sand, incipient wind-erosion had cut up the hard clay into small trenches and Yārdangs from 1 to 2 feet in height. They all ran approximately west to east, the prevailing direction of the violent gales which blow across the Turfān basin in the spring and carry their erosion products to the great ridges of dunes bordering its lowest portion on the east, as seen in Map No. 59. D. 1, 2. The walls of Chong-hassār now were seen in the distance, and beyond a glittering line of white marking the salt-encrusted lake-bed along the foot of the Chöl-tāgh.

Site of *Chong-hassār.*

The distance from Bēsh-tam to the ruins proved to be only six miles, and with water relatively so near, plentiful camel-grazing close at hand, and fair shelter for the diggers, the site was by no means a place very trying to stay at, as it had been described by my informants of Pichān and Lukchun. The desert around seemed, indeed, petty and of a distinctly mild type; yet at the same time it left no doubt as to the great change which must have come over this ground since the site was abandoned. This comprises the remains of a small oblong fort and an outer enclosure adjoining, also walled but of irregular shape, as seen in the plan, Plate 50. The whole occupies a low terrace of natural clay and is built of sun-dried bricks. Within the north-east corner of the oblong fort, which measures about 200 feet by 150 outside, there rises on higher ground the very massive keep-like structure seen in Fig. 268 and partially also in Fig. 267.

Vaulted chambers and case-mates.

But the feature most striking to me at first sight was the perfect rabbit-warren of small vaulted chambers and casemates which filled most of the interior of the fort (Figs. 265–7) and crowded also against the walls of the outer enclosure. In many places these chambers had been built in irregular tiers one above the other, and the débris of sun-dried bricks from those above choked the entrances, and often the interior too, of the lower rooms right up to their vaulting. The length of the rooms varied from 10 to about 16 feet, with a width from $6\frac{1}{2}$ to $8\frac{1}{2}$ feet. It was easy to recognize here features of construction peculiar to Turfān and still plentifully to be seen in its existing towns and villages. These vaulted rooms, known by the designation of *kemer* and built on the lower floors of the houses, are resorted to by rich and poor alike for protection from the excessive heat of the summer. Besides giving shelter from the violence of the dreaded winds of the spring, they make also comfortably warm quarters for the cold nights of the winter. The use of vaulting is widely spread throughout the Turfān oases owing to the scarcity of timber, the cheap and convenient Toghrak of the Turkestān oases adjoining the Taklamakān being wholly absent from this ground. The principle of vaulting employed in both old and modern structures of Turfān is that of the true arch, but with the bricks usually placed lengthwise along the plane of the arch and often in courses diverging from the vertical. This expedient is obviously resorted to in order to save the need of centring over a wooden framework.[6] Considering that at Chong-hassār the depression, as determined by readings taken with a mercurial barometer, is about 360 feet below sea-level, the summer heat of the place must be exceptionally great, and this sufficiently explains the exclusive use of vaulted rooms for quarters.

Use of vaulting in Turfān.

Ruined Buddhist shrine.

The structure which first attracted attention, apart from the massive keep already referred to, was a small Buddhist shrine, built against the south-west wall of the oblong fort (marked *i* in plan, Plate 50) and nearly facing the gate that led into it from the outer enclosure. Fig. 266 shows it on the right, together with ruined quarters along the south-west wall as seen from the north. The shrine comprised a small cella, measuring $8\frac{1}{2}$ feet by $6\frac{1}{2}$ inside, with an enclosing vaulted passage about 3 feet wide, and a kind of anteroom to the north-east about 19 feet long and 4 feet wide. The cella walls, about 3 feet thick, still rose to over 14 feet in height. The outside walls of the

[6] I found exactly the same method of construction employed in modern and mediaeval buildings of Sīstān, and for identical reasons. The terminal basin of the Helmand reproduces various characteristic physical features of the lowest portion of the Turfān basin, though on a bigger scale.