

## THE ROMANS IN BRITAIN: GENERAL NOTES

### Measuring Distances

1000 paces=1 Roman mile. In addition to an official measuring stick the Romans used a precise mechanical tool or Odometer, which has similarities to the modern taximeter.

The machine was a type of two-wheel handcart, which measured each mile by the dropping of a pebble into a tin. The mechanism had a series of clock like gears, which were designed to convert feet, paces and miles. The road wheels were four feet across which meant 400 rotations for every mile. The wheels connected to a large central cog with 400 teeth, which completed one full turn every mile. This process was driven by a nail on the axle. The cog connected to a horizontal disk containing pebbles. Upon completion of each mile a pebble would drop through a hole and thus indicate to the operators the number of miles completed.

### Trade

After the Roman invasion, hundreds of new items flooded in to the country, e.g.

- Samian pottery from the Rhineland
- Elaborately decorated glassware
- Jewellery of amber and glass beads from Syria.
- Wine, olive oil and fish sauce.
- Jewellery of silver and gold
- Bronze and iron equipment.

It is believed that one of the principal drivers behind the invasion of Britain was access to metal ores such as:

- Iron Oxide from Cumbria
- Tin and copper from Cornwall (combined make bronze).
- Lead from the Mendip Hills.
- Gold from South Wales (Dolaucothi, Carmarthenshire).

The Romans were particularly attracted to the gold which the local tribes had obtained by primitive extraction and panning. However, the Romans

applied their superior engineering skills to mine the gold on an industrial scale. They harnessed the use of water via a 11km aqueduct which was held in giant 20m by 3m tanks and then released via sluice gates to scour away the trees and hillside to reveal the ore seams in the rock. The ore was mined in a conventional way by digging tunnels with picks, examples of which still exist today. By this method thousand of tonnes of rock was removed by brute force. The gold was taken to Rome where it was used in the manufacture of jewellery and coins.

### The Military and Roman Frontiers

The Roman army took 50 years to reach what is now Scotland. (At that time the Scots had not arrived from Ireland.) Rome did not conquer modern day Scotland. By AD 120 the frontier ran from Wallsend to Carlisle. In AD 122 the Emperor Hadrian visited Britain and ordered the construction of the eponymous wall which ran 73 miles (80 Roman miles) following a spectacular, natural escarpment with a steep edge. At every mile a fort (mile castle) was built-for defence and to control people movements. At interval of 4-8 miles major forts were built (e.g. Housesteads which housed about 1000 troops).

Construction of the Wall kept 3 legions fully occupied moving 2 million tonnes of rock and soil. The Wall was up to 7m in height and 2-3m thick. It is believed that up to 15000 soldiers patrolled the frontier.

The large army required feeding and without potatoes or rice, bread was the staple diet. At Arbeia, South Shields there was constructed a huge supply depot comprising mainly granaries. Soldiers may have baked bread themselves on campfires, process and ingredients as follows:

- Flour
- Mixing bowl
- Beer (lieu yeast)
- Olive Oil (used as a standard ration)
- Water

Mix foregoing into a dough and heat in a suitable vessel over an open fire. Process can take 10-30 mins.

Soldiers came form all parts of the empire, e.g. Africa, Syria, Germany.

At the forts evidence has been found of numerous rounded stones with flattened sides. These are believed to have been used for simple throwing at attacking enemies in the killing zone which comprises the last 30m of ditch defences. Coincidentally, the defensive ditches are set at the right distance for throwing spears.

This was the Iron Age and the Roman Army required huge numbers of smiths and ironworkers for manufacture and repair of such items as:

- Ballista Bolts
- Pots and Pans
- Knives
- Hinges
- Door Catches
- Horse fittings
- Cart fittings
- Nails (millions!)

### Vindolanda

This was a major fort just south of the Wall. Military issues apart, this site is famous for its tablets, which are very thin, veneer like pieces of wood, which have miraculously preserved in the anaerobic conditions. The pieces of wood were the postcards of the day and have given us a unique insight into routine correspondence, e.g.

- Orders for foodstuffs such as olives, chicken, eggs, apples, venison, pepper, oysters and hunting nets.
- Requests for clothing such as 20 pairs of socks, 2 pairs of sandals and 2 pairs of underpants.
- Invitation to a birthday party.

### Literacy

It should be remembered that the Romans introduced literacy to Britain.

In addition to the tablets mentioned above they used wax tablets, which were the personal organiser of the day and used for temporary notes or military communications. The tablets were inscribed with a sharp metal stylus the

opposite end of which was flat and could be used for erasing defunct messages.

### Roman Military Communications

Two groups (adjacent) of 5 flags were used accompanied by an alphabet on a crib sheet. For example, two flags raised on left and one on right might mean the letter 'A'.

Every mile castle and fort along Hadrian's Wall was in line of sight with signal towers.

Another variant involved the use of beacons in conjunction with amphorae of water. Each signal station would have an identical amphora containing a float with graduated marks which indicated certain messages, e.g. "send for the cavalry". At the signal of a lighted beacon the stopper would be removed and water poured out until the appropriate marker was reached. The Beacon would be waved again and both signal stations should have the float at the same point in the water and each read the same message.

The principal of codes used by the Romans is used in electronic communications today.

### Entertainments

The Romans kept the civil population quiescent through food and entertainment (bread and circuses). The word circus actually means racetrack for horses.

Rome enjoyed 175 days p.a. of public holidays. There was entertainment in the streets (e.g. tightrope walkers) and every city had an amphitheatre where gladiatorial combats and many other gruesome entertainments were provided. (The sand used in the amphitheatre was called 'harena' from which is derived the word 'arena'.)

### Roman Technology and Engineering

- Concrete was used for long-lasting public buildings. Quicklime was obtained from chalk/limestone and mixed with sand to become mortar. (1 part lime 3 parts sand.). This was further developed with

the addition of volcanic ash, which accelerated the setting process, even under water!

- The Greeks used lintels but the Romans developed the arch-using wedge shaped stones, which could not fall. The arch was superior to the lintel in that it was stronger and spread the load from centre to the sidewalls. Lightweight concrete arches were used in the Coliseum, Rome.

### Empire Under Threat

By end of the fourth century, the Roman Empire was under threat and troops were withdrawn from Britain to shore up other parts of the Empire. The decline is partly attributed to failure by the Romans to develop and expand their technological lead.

In Britain, Saxons from Europe were attacking using boats in response to which the Romans built the defensive line of (10) Saxon Shore Forts of which Portchester is a prime example. It was built so solidly that it was in use for a thousand after the Romans had departed.

### The Roman Legacy in Britain

After the Romans left their skills faded but they should be remembered for pioneering:

- Rectangular Homes
- Concrete
- Roads
- Flushing Lavatories
- Baths
- Mass Entertainment
- Hamburgers
- Three Course Meals.

Salve!

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