

Other Fortifications

Fortifications of the Muslims

Islamic fortifications have been documented in the Middle East and Spain sections of this book, but pre-Islamic peoples also used walled cities and towers. The Turks built fortifications, often concentric, with mural towers, and western Turks built isolated fortified towers in the mountains, similar to Chinese frontier defences. Small fortified towns (*baliqs*) also used Chinese ideas, and by the 11th century were quite sophisticated, such as the Semiran capital of the Tarim Basin, with three sets of walls. The Volga Bulgars erected probably the largest earth and timber fortifica-

of rural fortification apart from frontiers, where *ribats* probably served as watch-towers, and in poorly governed areas such as the Arabian peninsula. Even here sophisticated ideas could be incorporated, such as a double gate with portcullis. Byzantine strongholds were sometimes reused for larger frontier defences, as in Cilicia. In Palestine the *ribats* tended to be fortified coastal towns, to guard against Byzantine naval attack.

After the Abbassid dynasty, more advanced fortifications were conceived. Aleppo had been too weak to withstand a Byzantine attack, but in the 11th century it was given a wall almost 50 feet high.

The Fatimids in Egypt and Syria built impressive works. In Cairo a fortified palace enclosure was similar to Baghdad, though smaller. The rectangular plan of the city had brick walls set with eight gates, either Armenian or Syrian in design.

In North Africa a large number of towns were fortified, especially on the coasts, as were those of Sicily and Moorish Spain. In Morocco and Andalusia a new form of architecture developed, broader structures capable of housing catapults. Andalusian town defences often followed Roman work at first, but expanding cities in the plains adopted a regular plan, while those to the north were set around hills.

In the 10th century a series of huge fortresses was constructed in the mountainous border provinces, against Christian pressure, as well as small, isolated strongholds and round towers (probably used as beacons). Tabby cement, a mixture of gravel, earth, lime, straw and bones, appeared at this time. The bent entrance, which requires the entrant to turn sharply after passing the gate, appeared in al-Andalus in the 12th century.

Consolidation in Islamic areas occurred in the 12th–14th centuries. Under the Ayyubids of the late 12th century, Cairo received a powerful citadel and the suburbs were drawn together. Larger walls and closer towers for trebuchets were the main feature of this period; the best

tions in the north of Turkish Central Asia. Wasit in Iraq had a double wall and moat and a low third wall some distance away.

Much of the Muslim world had little in the way

below: The late 12th-century citadel at Cairo.



example is at Damascus.

In the 13th century small castles and watch towers were built in southern Syria and Jordan as warning of crusader advances. In al-Andalus the external *albarrana* appeared, linked by a bridge to a curtain wall. Frontier hills had *atalaya* or watch towers.

The Mamluks built a series of fortified *caravanserais* along the main trade roads in the 15th century, consisting of walled enclosures with corner towers. Sultan Qait-bay's castle at Alexandria, built in 1479, is very impressive: a large central square tower with round corner turrets within a low walled *enceinte*, set with box machicolations and gun-loops.



The Round City of Baghdad was built between AD 762 and 765 by the early Abbasid caliphate. It drew on earlier work in Khurasan and Transoxania and was larger than anything seen before. The palace, surrounded by gardens, barracks, and administrative buildings, showed influence from Iran, with the ruler set apart, rather than of Islam. So the caliph soon built a new residence outside, near the



main parade ground. The outer and inner walls of the city served to produce an area for the senior men to live and work. The bent-gates of Baghdad (*bashura*) were also new in the Middle East, as a defence against horsemen.

Tarsus received a moat, 87 towers, six gates and two walls in the late 8th century. By the 10th century the city only five gates, those in the outer wall being protected by iron – perhaps a portcullis. On the inner wall were 18,000 crenellations and a hundred towers, three provided with beam-sling mangonels on top and 20 others with smaller stone-throwers.

top: Sultan Qait-Bay's fortress, Alexandria, showing the box machicolations.

below: The fortified 'desert palace' at Qasr al-Kharanah, Jordan, built in about 700, is one of the earliest Islamic buildings, probably a post for Umayyad armies.

