

Interior brackish seas and lakes, fed by the more constant flow of larger rivers, have played an important rôle in the history of the two great desert basins of Eastern and Western Turkestan. The surface area of a landlocked sea is a direct function of the climate of its basin. Its salinity varies (1) according to antiquity, (2) in some instances according to whether overflow took place, and (3) the relations between its surface area and amount of salt in its supplying streams.

Although at first thought these appear to be the only controlling factors of salinity, there are yet four considerations, four ways in which an interior sea may diminish in salinity or totally lose its salt. It may dry up entirely for a while and the salt thus precipitated over its bottom be either (4) blown away or (5) so perfectly buried by sand or silt that future water is unable to redissolve it; (6) much of the salt may be precipitated in a gulf with such a narrow and shallow strait that water evaporates faster than it comes in from the mother sea, as it is now doing in the Kara Bugas and other gulfs of the Caspian. There the supersaturation is death to all sea life that comes in with the current—a graveyard of floating fish. Lastly, (7) as a theoretical possibility, sufficiently rapid sinking of the bottom or falling-in of the earth's crust, such as appears to have taken place in the southern half of the Caspian, would give rise to a greater volume for the original surface area. Therefore, since the surface area is a definite function of climate, it is obvious that if the volume were increased rapidly enough dilution would take place if the rainfall remained constant over the catch-basins of its supplying streams. To sum it up in a more general way, it may be said that, *with a given topography and given chemical nature of rocks drained to start with, both the salinity and surface area of a landlocked sea depend upon the variations of climate and crustal movement that may take place over its basin.* These facts are of fundamental importance in the consideration of lake-shore oases or type V.* It is from a study of the ancient shore-lines, sediments, soundings, and fauna of now shrunken seas and dried-up lakes that important records bearing on the archeology as well as physiography of Central Asia are to be drawn.

The whole peripheral area of surrounding mountains is, in the long run, subjected to erosion and worn down to build the plains; but for closer analysis it is functionally subdivided into areas of erosion and deposition, with limits more or less temporary or unstable in definition. First, the high crests and valleys of greater ranges give rise to glacial zones of ice mantles and valley glaciers of which the interior portions are seats of glacial erosion, the margins and termini seats of glacial deposition. Second, the lower plateaus and foothills of pasture land have been the chief seat of loess accumulation—the settling-ground of dust blown up from the plains and down from the more arid heights of deflating rocks. Third, the greater areas of peripheral mountains have developed intricate basin-systems, some as half-closed valleys tributary to the great plains, others isolated or wholly inclosed, imitating on a small scale the greater scheme of which they form a part.

*Chapter xv, Physiographic Classification of Oases, p. 301.