In another part of this volume I have given an analysis of the contents of each of these layers (see p. 468 above). I will therefore only add here the results of the preliminary examination which I carried out on the spot. The different layers are to some extent shown on Pl. 65.

Layer 1, the lowest level in our profile, is 107 cm. thick, and consists of fine, yellow clay, without any discernible organic traces — no mollusc-shells. Layer 2 is 55 cm. thick and consists of the same fine dusty clay, in places alternated with very thin layers of sand. At intervals it is interpenetrated by the roots of plants; no mollusc-shells were found. Layer 3 is 75 cm. thick and contains remains of plants, especially roots of kamisch, as also mollusc-shells. The same characteristics are repeated in layer 4, which is 52 cm. thick, though both the vegetable remains and the mollusc-shells are more numerous. Layer 5 is 40 cm. thick and contains numerous organic remains. The top layer, 6, upon which the tower stands, contains an abundance of mollusc-shells and plant remains. This layer too is about 40 cm. thick Thus, taken altogether, these layers of clay have a thickness of 3.69 m.; the intervening sand reaches therefore a total thickness of 5.91 m. At different periods alternate layers of sand and clay have thus been deposited on the bottom of a large lake, a lake that was considerably older than the historical Lop-nor. At the time when the tower was built the youngest or uppermost layer was firm ground, and the northern shore of the lake of Lop-nor was to the south of the tower. The regular, horizontal character of the deposits and the mollusc-shells prove that the former were laid down as sediment in a freshwater lake. But the absence of organic remains in the two lowest layers seems to point to a lake with salt water. It is quite easy to imagine the local changes which would cause this salinity: it can only have been caused by an alteration in a river-mouth or by the cutting off of a portion of the lake. But the laying down of a sedimentary deposit to the thickness of 9.6 m. under the circumstances that now prevail would obviously require a very long period of time. The regularity in the alternation of the clay and sand layers points unmistakably to a periodicity in the lake or in the river. One might suppose that the lake, which at that time extended a considerable distance north of Lôu-lan, used sometimes to contract, whereupon a sandy deposit would spread itself over the clay sediment. This would be followed by a further expansion of the lake, and that would give rise to the formation of a fresh deposit of clay — a transgression in miniature. There is however yet another way of explaining the pronounced character of the alternation of layers, namely by changes in the lowermost course of the river. If for instance, just before discharging into the lake, the river traversed a reed-grown basin, the water would there be relieved of all its sediment and would issue into the principal lake clear and bright. During a period such as that it would be mainly drift-sand that would settle on the bottom of the lake, that is to say in the particular part of the lake we are considering, which in all probability was not very far distant from the shore, for no sand has been able to travel as far as the central parts of the lake. After the reed-grown expansion became filled with mud or after the river changed its course, its water would enter the lake charged with sediment, and so the mud or clay deposits would again secure the upper hand. Sand does of course occur in the clay deposits and