

right across the gravel plateaus and the depressions which break it, might supply us with something like a reliable historical gauge as to the changes which may have taken place in the water-level of the marshes during the last two thousand years. It is obvious that any trustworthy data obtained in this respect would have an important bearing upon the questions concerning climatic changes in this region that are traceable within the historical period, and particularly upon that much-debated question of 'desiccation'. Accordingly, I took special care along this portion of the line to ascertain the difference in level between the actual edge of the lakes or marshes at the time of my visits and the lowest point to which the wall of the Limes could still be traced where it abuts on their shores.

These observations were not always easy to make, and their use calls for critical caution. In the first place, regard must be paid to the varying conditions of the ground. In some parts they would allow the remains of the wall, or rather of the earth mound (*agger*), to which it had necessarily decayed where it was exposed to subsoil moisture, to survive much nearer to the marshes than in others, this variation being dependent on the nature of the soil, the amount of vegetation, and the like. Until exact measurements spread over several successive years are obtained, it is impossible to make sure of the seasonal oscillations to which the level of the marshes fed by springs and of those representing marginal lagoons of the Su-lo Ho may be subject. And even then the possibility must always be remembered that periods of higher water-level, of which we have no record, may have intervened between the time of construction and the present, and thus brought about the complete destruction of the wall on shores where we now should be tempted wrongly to attribute the cessation of its remains at a level well above the present edge of the marsh or lake to desiccation pure and simple.

Observations regarding marsh levels.

Making due allowance for such and other uncertainties and limitations, there is yet important evidence to be found among the observations thus gathered. For the whole of the measurements taken on the shores of all the different lakes and marshes which the line of the wall crossed or abutted on, I must refer to the detailed description of the several segments of the Limes.⁴ Here it will suffice to note the interesting fact that both on the westernmost spring-fed lake, near T. x, and on the large lagoon, near T. xx, which the Su-lo Ho enters some 10 miles below its debouchure from the Khara-nōr, the observed difference between the water edge and the traceable end of the wall only amounted to about 5 feet. It is well to remember that this difference, slight as it is, represents the maximum of the fall which can possibly have taken place in the level of the two sheets of water between *circa* 100 B.C. and A.D. 1907; for at both places some little distance intervenes between the actually traceable end of the wall and the shore (about 25 yards at T. x and some 80 yards at T. xx), and as this gently sloping ground was naturally liable to be affected by moisture, it is likely enough that the wall continued originally nearer to the present line of the shore and thus reached down to an even lower level.

Maximum fall of water-level at T. x and T. xx.

It is true that at the other points where corresponding observations were possible, near T. xi, xii. a, xiii (eastwards), xiv. a, xxii. c, the differences of level, varying from 12 to about 20 feet, were greater. But in all these places the intervening ground, where the wall might well have decayed completely, was either considerably wider or else so thickly covered with reeds or other vegetation as to make it impossible to determine whether the actual remains of the wall did not extend further down. Hence the observations there made cannot invalidate the very definite evidence which the above recorded measurements from T. x and T. xx furnish as to the slight extent of the drying-up process in these marshes during the last 2,000 years.

Levels at other points of Limes.

It is of interest to note that this conclusion is in full accord with what general archaeological

⁴ Cf. below, pp. 667, 669, 682, 697, 718 sq.