



Above: Stout stakes with sharpened points lined the palisades of the more heavily fortified camps.

PITCHING CAMP

Roman discipline and methodical planning were epitomized by the way that every evening, after marching all day, Roman soldiers constructed elaborate marching camps, always on a rectilinear plan, often for only one night. (These camps left few traces.) Such effort in all conditions required exceptional organization and discipline. Pyrrhus of Epirus realized how formidable his foes were after watching the Romans pitch these camps in 280BC. A century later, Polybius was equally impressed. Such was Roman conservatism that the practice continued throughout the Principate.

One of the best descriptions of the marching camp appears in Pseudo-Hyginus, written in the late 2nd century AD. Every afternoon, towards the end of the day's march, a tribune with centurions would scout ahead to choose the location for that night's camp, ideally a rectangle about 800 yd (731m) long of raised land, clear of

trees and with running water nearby. They marked the *praetorium* (the commander's tent) and *principia* (headquarters) with a white flag and then planned the rest of the camp from this centre, using a *groma*, a surveying instrument. The two main streets, the *via principalis* and the *via praetoria*, running through the middle of the camp, were 60ft (18m) wide, lesser ones 50ft (15m) wide. With these streets defined, the lines of the ditch and rampart would be established by spears stuck into the earth at intervals.

Every legionary carried two to three *pila muralia*, palisade stakes about 7ft (2m) long with sharpened points. After they had dug their *fossa* – a trench normally about 3ft (1m) deep and 5ft (1.5m) wide (but deeper and wider if under immediate threat), they planted their stakes in the *agger*, the low rampart formed by the excavated earth, intertwining them so any intruders could



Right: A ditch, rampart and palisade separated the camp from the world outside. A similar arrangement was also used for some frontier installations, here, in a reconstruction of a section of the German frontier, with a watchtower.

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not easily remove them. The camp's
 ramparts, although hard to penetrate and
 impossible for a unit in formation, did not
 form defensible barriers but marked it out
 from its surroundings. Just inside lay the
intervallum, the space at least 100ft
 (30m) wide always left empty, to enable
 the legionaries to deploy within the camp
 and to bar enemy missiles reaching the
 tents. All camps were laid out in exactly
 the same pattern wherever they were.
 Legionaries camped on either side of the
via praetoria, the cavalry facing the *via*
praetoria, the other auxiliaries and
 non-Romans being put with the baggage
 train and cooking tents beyond the *via*
principalis. Only the four entrances were
 more heavily fortified. The legionaries
 marched out of their allotted gates
 already armed and in formation.

The *contubernium*, the basic legionary
 tent, slept eight men. Made of leather,
 with front and back access, these tents
 could be rolled up into a sausage shape
 and carried by mules or ponies. Larger,
 more elaborate tents were provided for
 centurions and other officers. That of
 the general was large enough for
 administrative and military offices.

Keeping watch was vital. Every evening
 a guard from the *maniple* or century
 chosen for the first watch was taken
 to the tribune's tent and given a *tessera*,
 a small marked tablet. He surrendered
 this to a cavalry trooper who made
 his rounds at fixed hours, collecting the
tesserae from each guard. If the sentry was
 absent or asleep, the trooper got witnesses
 to this. At dawn they reported to the
 tribune, who checked the *tesserae*. If
 one sentry had not returned his *tessera*,
 then he would be tried and cudgelled
 to death by his comrades, whose lives
 he had endangered by his inattention.
 As Polybius dryly commented, "the
 Roman army's night watches are most
 punctiliously kept".

Such repeated entrenchments might
 seem laborious, even wasteful, but they
 gave the Romans many advantages. By
 shutting out the possibly alien world and
 creating a model of Roman order, it
 helped give soldiers a good night's sleep,
 protected from surprise night attacks, and
 left them fresh to face the enemy next
 day. It also reduced the risk of disease
 through the properly dug latrines and, not
 least, impressed possibly hostile observers.

Above: Excavations at
 Caerleon, the legionary
 fortress in South Wales, have
 revealed the network of
 latrines and waterways at the
 barracks, a testimony to
 Roman concerns to keep their
 army healthy and fighting fit.



Above: Reconstruction of a tower and the walls of the legionary camp at Xanten on the Rhine in Germany. This was originally a two-legion camp. The tower, like most built in the Principate, has a wide gate and was not designed for prolonged defence.

Right: Another view of the partially reconstructed tower and walls at Xanten on the Rhine. This shows how towers under the Principate did not protrude and how the walls did not have deep moats in front, being designed merely to break the impact of attack.

