question to be answered is whether this condition is due to purely human causes, such as the decay of races, wars, famine, deforestation, and the exhaustion of the soil by prolonged cultivation on the one hand, or whether it is due to physical causes, such as changes of climate, the warping of the earth's crust into higher mountains and deeper basins, the natural changes of the course and volume of rivers, and the encroachment of sand-dunes on the other. Before this can be answered the human history of the country must be more carefully elucidated by archeological work and the physical history by geographic work.

In the pursuit of the latter object, under the direction of Professor Davis, the problem resolved itself into two parts, namely, the physical history of Central Asia in recent times as influenced by internal or terrestrial causes, such as the warping of mountains and the deepening of basins, and the history as influenced by external causes, such as changes of climate. The studies of a year and a half have led me to think that while numerous crustal movements furnish abundant evidences of the earth's internal activity during very recent geological times, most of the movements are too ancient to be connected with human history and too local to have produced