

case of the tracts irrigated from the Yurung-kāsh, the level of the cultivated portions of the oasis is everywhere bound to rise steadily. There may be local differences in the rate of this rise, in accordance with the varying quantity of water supplied by the several canals, the distance of the irrigated lands from the canal heads, &c. But considering how near the Yōtkan fields are to the debouchure of the Kara-kāsh and thus to the region where the river collects most of this silt on its passage through the outer ranges, the supply of silt cannot fail to be particularly ample there. It seems safe to assume that land so favourably situated, in a most fertile and easily irrigated part of the oasis, cannot have been allowed to remain long uncultivated after it had once ceased to be the site of a town. Seeing that by the chronological evidence of the latest of the Yōtkan remains close on eight hundred years must have passed since the final abandonment of the site, the thickness of the deposit now observed above the strata of débris presents nothing surprising.

Observations which I had occasion to make again and again after my first visit to Yōtkan fully support this explanation. Everywhere within the oasis I noticed that the main roads were sunk considerably below the surrounding level where they pass through land which has been long under cultivation; while elsewhere on waste land, near newly tilled fields or within the villages, they kept flush with the adjoining ground. This low position of the roads was so uniformly observable and so marked within the old portions of the Khotan oasis that I soon learned to distinguish them by this test alone from any areas which had been rendered arable in more recent times by the extension of irrigation on the edges of the oasis or by the reclamation of waste ground within it. Thus, e.g., in the Tawakkēl oasis, lower down on the Yurung-kāsh, which otherwise exactly reproduces the general conditions of cultivation, &c., of the Khotan oasis, but had been colonized only some sixty years before my visit, the level of the fields was nowhere more than about a foot or so above that of the roads. It is impossible not to seek for a natural cause of the far more deeply sunk position occupied by all roads within areas of old cultivation. None I could think of seemed more probable than that the level of the fields is constantly rising by irrigation, while that of the roads cannot undergo any marked variation.

Raised level
of irrigated
ground.

That erosion of the soft soil by traffic could not be held to account for this striking and constant difference in level, seemed clear from two observations. On the one hand, little frequented paths leading to small holdings, fields, &c., often showed quite as low a level as constantly used high roads. On the other hand, I was soon struck by a still more characteristic fact—the low position of all the old cemeteries that are surrounded by fields. Cemeteries of any age are easily recognized by their extending around some Mazār or shrine, and in their case I invariably found that the ground-level lay considerably, up to 10 feet and more, below that of any adjoining fields¹³. Erosion by traffic or winds cannot be thought of here; for the closely packed and often massive tombs protect such cemeteries effectively against either¹⁴. This curious position becomes, however, at once intelligible if we recall the fact that the fields are constantly receiving a deposit of silt from irrigation, while the cemeteries are naturally kept clear of water and consequently of this accretion.

Low level of
roads and
cemeteries.

I have already noted that the soil of the layer which covers the 'culture-strata' of Yōtkan, as far as I could judge by the naked eye and without geological training, presented exactly the same appearance as the loess that forms the arable ground throughout the oasis. Being

Professor
Lóczy's
analysis of
soil speci-
mens.

¹³ For a striking instance, comp. below, sec. v, the description of the old graveyard around the Ziārat of Bōwa-Kambar.

¹⁴ For the view of a typical cemetery of this kind, comp. Fig. 16.