

expensive, and the slips were heavy; both were inconvenient. Ts'ai Lun hence conceived the idea of utilizing the bark of trees, etc.' Traders and others from the West who proceeded to China after intercourse with the Western Regions had been opened up must have felt the inconveniences of such writing-materials far more even than the Chinese themselves. Owing to the nature of the Chinese language and script, a single slip of bamboo might suffice for fifty ideograms or more, conveying a whole edict, order, or letter, as plenty of the wooden documents in M. Chavannes' publication show.³² In the same way, a small strip of silk would afford space enough for a long private epistle, as we can still see in T. XIII. i. 003. a, *Doc.* No. 398 (Plate XX). In an alphabetic script and inflexional language, communications of similar character and import would need vastly more space, with a corresponding addition either to the weight of wood to be carried (bamboo slips would have been practically out of the question) or to the cost of the silk. Sheets of leather or birch-bark, such as might have been used in Sogdiana, are never mentioned among the ancient writing-materials of China. Hence it is easy to realize how eager strangers from the West, finding themselves within China's Wall, must have been from the first to avail themselves of the new invention, 'the honourable Ts'ai's *chih*', to use the early Chinese term for paper. There is every reason to believe that it must have been taken up by them far more rapidly than by Ts'ai Lun's own countrymen with their strongly conservative habits.

Paper preferred for non-Chinese writing.

In this connexion it is of interest to note that in the very same dustbin, T. XII. a. ii, there was found also the fragment of a Kharoṣṭhī document written on silk, T. XII. a. ii. 20 (Plate XXXIX). It is the only piece of that material and script so far discovered which represents the remains of a letter or order.³³ Its badly-torn condition leaves no hope that decipherment will give us a clue to the person and place from which this record in Indian language and in another script derived from Aramaic originated. Its discovery in the same place as the Early Sogdian letters on paper is certainly curious, and so also is that of a birch-bark fragment, T. XII. a. 0040. This small piece is uninscribed. Yet, considering how remote the Tun-huang Limes is from any mountain areas which could have supplied this material (the Hindukush, the Himālaya, the Western T'ien-shan, or the Central Nan-shan), the thought suggests itself that it might have come there as part of a leaf or roll used for writing.

Fragments of Kharoṣṭhī record on silk and of birch-bark.

SECTION V.—THE WATCH-STATIONS T. XII AND T. XIII

It was to the south of the tower T. XII. a and at a distance of about 83 yards that, on one of my early reconnaissances along this portion of the Limes, I first noticed very puzzling remains, subsequently met with also at other watch-stations. They consisted here of a series of queer little mounds rising above the bare gravel and arranged, as Plate 39 shows, in regular rows crossing each other at right angles. The distances between the small structures—for as such I could soon recognize them—averaged from 16 to 18 yards. Closer examination showed that they all measured about 7 feet square at their base and were built up entirely of fascines of reeds, laid crosswise in alternate layers. Their height varied considerably, from about 1 to 7 feet, without any obvious cause of such variation. Wind-erosion could not well be the sole or main cause; for in such a position it was bound to affect all these little structures with something like uniformity, and nowhere had it scooped out the ground at their base to more than a foot or so. A sprinkling of coarse sand and gravel intermingled with the fascines of reeds. Whether this had been added by

Stacks of reed fascines.

³² The imperial edict reproduced in T. VI. b. i. 289, *Doc.* No. 60 (Pl. III), may serve as a good example.

³³ The inscribed silk pieces, M. III. 0015 (Pl. XXXIX), from one of the Mirān temples belonged to a votive banner or

streamer. The small strip, L.A. VI. ii. 0235 (*ibid.*), with a few words in Kharoṣṭhī, seems to have been torn off from the edge of a bale of silk; see above, pp. 383, 436.