PERMANENT FORTIFICATIONS

By AD150 Rome had surrounded its empire with permanent defences in stone, wood and turf, some still impressive today. But these walls and ramparts were not intended as impregnable defences. Instead, they were built as bases from which troops would march out to fight. Even the grandest wall, Hadrian's Wall across northern England, was intended not as an impermeable barrier but to control movements across the frontier.

The Servian Wall around Rome built in the 370s BC was massive – 10ft (3m) wide and 30ft (9m) high – enough to defy even Hannibal. But after this war, Rome no longer needed such domestic defences, as its frontiers became ever more distant. When the Rhine and Danube became Rome's *de facto* northern Continental frontiers after Augustus, Roman camps along them developed into permanent stone-built fortresses.

These fortresses were generally built on flat ground for convenience, rather than for defence. Each followed a rectilinear plan derived from marching camps. The fortress of the Sixteenth Legion at Neuss on the Lower Rhine is typical: a rectangle 500 by 700yd (450 by

650m) with walls 15ft (4.5m) high and a surrounding ditch. The walls were intended to protect only against surprise attacks. The *principia*, or legionary headquarters, where legionary records and standards were kept, faced the legate's house, the *praetorium*, an imposing edifice built around a courtyard, often with hypocaust underfloor heating in northern Europe. Barrack blocks, where the legionaries slept eight to a room, lined the perimeter, with a large gap between them and the walls to allow troops to form up. With workshops, baths, granaries and a hospital, the legionary camp was almost self-sufficient. The auxiliaries' cohorts had similar, if smaller, forts.

Although still committed to taking the offensive, the Romans came to build extensive lines to control their frontiers. The gap between the upper Rhine and the Danube was covered by the advance under the Flavians and Trajan to a line along the Taunus Mountains and River Neckar, then south-east to the Danube near Regensburg. Shortening the frontier, this was defended not by a stone wall but by timber, later stone, towers. These were connected by *limes*, patrolled frontiers,



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Right: The ruins of Aquinicum, a legionary fortress near Budapest on the Danube, overlooked by a modern white building.

defined as much as defended by a narrow wooden palisade, with forts for auxiliary cohorts every few miles. There were almost 100 camps, connected by 1,500 towers, along this new 310-mile (500km) frontier. They signalled to each other using heliographs (sun signals), smoke or fires. Guarding the Rhine from Bonn to the North Sea, forts lined the west bank, with watchtowers between. A similar chain ran down the Danube to the Black Sea, the river serving instead of a palisade.

In North Africa, where the threat came from fast-moving Berber raiders, the long desert frontier was defended by other *limes*. Low, continuous walls, and a series of *fossata*, deep, flat-bottomed ditches or trenches, formed unmanned but continuous barriers inland from the wheat and olive lands of Rome's breadbasket. Although raiding Berbers could cross walls by breaking them down, they were slowed down and forced to return laden with booty through the same gap. There, waiting Roman patrols from nearby forts could cut them off. These barriers made it difficult for the Berbers to raid at will. Such crossing places corresponded to recognized transhumance routes (used by seasonally migrating flocks of sheep) and provided patrolled crossing points to collect customs dues.

HADRIAN'S WALL

The most imposing and monumental of Roman fortifications is Hadrian's Wall. Hadrian ordered its construction during his visit to Britain in AD122, although his original plan was not fully implemented. Running 76 miles (120km) between the Tyne and Solway, the wall was first built partly in turf and timber, only the eastern 45 miles (73km) being built of stone from the beginning. The wall was about 18ft (5.5m) high and 6–8ft (1.9–2.4m) wide, with a ditch that was about 25ft (7.6m) wide and about 10ft (3m) deep,



with another ditch, the *vallum*, behind. This second ditch was to keep civilians out of the military zone and to channel traffic to customs points. Every Roman mile there was a milecastle, with gates opening to the north flank and two turrets between. These were usually tiny – about 14sq ft (1.3sq m) inside – but the milecastles had garrisons of a century. About 15,000 auxiliaries were deployed along or around the wall. Most were not strung out along it but concentrated in camps for 500 or 1,000 men, such as Housesteads, from which they issued forth to deal with intruders. The wall was not a hermetic frontier but controlled traffic and impressed natives. Forts like High Rochester, 30 miles (48km) north, provided advance posts, while strong reinforcements could be summoned from the legionary fortress at York to the south.

Below: The fort at Vindolanda (Bardon Mill) lies south of Hadrian's Wall in Northumberland, with part of the actual wall reconstructed.

